

DEPARTMENT OF ECONOMICS AND FINANCE
SCHOOL OF BUSINESS AND ECONOMICS
UNIVERSITY OF CANTERBURY
CHRISTCHURCH, NEW ZEALAND

**Predictors of School Exclusion in New Zealand:
The Implications for Pacific Learners Receiving English
for Speakers of Other Languages (ESOL) Support**

**Steve Agnew
Tom Coupé
Cassia Hingston**

WORKING PAPER

No. 4/2024

**Department of Economics and Finance
UC Business School
University of Canterbury
Private Bag 4800, Christchurch
New Zealand**

WORKING PAPER No. 4/2024

Predictors of School Exclusion in New Zealand: The Implications for Pacific Learners Receiving English for Speakers of Other Languages (ESOL) Support

Steve Agnew^{1†}
Tom Coupé¹
Cassia Hingston¹

March 2024

Abstract: This study analysed a cohort of over 43,000 students from their first day of school in 2008 to the end of their compulsory schooling in New Zealand in 2018. Data was collected from a range of linked national datasets collated by Stats NZ, New Zealand's official data agency. Variables were categorised into demographic, socioeconomic status (SES), learning support, family climate and parental education categories. These categories and the variables within them were identified in a review of the school exclusion literature. Pacific learners, a group over-represented in school exclusion rates in New Zealand were compared to Pākehā (New Zealand European) learners. Regression analysis established that once variables identified in the literature were accounted for, there was no significant difference in rates of exclusion between Pacific and Pākehā learners. One of the key explanatory variables for the higher rates of Pacific learner school exclusion is receiving English for speakers of other languages (ESOL) support. In this research, receiving ESOL support is suggested to be a proxy for identifying a student with language difficulties. The level of ESOL funding provided to schools, as well as how the funding is applied within each school to address ESOL Pacific learner needs is then discussed.

Keywords: School exclusion; Pacific learners, ESOL

JEL Classifications: I21, I24, I28, J15, J18

¹ Department of Economics and Finance, University of Canterbury, NEW ZEALAND

† Corresponding author: Steve Agnew. Email: steve.agnew@canterbury.ac.nz

Introduction

As part of a strategy to deal with challenging learner behaviour, many countries enforce time away from school for learners displaying disruptive behaviours. These enforced periods away from school are variously referred to as a suspension, stand-down, expulsion and/or exclusion. In the UK, where a large proportion of the literature in this research originates from, the term exclusion encompasses fixed period exclusion (suspended) and permanent exclusion (expelled). A similar approach is used in this research.

Two important questions asked in the school exclusion literature are:

1. What are the predictors of school exclusion?
2. What are the outcomes of school exclusion for learners?

Informed by the literature, this article develops an econometric model containing predictors of school exclusion. The model is then applied to a large dataset of New Zealand learners to establish whether it can explain the difference in rates of school exclusion between Pākehā and Pacific learners, a group over-represented in exclusion statistics. Pacific youth are also more likely to not be in any form of employment, training or education. This group of learners are of interest to professionals in the *ESOL* sector, as a significant portion of Pacific learners are first or second generation New Zealanders for whom English is not their first language. The findings of the regression analysis in this study are discussed, with specific reference to the provision and funding of *ESOL* support in schools in New Zealand. The implications of the findings of this study are discussed, and suggestions provided for the enhancement of the learning outcomes for Pacific learners who receive *ESOL* support in school.

Predictors of School Exclusion

In a 2019 comprehensive summary of the literature on behalf of the UK Department of Education, common predictors of school exclusion were identified (Graham et al, 2019). Gender, special educational needs (*SEN*), ethnicity and socioeconomic status (*SES*) were identified as significant predictors of school exclusion. (Achilles et al., 2007; Bowman-Perrott et al., 2013; Strand & Fletcher, 2014; Strand & Lindsay, 2009; Theriot et al., 2010). Some studies such as Strand and Lindsay (2009) quantified the effect of learners coming from a lower *SES* background. A learner being registered for free school meals was found to increase the risk of temporary exclusion by 4.1 percentage points. Having parents with no qualifications increased the risk of exclusion by 3.4 percentage points compared to students with parents who have a college or higher degree (Strand and Lindsay, 2009). *SEN* students have a greater risk of school exclusion, especially those with emotional and behavioural issues (Achilles et al., 2007). There is also some evidence that *SES* and *SEN* variables cluster together, with Cole (2015) suggesting mental health, education, social and political factors may all be interacting to increase the prevalence of school exclusion. His research suggests that excluded students face many life challenges including poverty, family breakdown, housing shortages and crime (Cole, 2015). Violence and abuse in the home (Apland et al, 2017), and parental imprisonment (Morgan et al, 2013) have also been identified as impacting on behaviour at school. These findings led Achilles (2007) to conclude "...youth who are perhaps most in need of enhanced supports due to academic, psychological, financial, and social disadvantages are most likely to experience disciplinary exclusion." (p. 25). These factors were described as "multiple, interrelated and layered vulnerabilities....including *SEN* needs, poverty, low attainment, being from certain minority ethnic groups, being bullied, poor relationships with teachers, previous life trauma and challenges in the home lives, including poor housing, abuse and parental illness" (p. 25).

Previous international research has also found that for students at risk of exclusion "language difficulties are a factor in their behaviour problems and school exclusion" (Clegg et al., 2009, p. 123). Research by Ripley and Yuill (2005) drew a similar conclusion that "excluded boys had previously unidentified language problems" (p. 37). Based on these research findings, Ramsey et al. (2018) conclude that there is a strong link between language problems and behavioural difficulties. An important tool in coming to this conclusion has been studying longitudinal datasets. For example, an analysis conducted in the UK of the latest Avon longitudinal birth cohort study by Paget et al. (2018) found language difficulties to be significantly associated with increased rates of school exclusion

(Author, 2022). A related result was found by Strand and Fletcher (2014) when studying data from the longitudinal analysis of school exclusions in England, where it was found the academically lowest attaining children were 15 times more likely to be excluded than the highest academic achievers.

Pacific learners in New Zealand are over-represented in school exclusion statistics relative to the biggest ethnic grouping of Pākehā. Pacific people in general are also over-represented in lower *SES* households in New Zealand, and are often non-native speakers of English. They are also over-represented in youth unemployment rates. This article establishes that an econometric model can be developed based on the literature, which explains the difference in rates of exclusion between Pākehā and Pacific learners in New Zealand. A significant finding is that Pacific learners receiving *ESOL* support are more likely to be excluded from school. Rather than suggesting any causal relationship, this study suggests *ESOL* support is a proxy for identifying a Pacific learner with English language difficulties. The current level of *ESOL* funding is discussed, along with practices currently recommended by the Ministry of Education for providing *ESOL* support in New Zealand schools. Finally, the implications of the findings of this study on the funding and delivery of *ESOL* support for Pacific learners is discussed, along with suggestions for further research.

Outcomes of School Exclusion

It is important to recognise the outcomes of school exclusion, especially when government prioritises policy spending based on cost-benefit analyses. In a summary of the predominantly British literature, Martin-Denham (2020) claims that “school exclusion is associated with adverse consequences for both the child and the society in which they live” and that “exclusion can have long term consequences for young people’s life trajectories with damage that is wide-ranging and long-standing” (p.28). She goes on to summarise other research (Daniels & Cole, 2010; Pirrie et al., 2011; Hemphill et al., 2012) describing how in the longer term “school exclusion is associated with mental and physical ill health, substance misuse, antisocial behaviour, crime, low educational attainment, unemployment and homelessness” (Martin-Denham, 2020, p. 28). In summarising, she references the work of Manstead et al. (2014) when stating that “those who experience school exclusion are more likely to be already disadvantaged, and exclusion further reduces life chances” (Martin-Denham, 2020, p.28). *NEET* (not engaged in education, employment or training) youths are one such group, comprising youths with reduced life outcomes. In their publication in the British Journal of Educational Psychology, Madia et al. (2022) report that “school exclusion increased the risk of becoming *NEET* at the age of 19/20, and then remaining economically inactive at the age of 25/26, as well as experiencing higher unemployment risk and earning lower wages also at the age of 25/26” (p. 1). This led the authors to conclude that policy interventions targetted at preventing school exclusion should also mitigate negative future life outcomes. (Madia et al., 2022). Using the Scottish Longitudinal Study data, Feng et al., (2017) found negative impacts on life outcomes of being *NEET*, including a higher chance of hospitalisation, poor mental health, and higher mortality rates. This led the authors to conclude that disengagement from employment and education results increase social and economic costs to society. The authors suggested policy was necessary that helped *NEET* youth to re-engage in education or employment (Feng et al., 2017), complementing Martin-Denham (2020) who suggests early intervention can result in better trajectories, reduced disengagement, improved childhood mental health and decreasing school exclusions.

New Zealand Context

Definition of School Exclusion

The terminology used in the UK is similar to that used in New Zealand. A *stand-down* is where a student may be formally removed for up to 5 school days. The student returns automatically to school following a stand-down. A *suspension* is where a student is formally removed until a Board of Trustees (BOT) meeting where the next course of action is decided. The BOT can lift the suspension,

extend the suspension, or terminate the student’s enrolment at that School. (Education Counts, 2021). Similar to the British literature, for the purposes of this Research the term exclusion includes any student who has been stood-down or suspended from their first day at school to the end Year Eleven. The final two years of secondary education are not included in the study, as schooling is not compulsory, and there is a greater chance students could be invited to ‘leave school’ rather than being formally excluded.

Ethnicity and School Exclusion

Pākehā are the largest ethnic group accounting for 70.2% of the population. Māori are the tangata whenua, the indigenous people, of New Zealand. Māori are the second largest ethnic group in New Zealand, currently making up approximately 16.5% of the population. Pacific Peoples account for 8.1% of the population. Pacific Peoples are more recent arrivals from Polynesia, the majority of whom are first, second or third generation New Zealanders (EHINZ, 2021). It is already known that rates of exclusion for Pacific Peoples are higher than Pākehā rates of exclusion, as shown in Table 1 below.

Table 1. Age-standardised rates per 1,000 students, by ethnic group. (Education Counts, 2021).

	Pākehā	Pacific Peoples
Suspension	3.2	4.6
Stand-down	24.4	34.4

When examining *SES* well-being measures by ethnicity (StatsNZ, 2019), 31% of Pākehā reported having not enough, or only just enough, money to meet everyday needs. The comparable figure for Pacific Peoples was 72%. When identifying the effect of crime on their life (0=no effect, 10=large effect), Pākehā report a score of 2.8, with Pacific Peoples reporting a score of 4.5. Pākehā are also less likely to be convicted of committing a crime. The proportion of the 1978 birth cohort that was convicted by the age of 38 (2016), is 22% for Pākehā, and 33% for Pacific Peoples.

Allowing for *SES* variables may mediate the differences in school exclusion rates by ethnicity. A Program for International Student Assessment (*PISA*) report does hint that *SES* may have some explanatory value for Pacific learners, stating that “Pacific students may have less access to educational opportunities, with Pākehā students more likely to have access to educational opportunities” (May, Jang-Jones & McGregor, 2019, p. 50). The report noted that of the Pacific learners in the study, 47% were attending low *SES* (decile 1-3) schools, leading to the conclusion that “Pacific students in New Zealand tend to be situated in socio-economically disadvantaged neighborhoods” (May, Jang-Jones & McGregor, 2019, p. 43). In terms of maintaining a strong cultural identity, the *PISA* report also revealed that “While over 50% of Pacific students mostly used English at home, many lived in bilingual households. This suggests that parents are encouraging their children to learn and maintain their family’s language at home and by association, retain a strong cultural identity” (May, Jang-Jones & McGregor, 2019, p. 48). For some Pacific learner households, English language competency may also be a contributing factor to higher rates of School exclusion.

The Ministry of Business, Innovation and Employment (MBIE, 2019) found that Pacific youth are over-represented in statistics for young people not engaged in education, employment or training (*NEET*). This inequality is a persistent characteristic of the labour market in New Zealand (MBIE, 2019). The Pacific *NEET* rate for ages 15 to 24 is 19.2% of the total population of 78,600, equating to 15,100 people aged 15-24 years on 1 December 2020 (Ministry for Pacific Peoples, 2021, p. 133). Differences in educational outcomes has been found to be one of a handful of strong predictors of long-term (>6 months) *NEET* rates, with MBIE suggesting “policies that target improving school engagement” (MBIE, 2019, p. 32) as potentially reducing long-term *NEET* rates for Pacific youth. The government does provide some support for Pacific *ESOL* learners from households that meet certain criteria, however the funding is limited:

For some first or second generation Pacific learners in New Zealand, English as a second language (ESOL) support is necessary. ESOL funding is targeted at students with the highest English language learning needs. The need for ESOL funding is assessed using the English Language Learning Progressions (ELLP). The scoring system is based on matrices that record each English language learner's (ELL's) achievement level in listening, speaking, reading and writing. Students whose scores are below the ELLP benchmarks will qualify for funding if they're:

- a) migrants to New Zealand
- b) former refugees
- c) New Zealand-born students, with at least one parent of migrant or refugee background.
- d) New Zealand-born students are eligible if at least one of their parents is a migrant to New Zealand and a language other than English is usually spoken in the home.

ESOL funding for schools

Primary and intermediate students: \$780 per year

Secondary students: \$1000 per year

Migrant and former refugee students are entitled to ESOL funding for up to five years.

New Zealand-born students (of migrant or refugee parents) are eligible for up to three years.

Schools can decide at which year level to start a student's ESOL funding. (Ministry of Education, 2022a).

Methods

The dataset for this study of 43,386 learners is obtained from the New Zealand Integrated Data Infrastructure (*IDI*), a large research database holding microdata for the whole New Zealand population. Data originates from government agencies, the Ministry of Social Development, the Ministry of Education, Stats NZ surveys, and non-government organisations (*NGOs*). The data is linked together, or integrated, to form the *IDI*. (StatsNZ n.d.). Any student who spent more than 6 months outside of New Zealand since turning five was removed from the dataset used for this study. Due to the wealth of information in the *IDI*, this study adds to the overall understanding of exclusion as more *SES* predictors can be included which link households to children. An example is 'family climate' variables such as whether the name of a parent was absent from a child's birth certificate.

There are four categories of predictors explored in this study which the literature above suggests are related to exclusion: demographic variables, dimensions of *SES*, dimensions of *SEN* (referred to as learning support in this paper), and what is referred to in this paper as family climate variables.

Demographic Variables

The gender variable is sourced from the 2013 Census, with all students identifying as male or female. The ethnicity variables were sourced from the Ministry of Education's (*MOE*) personal details table, which captures the ethnic group all students put down as their first ethnicity on their school forms. The Late start variable is used to show if a student started school at year one (first attending school before the end of June) or year zero (first attending school after the end of June). This policy means that students receive more formal education if they are born between months of June and December.

Learning Support

The *SEN* variable is used to capture students who are recorded as needing a special education service before their first exclusion. The information used to create this variable is sourced from the *MOE* intervention data in the *IDI*. It is possible a child has been enrolled in different special education services at different times, so the earliest intervention date is used. The reading recovery indicator variable is used to show if a child has been part of a reading recovery program at any point before they were excluded. The variable is created using the same process as the *SEN* variable. The disability variable captures students who were listed on the 2013 census as having a disability. While the *SEN* variable records students with emotional and behavioural needs, the self-reported disability variable is

more likely to be a physical disability. The English for speakers of other languages (*ESOL*) indicator variable is used to show students that attended *ESOL* programs. As with the *SEN* and reading recovery variables, the *ESOL* variable is recorded for students who attended an *ESOL* program before exclusion. Students identified as requiring *ESOL* support post-exclusion are not included. This is done to avoid reverse causality. The information used to create the *ESOL* variable is sourced from *MOE*'s intervention data in the *IDI*. An additional *ESOL* Pacific Learner variable is also included. This is an interaction variable that captures all Pacific Learner students that receive *ESOL* support. While both Māori and Pacific Peoples are over-represented in exclusion statistics, Pacific Peoples use English as the first language in the home in smaller numbers than Māori (May, Jang-Jones & McGregor, 2019).

Dimensions of SES

The parent homeownership variable captures students who live in a home where the owner of the home resides, rather than renting the property (Hernandez, 2019). The warm home variable is when the number of heating sources in the home is more than two (Hernandez, 2019); while the internet variable captures the students with internet access at home (Hernandez, 2019). The information used to create these three variables is sourced from the 2013 census, as is the information used to create the parental education dummy variables. The family benefit recipient variable records if a child has been listed on a parent's social welfare benefit before the first day of school. The information for this variable is sourced from Ministry of Social Development's (*MSD*) benefit dynamics data in the *IDI*.

Dimensions of Family Climate

The abuse victim indicator variable is used to show if a child has encountered a form of abuse that has been recorded by Oranga Tamariki (Ministry for Children) before the first day of school. Oranga Tamariki is a government agency supporting children whose wellbeing is at significant risk of harm now, or in the future. The information to create this variable is sourced from the Oranga Tamariki (formerly known as children and young families) dataset in the *IDI*. Type of abuse events includes sexual abuse, physical abuse, behavioural abuse, emotional abuse and neglect. The parent absent variable shows if either the mother or the father was not recorded on a child's birth certificate. The mother and father criminal charge variables signal if a parent of a student had any criminal offence charges laid before the child's first day of school. These charges could have been laid before the child is born.

The prevalence of each variable in the dataset can be seen in table 2 below.

Table 2. Dataset number counts.

	Sample population	Excluded students
Number of Students	43,386	5589
Number of Students Excluded	5,589	N/A
Demographic		
Female	21,264	1,875
Early Start	32,679	4,239
Māori	10,212	2,463
Pacific Peoples	3,243	645
Asian	2,637	99
Pākehā	26,532	2,322
Other Ethnicity	762	162
SES		
Parent Home Ownership	20,487	1,665
Warm Home	37,674	4,761
Internet Access at Home	35,646	3,501

Family Benefit Recipient	19,914	4,110		
Learning Support				
Reading Recovery	5,967	1,275		
Special Educational Needs	1,242	300		
Self-Reported Disability	1,671	321		
English Second Language	3,750	552		
Pacific Learners English Second Language	1,806	423		
Family Climate				
Abuse Victim	2,049	771		
Parent Absent	2,280	687		
Father Criminal Charge	15,441	3,162		
Mother Criminal Charge	7,272	2,082		
Parental Education	Mother	Father	Mother	Father
No School Qualification	5,826	5,784	1,434	1,137
High School Qualification	14,496	9,753	1,698	951
Above High School	6,672	8,586	615	630
Bachelor Degree	6,762	4,449	366	168
Postgraduate Qualification	2,364	2,172	117	72

Note that when examining the dataset number counts, Māori, the indigenous people of New Zealand, are more likely to be excluded, as are Pacific Peoples. While Māori are included in the regression models below, they are not the focus of this study.

Three different approaches are initially used to analyse the data. A Logit model is used to show the probability of an event. In this case, the event is the first exclusion. All coefficients in this model have been altered to show average marginal effects of the probability of being excluded. This way differences in probabilities can be compared, which are intuitively easier to understand than odds ratios. A Poisson model is also used. Poisson regression is a generalised linear model with a count dependant variable. In this study, the count of exclusions one child faces in their school career is used as the dependant variable in the Poisson model. Finally, a Cox proportional-hazards model, a type of survival regression, is used. For this study, the Cox model accounts for how many days it takes for the first exclusion to occur. If a student is not excluded, the number of days from their first day at school to the end of year eleven is recorded. This model only accounts for the time of first exclusion, and does not account for the number of times a child can be excluded. Equation (1) below is used for all three approaches.

$$Y^* = a + \beta_1 \text{Female} + \beta_2 \text{Early Start} + \beta_3 \text{Māori} + \beta_4 \text{Pacific Peoples} + \beta_5 \text{Asian} + \beta_6 \text{Other Ethnicity} + \beta_7 \text{Home Ownership} + \beta_8 \text{Warm Home} + \beta_9 \text{Internet Access} + \beta_{10} \text{Family Benefit} + \beta_{11} \text{Reading Recovery} + \beta_{12} \text{SEN} + \beta_{13} \text{Disability} + \beta_{14} \text{Reading Recovery} + \beta_{15} \text{Special Educational Needs} + \beta_{16} \text{Disability} + \beta_{17} \text{ESOL} + \beta_{18} \text{ESOL Pacific Learners} + \beta_{19} \text{Abuse Victim} + \beta_{20} \text{Parent Absent} + \beta_{21} \text{Father Criminal Charge} + \beta_{22} \text{Mother Criminal Charge} + \beta_{23} \text{Mother High School} + \beta_{24} \text{Mother Above High School} + \beta_{25} \text{Mother Bachelor} + \beta_{26} \text{Mother Postgrad} + \beta_{27} \text{Father High School} + \beta_{28} \text{Father Above High School} + \beta_{29} \text{Father Bachelor} + \beta_{30} \text{Father Postgrad} + e \quad (1)$$

Results and Discussion

Table 3 shows coefficients for Logit, Poisson and Cox regressions. All three types of regressions report the same significant correlations with the exception of Logit, for which the *ESOL* indicator is

not significant. We can therefore conclude that essentially the same variables significantly correlated with a higher probability of exclusion are also correlated with being excluded more often, and earlier in a learners schooling. Note that as the hazard ratio increases, the hazard of being excluded increases, and the length of survival before being excluded decreases. Note that for the parental education variables, the comparison point is a parent having no qualification.

Table 3: Regression Results.

	Logit	Poisson	Cox
	dy/dx	dy/dx	Haz. Ratio
<i>Demographic</i>			
Female	-0.079*** (0.003)	-0.248*** (0.011)	0.519*** (0.015)
Early Start	0.000 (0.003)	-0.009 (0.011)	0.959 (0.032)
Māori	0.038*** (0.004)	0.071*** (0.012)	1.340*** (0.045)
Pacific Peoples	0.007 (0.008)	-0.024 (0.025)	1.016 (0.076)
Asian	-0.083*** (0.012)	-0.277*** (0.040)	0.437*** (0.053)
Other Ethnicity	-0.006 (0.014)	-0.022 (0.046)	0.868 (0.112)
<i>SES</i>			
Parent Home Ownership	-0.015*** (0.003)	-0.041*** (0.012)	0.847*** (0.028)
Warm Home	-0.002 (0.004)	-0.0135 (0.013)	0.993 (0.040)
Internet Access at Home	-0.030*** (0.004)	-0.068*** (0.011)	0.774*** (0.028)
Family Benefit Recipient	0.044*** (0.004)	0.159*** (0.014)	1.528*** (0.056)
<i>Learning Support</i>			
Reading Recovery	0.023*** (0.004)	0.056*** (0.011)	1.234*** (0.045)
Special Educational Needs	0.032*** (0.008)	0.128*** (0.023)	1.235*** (0.099)
Self-Reported Disability	-0.001 (0.007)	0.055** (0.023)	1.076 (0.073)
English Second Language	-0.017 (0.012)	-0.089** (0.036)	0.802** (0.089)
English Second Language – Pacific Learners	0.042*** (0.015)	0.118*** (0.046)	1.334** (0.190)
<i>Family Climate</i>			
Abuse Victim	0.044*** (0.005)	0.124*** (0.015)	1.403*** (0.077)
Parent Absent	0.057*** (0.006)	0.148*** (0.018)	1.702*** (0.106)
Father Criminal Charge	0.051*** (0.004)	0.142*** (0.013)	1.594*** (0.056)
Mother Criminal Charge	0.043*** (0.004)	0.101*** (0.011)	1.440*** (0.050)

<i>Parental Education</i>			
Mother: High School Qualification	-0.033*** (0.004)	-0.109*** (0.013)	0.740*** (0.031)
Mother: Above High School but Sub-Degree	-0.036*** (0.006)	-0.127*** (0.018)	0.694*** (0.038)
Mother: Bachelor Degree	-0.056*** (0.007)	-0.193*** (0.023)	0.576*** (0.037)
Mother: Postgraduate Qualification	-0.043*** (0.010)	-0.124*** (0.039)	0.666*** (0.067)
Father: High School Qualification	-0.031*** (0.005)	-0.081*** (0.017)	0.782*** (0.038)
Father: Above High School but Sub-Degree	-0.038*** (0.006)	-0.100*** (0.020)	0.740*** (0.041)
Father: Bachelor Degree	-0.070*** (0.009)	-0.235*** (0.031)	0.521*** (0.045)
Father: Postgraduate Qualification	-0.076*** (0.013)	-0.241*** (0.045)	0.503*** (0.063)

** and *** denote statistical significance at the 5 and 1% levels respectively.

When examining the counts in table 4, the rates of exclusion for Pākehā and Pacific learners are 9%, and 20% respectively. Once the predictors of school exclusion identified in the literature are included in the model, Pacific learners are not significantly more likely to be excluded than Pākehā. Examining the logit marginal effects, being female significantly reduces the probability of exclusion, with a 7.9 percentage point difference relative to males. For the variables in the *SES* category, home ownership and having internet access in the home are both correlated with lower rates of school exclusion, while being a family benefit recipient (a form of welfare assistance from the Government for low income households with a child) is correlated with higher rates of school exclusion. These findings confirm that learners from higher *SES* households are less likely to be excluded.

The body of literature concludes that students with additional learning needs are more likely to be excluded (Achilles et al., 2007; (Strand & Lindsay, 2009); Cole (2015); (Morgan et al, 2013); (Apland et al, 2017). The experiences of learners in this dataset confirm these findings. Learners receiving learning support in the form of reading recovery found to be more likely to be excluded, as are those students who have been identified through the education system as having special educational needs. By contrast, students who are recorded through the nationwide Government conducted census as having a disability are not more likely to be excluded. It is worth noting this data is self-reported, and may relate to physical rather than cognitive disabilities. Receiving *ESOL* support is not significantly correlated with school exclusion. The interaction variable of Pacific Learners receiving *ESOL* support is significantly correlated with a greater risk of exclusion, with a marginal effect of 4 percentage points. Table 4 shows that of the 645 students who were excluded, 423 (or two thirds) of them were receiving *ESOL* support. This finding suggests a significant contribution to higher rates of exclusion for Pacific Learners comes from a smaller subset of Pacific Learners for whom English is a second language. Pacific Learners receiving *ESOL* support are significantly more likely to be excluded than non-Pacific Learners. This is in contrast to the general *ESOL* support variable, which is being driven by low rates of exclusion for Asian students.

The four family climate variables of having a parent with a criminal conviction, having a parent absent (un-named on the birth certificate) and a child being a victim of abuse are all correlated with higher rates of exclusion. A higher level of parental education is correlated with lower rates of exclusion. This is true for both mother and father. Every level of qualification is correlated with lower exclusion rates compared to a parent having a highest qualification of no school qualification. Broadly speaking, for both mother and father, the higher level of qualification, the greater the marginal effect.

As all the variables in the model are binary, a comparison of effect sizes can be intuitively easily understood by comparing the marginal effects. The largest marginal effect for variables that are correlated with a lower rate of exclusion is 8.3 percentage points for students of Asian ethnicity, followed by being of female gender with 7.9 percentage points. The highest parental qualification make up the next largest marginal effects. *SES* variables report the lowest marginal effect of those variables significantly correlation with lower rates of school exclusion. The top four marginal effects for variables correlated with higher rates of school exclusion are the family climate variables, ranging from 5.7 percentage points to 4.3 percentage points. A child who is an abuse victim with an absent parent has an increased marginal effect of being excluded of 10 percentage points. A child who is an abuse victim, and for whom both parents have a criminal conviction has an increased marginal effect of being excluded of almost 15 percentage points. The interaction variable of being of Pacific Peoples ethnicity and receiving *ESOL* support has the fifth largest marginal effect, followed by having special educational needs, and receiving reading recovery.

One of the key findings of this paper is that once established predictors of school exclusion are accounted for, there is no significant difference in rates of school exclusion between Pacific and Pākehā learners. In other words, the model shows the predictors of school exclusion explain a greater proportion of Pacific learner exclusion than Pākehā learner exclusion. However, even though the predictors of school exclusion can be identified, mediating their effect is a more difficult task. While the regression analysis identifies correlations between variables and higher rates of school exclusion, it does not identify causality. We can draw some intuitive conclusions. The abuse victim indicator variable used in this model measured whether a child had encountered a form of abuse, recorded by Oranga Tamariki (Ministry for Children) before the first day of school. This was by design, to remove the possibility a learner was a victim of abuse because they were excluded from school. We can therefore confidently conclude the abuse victim variable is an indicator of family climate in the home, which predicts a higher possibility of being excluded from school in the future. Similarly, a parent being absent from the birth certificate cannot have been the result of a student being excluded from school, rather it is another indicator of family climate in the home. Both the parental criminal charge variables also only recorded criminal charges before the learner's first day at school. A conclusion can therefore be that any causal properties the family climate variables have can only run one way. They cannot be the result of a learner being excluded. Relative to Pākehā, Pacific peoples are over-represented in the family climate variables which predict higher rates of school exclusion. Relative to Pākehā learners, Pacific learners are also more likely to come from a rented home without internet access, and from a family where the child has been listed on a parent's social welfare benefit before their first day of school. Pacific learners are over-represented in lower *SES* variables relative to Pākehā learners. As an example of the barriers poverty can create to education, a low *SES* south Auckland school Kia Aroha reported ninety-seven percent of students did not have internet access at home before the COVID lockdowns (Franks, 2021). Any Government policy which attempts to address poverty and the drivers of crime could therefore disproportionately benefit Pacific learners by decreasing rates of exclusion. Reducing poverty in particular has however been a difficult goal to achieve for successive New Zealand governments.

Even allowing for variables including family climate and *SES*, the interaction variable in the model, Pacific learners receiving *ESOL* support, is statistically significant. A Pacific learner who is receiving *ESOL* support is more likely to be excluded than a Pākehā learner. Including an interaction variable in the model, in this case Pacific learners receiving *ESOL* support, is a suggested approach when conducting mediation analysis (VanderWeele, 2016). An additional suggestion is to fit a mediator model as well as the output model (Valeri & VanderWeele, 2013, 2015). In this case, that involves running a regression with receiving *ESOL* support as the dependant variable. In this model, students who receive reading recovery are also 1.7% more likely to receive *ESOL* support. Students with more educated parents are less likely to receive *ESOL* support, with a highest marginal effect of 2.5%. Ethnicity unsurprisingly has the largest marginal effects by some distance. Learners of Pacific

ethnicity are 18% more likely to receive *ESOL* support, while Asian learners are 19% more likely to receive *ESOL* support. By contrast, Māori learners are 1% less likely to receive *ESOL* support. The prevalence of Asian and Pacific peoples, and lack of Māori learners receiving *ESOL* support is a product of the Ministry of Education funding criteria outlined earlier, which provides *ESOL* funding for migrants rather than indigenous peoples of New Zealand.

While only learners who were receiving *ESOL* support before they were excluded are included in this variable, this research does not suggest receiving *ESOL* support has any causal influence on school exclusion. It also cannot be dismissed that other social influences not captured by the model, such as ethnicity based discrimination, may be incorrectly categorised as language driven. As outlined in the introduction, students with language difficulties are more likely to be excluded. It is therefore reasonable to intuitively suggest that Pacific learners receiving *ESOL* support is a proxy for Pacific learners having language difficulties, which is correlated with higher rates of school exclusion. As stated earlier, the Ministry of education gives a justification for providing support to English language learners (*ELLs*), stating that the “*ESOL* funding allows more intensive support for *ELLs* in their early years at New Zealand schools”. They go on to describe how the Ministry “provide higher funding for *ELLs* at secondary school as they need to learn English to function across a wider curriculum with higher language demands” (Ministry of Education, 2022a). The level of funding is \$780 per year for primary and intermediate students and \$1,000 per year for secondary students. Migrant and former refugee students are entitled to *ESOL* funding for up to five years. New Zealand-born students (of migrant or refugee parents) are eligible for up to three years.

Regression results in this study show that *ESOL* Pacific learners are more likely to be excluded (logit), are more likely to have subsequent exclusions (Poisson), and are more likely to be excluded sooner (Cox) than Pākehā learners. *MBIE* has suggested “policies that target improving school engagement” may reduce long term *NEET* rates for Pacific youth (*MBIE*, 2019, p. 32). A link between school exclusion and *NEET* status has also been established in the literature (Madia et al, 2022, p. 1). This research posits that increased funding in the *ESOL* sector may have some justification. If additional funding of further research were able to identify a causal link between targeted *ESOL* strategies and reduced rates of exclusion for Pacific learners, this may be justification for including this outcome as a wider benefit of *ESOL* funding. To this end, for any additional funding, consideration must also be given not only to how that funding is applied in schools.

Conclusion

Variables identified in the literature as being predictors of school exclusion include *SES*, demographic, learning support, family climate and parental education. Using these variables, a regression model was applied to a large nationwide New Zealand dataset. Once the variables in the model were accounted for, there was no significant difference in the rate of exclusion between Pākehā and Pacific learners. The higher rates of school exclusion for Pacific learners relative to Pākehā learners can be explained by the model. There was however a strong correlation between a Pacific learner receiving *ESOL* support and higher rates of school exclusion. *ESOL* support may provide a targetted channel for supporting students more at risk of exclusion.

ESOL Practice in Schools.

How *ESOL* funding is disseminated within schools also deserves scrutiny. New Zealand schools currently have freedom to use targetted *ESOL* funding as they see fit. The Ministry of Education website gives suggestions for ways schools can use *ESOL* funding. One suggestion is to offer in class support through the use of a teacher aide or specialist teacher alongside the classroom teacher. Listed benefits of this approach include:

- supporting English language learners to carry out specific learning tasks

- preparing and organising ESOL resources.
- supervising learning centres you set up, in class time, intervals, lunchtimes or after school.
- work with a small group of students who need language and learning support.
- focus on teaching the English language learners about something the other students already know.
- provide roving support for students while they work on the class tasks (Ministry of Education, 2022b).
- A second suggestion is to offer teaching in small *ESOL* groups. The Ministry of Education website states “Teaching small groups works better than individual tutoring. For primary English language learners, a group of 4 to 8 is best; for secondary, 6 to 10 students is best. Group students with similar competency in English and from the same class or year, or the same team or syndicate” (Ministry of Education, 2022b).

The two suggested approaches are divergent interpretations of the best use of *ESOL* funding. Anecdotal feedback from teachers in New Zealand is that the second suggestion is the more common approach. Part of the reason given for this is the cost effectiveness of small group teaching given the limited amount of *ESOL* funding. There is no requirement of a school to report how *ESOL* funding is used, so there is no central record verifying the anecdotal feedback. It is likely that the best use of limited funding to improve the language skills of *ESOL* students drives the decision making in many schools. This research suggests a further consideration – the level of support required by some Pacific learners receiving *ESOL* support to moderate undesirable behaviour which can lead to school exclusion. A case can be argued that in class support is more likely to moderate behaviour borne out of frustration. Providing roving support for students while they work on the class tasks, and teaching the English language learners about something the other students already know would lessen the likelihood of the learner becoming frustrated or disengaged due to an inability to complete tasks. This approach does however also identify them as potential targets for teasing or bullying by their peers due to the visibility of the extra support they receive in class.

A second issue is the *ESOL* funding being limited by the Ministry of Education based on time rather than student need. The current policy limits *ESOL* funding to three (second generation) or five years (migrant) over the duration of the learners schooling, rather than on the needs of the learner. A second generation Pacific learner (for whom English is not the first language spoken in the home) could use their three years of allocated funding before they even start secondary school. This study recorded school exclusions post a learner receiving *ESOL* support to avoid reverse causality. It is plausible that some of these students who were excluded had already used up their *ESOL* funding. They may have no longer been receiving any *ESOL* support, whilst still not having sufficiently developed language skills. It would be of little surprise if Pacific learners who are over-represented in lower *SES* households and require *ESOL* support, may be more at risk of exclusion if they are no longer receiving *ESOL* support while still having unmet needs.

The first step in ascertaining if this is the case is to conduct an audit of the provision of *ESOL* support in schools for Pacific learners. Specifically, what percentage of schools take an in-class approach and which percentage use a small *ESOL* group approach. Ascertaining the level of English language skills of Pacific learners post receiving *ESOL* support would also be useful. If rates of exclusion differ across the delivery approaches for Pacific learners, a model of best practice may be able to be developed. If evidence is found that Pacific learners still have English language deficiencies post their maximum allocation of *ESOL* funding, increased funding in the *ESOL* sector may be justified, based on reduced costs to society of future unemployment and associated social ills.

The lead author of the paper worked for 11 years in multicultural NZ secondary schools. They also engaged with the Ministry of Education in the Cook Islands on research examining how to maintain the use of the Cook Island Māori language in primary schools in the Cook Islands. The quantitative approach used in this paper has deliberately avoided speculating on the complex and inter-related causes of family abuse, single parenting, or criminal justice involvement for example. As an example, the model in this research explains the difference in exclusion rates between Pākehā and Pacific learners, without including a variable representing discrimination. It may be however, that discrimination may be a contributing factor toward differential rates of criminal charges between Pākehā and Pacific peoples. Differing approaches when providing *ESOL* support for Pacific learners may ameliorate higher rates of school exclusion for Pacific learners. This however, is an area for further research to unpick, and is beyond the scope of this piece of research.

Disclosure Statement

The authors report there are no competing interests to declare. The requirement for ethics committee approval was waived by the authors' institution as a secondary dataset collected and held by StatsNZ was used.

References

- Achilles, G. M., McLaughlin, M. J., & Croninger, R. G. (2007). Sociocultural correlates of disciplinary exclusion among students with emotional, behavioral, and learning disabilities in the SEELS national dataset. *Journal of emotional and behavioral disorders*, 15(1), 33-45.
- Apland, K., Lawrence, H., Mesie, J., & Yarrow, E. (2017). Children's voices: a review of evidence on the subjective wellbeing of children excluded from school and in alternative provision in England. November 2017.
- Author, 2022.
- Bowman-Perrott, L., Benz, M. R., Hsu, H. Y., Kwok, O. M., Eisterhold, L. A., & Zhang, D. (2013). Patterns and predictors of disciplinary exclusion over time: An analysis of the SEELS national data set. *Journal of emotional and behavioral disorders*, 21(2), 83-96.
- Cole, T. (2015). Mental health difficulties and children at risk of exclusion from schools in England. *Report*, Retrieved from <https://citeseerx.ist.psu.edu/viewdoc/download>.
- Education Counts, (2021). *Stand-downs, suspensions, exclusions and expulsions from school*. <https://www.educationcounts.govt.nz/indicators/main/student-engagementparticipation/stand-downs-suspensions-exclusions-expulsions>.
- EHINZ, (2021). *Ethnic Profile*. [https://www.ehinz.ac.nz/indicators/population-vulnerability/ethnic-profile/#:~:text=In%202018%2C%20the%20New%20Zealand,15.1%25%20Asian%20\(707%2C600%20people\)](https://www.ehinz.ac.nz/indicators/population-vulnerability/ethnic-profile/#:~:text=In%202018%2C%20the%20New%20Zealand,15.1%25%20Asian%20(707%2C600%20people)).
- Franks, J. (2021, March 26). *The COVID Diaries: Kia Aroha College principal had hope 12 months ago - not now*. Stuff. <https://www.stuff.co.nz/national/124602282/the-covid-diaries-kia-arohacollege-principal-had-hope-12-months-ago--not-now>.
- Graham, B., White, C., Edwards, A., Potter, S., & Street, C. (2019). School exclusion: a literature review on the continued disproportionate exclusion of certain. Retrieved from the Department for Education Website: <https://assets.publishing.service.gov>.

[uk/government/uploads/system/uploads/attachment_data/file/800028/Timpson_review_of_school_exclusion_literature_review.pdf](https://www.govt.nz/government/uploads/system/uploads/attachment_data/file/800028/Timpson_review_of_school_exclusion_literature_review.pdf).

Hernandez, J. (2019). Separating school and family: Evaluating the effects of school and family background on student performance in NCEA. <https://nzinitiative.org.nz/assets/Uploads/Separating-School-and-Familytechnical-report.pdf>.

Madia, J. E., Obsuth, I., Thompson, I., Daniels, H., & Murray, A. L. (2022). Long-term labour market and economic consequences of school exclusions in England: Evidence from two counterfactual approaches. *British journal of educational psychology*, e12487.

May, S., Jang-Jones, A., & McGregor, A. (2019). PISA2018 New Zealand summary report. System performance and equity. *Wellington: Ministry of Education*.

Ministry of Business, Innovation & Employment, (2019). *The drivers behind the higher NEET rate for Māori and Pacific youth. Insights from administrative data*.

Ministry of Education, (2021). *Educational Leaders*. <https://www.educationalleaders.govt.nz/Problem-solving/Education-and-the-law/Students/Stand-down-and-suspension-grounds>.

Ministry of Education. (2022a). *ESOL Funding*. <https://www.education.govt.nz/school/funding-and-financials/esol-funding/>

Ministry of Education. (2022b). *Ways your school can use ESOL funding*. <https://www.education.govt.nz/school/funding-and-financials/esol-funding/ways-your-school-can-use-esol-funding/>

Morgan, J., Leeson, C., & Carter Dillon, R. (2013). How can schools support children with a parent in prison?. *Pastoral Care in Education*, 31(3), 199-210.

NZQA, (2021). *Secondary Statistics Consolidated Data Files for 2020*. <https://www.nzqa.govt.nz/qualifications-standards/understanding-nzqf/secondary-school-and-ncea/secondary-school-statistics/data-files-for-2020/#heading2-0>.

Paget, A., Parker, C., Heron, J., Logan, S., Henley, W., Emond, A., & Ford, T. (2018). Which children and young people are excluded from school? Findings from a large British birth cohort study, the Avon Longitudinal Study of Parents and Children (ALSPAC). *Child: care, health and development*, 44(2), 285-296.

Stats NZ. (n.d.). *Data in the IDI*. <https://www.stats.govt.nz/integrated-data/integrated-data-infrastructure/data-in-the-idi/>.

StatsNZ, (2019). Wellbeing statistics: 2018. <https://www.stats.govt.nz/information-releases/wellbeing-statistics-2018>.

Strand, S., & Lindsay, G. (2009). Evidence of ethnic disproportionality in special education in an English population. *The Journal of Special Education*, 43(3), 174-190.

Strand, S., & Fletcher, J. (2014). A quantitative longitudinal analysis of exclusions from English secondary schools.

Theriot, M. T., Craun, S. W., & Dupper, D. R. (2010). Multilevel evaluation of factors predicting school exclusion among middle and high school students. *Children and Youth Services Review*, 32(1), 13-19.

Valeri, L., & VanderWeele, T. J. (2013). Mediation analysis allowing for exposure–mediator interactions and causal interpretation: theoretical assumptions and implementation with SAS and SPSS macros. *Psychological methods*, *18*(2), 137.

Valeri, L., & VanderWeele, T. J. (2015). SAS macro for causal mediation analysis with survival data. *Epidemiology*, *26*(2), e23-e24.

VanderWeele, T. J. (2016). Mediation analysis: a practitioner's guide. *Annual review of public health*, *37*, 17-32.