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The Effects of Home–School Dissonance on Individual and School Outcomes for Māori and European New Zealand Adolescents

Paul E. Jose[1], Arama Rata[2] and Alex Richards[1]*

[1] School of Psychology, Victoria University of Wellington, Wellington, New Zealand, [2] School of Maori Studies, Victoria University of Wellington, Wellington, New Zealand

Researchers have speculated that children and adolescents who experience an incongruity between the cultures of home and school (termed "home–school dissonance" or HSD) perform more poorly in the school setting and evidence poorer adjustment in general. A sample of 476 Māori and 1,024 European New Zealand (ENZ) adolescents, aged 11–16 years at Time 1, completed self-report measures of HSD, family connectedness, school connectedness, aspirations, positive relations with teacher, self-reported schoolwork quality, and other related measures three times separated by 1 year each. As predicted, Māori youth reported higher levels of HSD compared to ENZ youth. In addition, latent growth curve modeling showed that an increase in HSD over 3 years positively predicted negative outcomes and negatively predicted positive outcomes. We concluded that Māori youth experience a disconnection between the contexts of home and school, and this dissonance is associated with a range of poor psychological and educational outcomes.

Keywords: home–school dissonance, adolescents, European New Zealanders, Māori, aspirations, family connectedness, school connectedness

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****Correspondence:***
Paul E. Jose
paul.jose@vuw.ac.nz

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Researchers and practitioners have long been concerned by the poor academic performance of minority children in mainstream schools (Kao and Thompson, 2003; Noguera, 2003). Various explanations have been tendered to elucidate the reasons for this problem. Writers in critical pedogogy, such as Freire (2009) and Giroux and McLaren (1989, 1993), have written trenchantly about the cultural mismatch that occurs when poor and/or minority youth attend schools that promote majority and middle-class perspectives and values. In this vein, Boykin et al. (2005) have proposed the "home-school cultural misalignment argument" (p. 521), which argues that minority students often experience dissonance between the two contexts of home and school, and that this mismatch leads to poor school performance.

Home–school dissonance (HSD) has been conceptualized as the difference between the values and processes that exist in students' home or broader out of school environment (i.e., neighborhood) on the one hand, and those that exist in their school experience on the other hand (Arunkumar, 1999; Kumar, 2006; Tyler et al., 2008). The extent to which adolescents' home and school life are in conflict can have a significant impact on a variety of important outcomes. Recent studies have found that HSD among African American high schoolers predicted multiple negative academic variables, including academic cheating, disruptive classroom behavior, and poor grades (Brown-Wright and Tyler, 2010; Tyler et al., 2010). A similar study found that students who reported higher levels of HSD

reported more anger, more self-deprivation, lower self-esteem, and were less hopeful (Arunkumar et al., 1999).

Although Boykin et al. (2005) proposed their misalignment argument as an explanation for poor minority children's academic performance, evidence is lacking that minority students report higher levels of HSD than majority students. It has been suggested that ethnic minorities may be more likely to feel greater HSD due to the undervaluing of their culture's particular belief systems in the school context, i.e., their cultural beliefs may be incongruent with the Eurocentric norms that tend to predominate within a typical American school system (Tyler et al., 2010). As compelling as this theoretical position may seem, literature to support this claim is sparse. In fact, in one study based in the U.S., Arunkumar et al. (1999) found that African American students reported the same amount of HSD as European American students. Therefore, continued examination of rates and predictive power of the HSD construct is needed to clarify gaps in our knowledge.

CONNECTEDNESS TO FAMILY AND SCHOOL

A large body of research supports the idea that perceived sense of belonging or connectedness is a basic psychological need: when this need is met, one is likely to report a subsequent increase in sense of well-being (Ryan and Deci, 2000). In this work, we adopted the definition of social connectedness proposed by Barber and Schluterman (2008): "a tie between the child and significant other persons (groups or institutions) that provide a sense of belonging, an absence of aloneness, a perceived bond. Depending on the intimacy of the context, this connection if produced by different levels, degrees, or combinations of consistent, positive, predictable, loving supportive, devoted, and/or affectionate interaction" (p. 213). Studies in education and psychology are beginning to examine whether this sense of connectedness is beneficial to the educational and psychological outcomes of children and adolescents. In an empirical test of this hypothesis, Hardway and Fuligni (2006) conducted a longitudinal study of youth aged 10–16 years and found family connectedness to be positively associated with overall well-being. Similar findings have been obtained for other studies of family connectedness (e.g., Hardway and Fuligni, 2006; Laursen and Collins, 2009). At the same time, researchers are finding a similar basis for social connectedness in young people's connection to their school (Centers for Disease Control and Prevention, 2009). Research (e.g., Klem and Connell, 2004; Bond et al., 2007) has demonstrated similar positive outcomes for children and adolescents who feel connected to their school. Jose et al. (2012) have showed that both forms of social connectedness were found to be predictive of greater levels of aspiration, confidence, life satisfaction, and positive affect one year later.

THE NEW ZEALAND CONTEXT

Furthermore, recent research has found that the ways in which adolescents and their families maintain connectedness can vary across ethnic groups due to different cultural traditions. In some parts of the world, such as in North America, a more independent cultural norm is evident whereby people are more independent in relation to others within their society (Singelis, 2004). On the other hand, in other parts of the world such as Asia, a collectivist cultural norm may exist in which people are embedded within layers of social relationships (Li, 2002). This study was conducted in New Zealand, where indigenous Māori individuals constitute New Zealand's largest minority group (14.9% of the population, Statistics New Zealand, 2013), and individuals of European descent [termed European New Zealanders (ENZs) or Pakeha] constitute the majority group (74% of the population, Statistics New Zealand, 2013). The numerical and political dominance of NZEs in contemporary New Zealand society stems from the establishment of a settler government in 1852. Despite the signing of the Treaty of Waitangi in 1840, which asserted Māori *tino rangatiratanga* (sovereignty) and promised equal citizenship rights, Māori political institutions were not recognized, and Māori people were largely excluded from participating in the settler government (Walker, 1990). While in 1840, Māori outnumbered NZEs by as much as 100:1 (Orange, 1987), only 30 years later, through large-scale European immigration, the introduction of infectious diseases, war, and forced migration, NZEs came to outnumber Māori by approximately 10:1 (Orange, 1987).

This general dominance has been reflected in the structure and content of curricula taught in schools up to the current time. Māori culture and language were excluded from the classroom in order to achieve the State's assimilation agenda (see Hemara, 2000). The New Zealand curriculum remained relatively unchanged for over 100 years, and within this education system which focused on Eurocentric knowledge and methods, Māori achievement was low. However, through political activism in the late 1960s and 1970s, traction has been gained, and many State primary and secondary schools now offer Māori language (as an elective subject). However, on balance, the amount of Māori language, knowledge, and culture taught to young people in most New Zealand schools is minimal.

More significant progress has been made in recent decades through the grassroots Kaupapa Māori education movement, designed to improve Māori education outcomes (Smith, 1997) through the creation of Māori language immersion schools, known as kura kaupapa Māori. These schools are now found in many parts of the country, but their number is still small, i.e., there are currently 69 kura kaupapa Māori in New Zealand compared to a total of 6,980 schools in total (Education Counts, 2014). Consequently, over 85% of Māori children still attend mainstream schools (Education Review Office, 2006), and questions have arisen about whether they are disadvantaged by doing so. Figures from 2012 showed that only 25.6% of Māori secondary school students gained a university entrance qualification, compared with 52.21% of NZEs (Education Counts, 2014). Within this context, we were interested in determining whether HSD occurs for Māori in New Zealand, and whether it is associated with academic and social disadvantage for this group.

THE PRESENT STUDY

Little research has been performed on the topic of HSD so numerous questions remain to be answered. We began by first

determining whether the measure of HSD evidenced validity. We reasoned that individuals who reported high HSD would report lower school and family connectedness because we thought that individuals would be unlikely to strongly embrace two domains perceived to be at odds with each other. Hypothesis 1 suggested that mean group differences would be found, namely individuals reporting high HSD would also report low school and family connectedness.

Since previous researchers have argued that minority children attending mainstream schools might experience tension between the culture of their home and the majority culture represented in the school, we hypothesized (Hypothesis 2) that Māori adolescents would report higher levels of HSD than ENZ adolescents. Furthermore, since researchers (Arunkumar, 1999; Kumar, 2006; Boykin et al., 2005) have suggested that youth experiencing greater HSD are more likely to report decrements in positive outcomes and increases in negative outcomes, we posed Hypothesis 3 that stated that the trajectory of HSD over 3 years would positively predict the trajectories of avoidance, negative affect, rumination, and lack of autonomy, and it would also negatively predict the trajectories of aspirations, positive relations with teacher, self-reported quality of schoolwork, and confidence. Research Question 1 investigated whether the associations between HSD and outcomes were differentially manifested for the two ethnic groups of Māori and ENZ young people.

MATERIALS AND METHODS

Participants

The data used in this study were collected by The Roy McKenzie Centre for the Study of Families as part of their Youth Connectedness Project (see Jose et al., 2012 for a description of the chief purpose of the longitudinal study). A survey was administered once a year over three consecutive years (2006, 2007, and 2008). Data were initially collected in the first year of the data collection (Year 1) from students attending 78 schools, with about equal numbers from three age cohorts (i.e., 10- to 11-, 12- to 13-, and 14- to 15-year olds). The gender ratio was 52% females/48% males, very close to the average for this age range. The sample was nationally representative in several respects. Children and adolescents were obtained from a wide range of different types of schools that possessed the full range of socioeconomic scores in New Zealand: the average school decile score (a measure of socioeconomic status) was 5.2, very near the average of 5.0. Percentages of participants from urban/suburban/rural schools were 61/33/6%, which approximates the national averages of 71/15/14% (Statistics New Zealand, 2002). In this study, we focused on individuals who self-reported either ENZ or Māori ethnic identity, leaving aside Pacific Islanders and other ethnicities. We began with 1,832 individuals in Year 1 and this number fell to 1655 at Year 2 (9.7% attrition rate), and further declined at Year 3 to 1,500 (9.4% attrition between Year 2 and Year 3), an overall attrition rate of 18.1% between Year 1 and Year 3. The final sample, constituted of individuals who provided complete data for all years, included 1,024 ENZ and 476 Māori youth.

Procedure

One hundred and two schools were approached in the North Island of New Zealand in order to effect the recruitment of a nationally representative sample and approval was received from 78, a 76.5% agreement rate. Once the school agreed to the procedure, information sheets and consent forms were sent home with the adolescents. Subsequently, data collection sessions were run with 30 laptop computers in the schools to obtain the data from adolescents who both returned parental consent forms and assented to the procedure. Research assistants and teachers were always available to assist in answering queries about particular words or procedure and ensuring confidentiality. Ethical approval was obtained from the Victoria University of Wellington's Ethics Committee.

Measures

Home–School Dissonance

The four items written for this study (see appendix for a list of all items for all scales) were based on six items in the Home–School Dissonance Scale (Arunkumar et al., 1999) and were composed to reflect the essential tensions that can occur between home and school. Arunkumar et al. (1999) obtained internal consistency of 0.73 for their items, and our internal consistency was similar (i.e., 0.70, 0.73, and 0.75) over the 3 years of this study.

Family Connectedness

As described previously by Jose et al. (2012), this 11-item scale included items tapping cohesion, identity, and mutual activities. The family cohesion and family identity items were influenced by items in the FACES II instrument (Olson et al., 1982), while the family identity items were generated for this study. Sample items are: "it means a lot to be a member of my family," "for my family, spending time together is very important," and "do you and your family have meals together?" The appendix gives a list of the items. Responses were obtained on a 5-point scale, ranging from 1 ("*never/almost never*") to 5 ("*always/almost always*"). The internal reliabilities for this new measure of family connectedness over the three measurement occasions were 0.91, 0.91, and 0 92.

School Connectedness

Also as described previously by Jose et al. (2012), this eight-item scale was written to reflect the themes previously identified by previous measures of school connectedness (Blum et al., 2002; Libbey, 2004): connection to teachers, pride in school, and positive interactions with schoolmates. Internal reliabilities of this new measure were good over time: 0.84, 0.84, and 0.86.

Aspirations

Ryff and Keyes (1995) identified six subscales in their Scale of Psychological Wellbeing, and in the present case we chose to focus on one of these subscales: they referred to this subscale as "purpose in life" but we have adopted the term "aspirations" as we feel that it is a better descriptor of the construct. Ryff and Keyes (1995) reported the internal reliability of purpose in life to be 0.33, but we obtained Cronbach's alphas for the 3 years of 0.74, 0.78, and 0.81.

Self-Reported Quality of Schoolwork

It was not feasible to obtain actual grades for all of these students across so many different schools, so a single item was written for this study to allow students to self-report how well they felt they were performing in the area of their schoolwork. The question was "How well do you think you are doing in school/kura in the area of your classwork?" and responses were given on a 5-point Likert scale ranging from "*very poorly*" to "*excellent*." "Kura," a Māori word, is understood within New Zealand to refer to "school."

Positive Relations with Teacher

Three items were written to capture positive relationships between students and teachers, and reliabilities were good: 0.86, 0.84, and 0.87.

Confidence

Four items taken from Ryff and Keyes' Wellbeing Scales (1995) and Rosenberg's Self-Esteem Scale (1965) were used to assess self-confidence. Reliabilities were good for this new measure: 0.79, 0.83, and 0.86.

Lack of Autonomy

Three items were taken from Ryff and Keyes' Wellbeing Scales (1995) to capture a lack of the autonomous self. Although they had previously reported a reliability of 0.37, our reliabilities were adequate: 0.67, 0.70, and 0.74.

Rumination

Four items taken from a diary study of ruminative responses (Nolen-Hoeksema et al., 1993) were used to assess ruminative coping efforts. These authors had previously obtained reliabilities of between 0.70 and 0.80, and our reliabilities fell within this range: 0.71, 0.74, and 0.75.

Avoidance

Three items were taken from the avoidance subscale identified by Jose et al. (1994), who reported an internal reliability of 0.74, and reliabilities in the present case proved to be adequate: 0.73, 0.75, and 0.79.

Negative Affect

Four items were taken from the CES-D measure of depressive symptoms (Radloff, 1977). The whole measure yields reliabilities in the high 0.80s and low 0.90s, but we used a shorter measure, but still reliabilities were adequate: 0.76, 0.80, and 0.79.

Data Analysis Plan

To test our first hypothesis, we conducted a MANOVA to determine whether individuals who reported higher levels of HSD would also report lower levels of school and family connectedness. A between-group ANOVA was then performed to test our second hypothesis that Māori, as a minority group in New Zealand, would report higher levels of HSD than ENZs, the majority ethnic group in New Zealand. The third prediction was tested with a series of latent growth curve models (LGCMs) to verify whether the HSD intercept at Time 1 and the slope over 3 years predicted a set of positive and negative outcomes. And finally, we examined whether ethnic group status (minority vs. majority) moderated the obtained results for the LGCMs.

RESULTS

Descriptive Statistics

Table 1 reports the zero-order correlations among HSD, school connectedness, and family connectedness across the three times of measurement. As expected, HSD was negatively related to the home and school connectedness variables.

Data screening indicated no variables exhibited excessive skewness or kurtosis, and no univariate or multivariate outliers (+3 SDs) were identified. Little's MCAR test was found to be non-significant, $p > 0.10$, which suggested that missingness was not systematic. A missing value analysis in SPSS Ver. 23 indicated 12% missing data in the whole dataset, and in order to maximize the statistical power of the dataset, these values were imputed with the expectation maximization (EM) algorithm (Roth, 1994).

Mean Group Differences: Validation of the HSD Measure

To test hypothesis 1, we performed a MANOVA in SPSS Ver. 23 to investigate whether adolescents who reported high HSD would report lower levels of both family and school connectedness. We computed a repeated measures MANOVA with HSD (dichotomized) as the independent variable, school decile, gender, and age as covariates, and family and school connectedness

TABLE 1 | Descriptive statistics for HSD, family connectedness, and school connectedness over the three times of measurement.

	HSD T1	HSD T2	HSD T3	Schl C T1	Schl C T2	Schl C T3	Fam C T1	Fam C T2	Fam C T3
HSD T1		0.34***	0.33***	−0.09***	−0.03	−0.05*	0.01	−0.06*	−0.03
HSD T2			0.49***	−0.16***	−0.18***	−0.17***	−0.08**	−0.12***	−0.15***
HSD T3				−0.17***	−0.24***	−0.31***	−0.12***	−0.17***	−0.22***
Schl C T1					0.56***	0.43***	0.44***	0.37***	0.36***
Schl C T2						0.58***	0.37***	0.51***	0.40***
Schl C T3							0.30***	0.39***	0.49***
Fam C T1								0.65***	0.59***
Fam C T2									0.70***
Mean	3.23	3.14	3.08	3.72	3.66	3.65	3.90	3.75	3.69
SD	0.81	0.77	0.77	0.78	0.75	0.78	0.73	0.78	0.78

HSD, home–school dissonance; Schl C, school connectedness; Fam C, family connectedness.
*All variables were assessed on a 1 to 5 Likert scale. ***p < 0.001; **p < 0.01; *p < 0.05. N = 1500.*

as the dependent variables. We used these three variables as covariates in order to obtain findings that were robust regardless of socio-economic status, gender, and age. A significant multivariate main effect was obtained for dissonance, $F(2, 1351) = 47.17$, $p < 0.001$, partial $\eta^2 = 0.07$. Univariate analyses showed that HSD yielded significant differences for both family and school connectedness, Fs(1, 1352) = 43.76 and 90.92, ps < 0.001, partial η^2s = 0.03 and 0.06. In both cases, as predicted, individuals reporting high HSD reported lower levels of family connectedness (M = 3.62, SD = 0.72) and school connectedness (M = 3.62 SD = 0.74) compared to individuals who reported low levels of HSD (M = 3.85 and 3.89; SDs = 0.74 and 0.72, respectively). These results supported the hypothesis that individuals reporting high levels of HSD would also report commensurately low levels of both family and school connectedness.

Mean Group Differences: Ethnic Group Differences

A significant main effect was obtained for ethnic group, $F(1, 1433) = 58.94$, $p < 0.001$, partial $\eta^2 = 0.04$. Evidence to support hypothesis 2 was found: Māori youth reported higher levels of dissonance (M = 3.27, SD = 0.80) than ENZ youth (M = 3.01, SD = 0.76), although it is acknowledged that the effect size was small.

Did HSD Predict Outcomes As Expected?

In this section, we report results from analyses designed to determine whether HSD was predictive of outcomes in predictable ways (Hypothesis 3). The first step in latent growth curve modeling is to determine whether all variables yielded appropriate unconditional intercept and slope statistics. Again, school decile, gender, and age were entered as covariates (variables predicting the four latent constructs). **Table 2** shows that HSD, as well as the other variables, manifested acceptable characteristics. The intercept (at Year 1) for HSD was found to be 3.10 on a 5-point scale, and scores were found to be reasonably stable over time (slope = 0.002, *ns*). Significant variability was identified for all variables for both intercepts and slopes.

The second step was to create eight parallel process LGCMs in Amos Ver. 22 where HSD separately predicted four positive outcome variables (i.e., aspirations, positive relations with teacher, self-reported quality of schoolwork, and confidence) and four negative outcome variables (i.e., lack of autonomy, rumination, avoidance, and negative affect). See **Figure 1** for a depiction of the model tested in Amos. School decile, gender, and age served as covariates. **Table 3** reports the results of these analyses, and they show that HSD was a significant predictor in all cases: the intercept of HSD at Year 1 significantly predicted the intercepts of all outcomes at Year 1; and the slope of HSD significantly predicted the slopes of all outcomes. As predicted in hypothesis 3, HSD was a positive predictor of the slopes of lack of autonomy, rumination, avoidance, and negative affect, and it was a negative predictor of aspirations, positive relations with teacher, self-reported quality of schoolwork, and confidence. The slope-to-slope relationships suggest that the trajectory of HSD for an individual over time was predictive of trajectories of these outcomes in the expected directions.

TABLE 2 | Unconditional latent growth model estimates of HSD and outcome variables.

Variable		Factor mean	Factor variance	Model fit
HSD	Intercept	3.095***	0.383***	CFI =0.90; RMSEA = 0.08; Crit *N* = 246
	Slope	0.002^{NS}	0.059***	
Aspirations	Intercept	4.123***	0.210***	CFI = 0.99; RMSEA = 0.04; Crit *N* = 1,344
	Slope	−0.075***	0.030***	
Pos Rel w/Teach	Intercept	3.657***	0.420***	CFI = 0.99; RMSEA = 0.04; Crit *N* = 1,341
	Slope	−0.040***	0.073***	
SRQSW	Intercept	3.964***	0.352***	CFI = 0.99; RMSEA = 0.04; Crit *N* = 1,298
	Slope	−0.081***	0.039***	
Confidence	Intercept	4.166***	0.231***	CFI = 0.99; RMSEA = 0.06; Crit *N* = 603
	Slope	−0.038***	0.041***	
Lack of auto	Intercept	2.588***	0.475***	CFI = 0.99; RMSEA = 0.04; Crit *N* = 1,323
	Slope	−0.146***	0.062***	
Rum	Intercept	2.369***	0.343***	CFI = 0.99; RMSEA = 0.04; Crit *N* = 1,258
	Slope	−0.059***	0.015*	
Avoidance	Intercept	2.442***	0.309***	CFI = 0.98; RMSEA = 0.04; Crit *N* = 1061
	Slope	−0.050***	0.032**	
Neg affect	Intercept	1.634***	0.183***	CFI = 0.95; RMSEA = 0.06; Crit *N* = 598
	Slope	−0.021*	0.031**	

****p < 0.001, **p < 0.01; *p < 0.05.*

HSD, home–school dissonance; aspirations, purpose in life from Ryff's WB scale; Pos Rel w/Teach, positive relations with teacher; SRQSW, self-reported quality of schoolwork; lack of auto, lack of autonomy; Rum, rumination; Neg Affect, negative affect.

Research Question 1: Did Ethnic Group Moderate the Relationships between HSD and Outcomes?

To examine the ethnic group moderation question, a regression was performed to determine whether ethnic group would moderate the relationship between HSD and scores based on clusters of negative or positive outcome variables. To simplify the analysis, since the four positive and the four negative outcomes were significantly related to each other in these two groups (rs = 0.30 to 0.85, all ps < 0.001), the four negative outcomes were standardized and linearly combined, and the same computation was performed for the four positive outcomes. Cronbach's alphas for these two scores over three time points were low but acceptable: 0.65–0.71 for negative outcomes and 0.69–0.74 for positive outcomes. Next, six moderation analyses were run using outcome scores at each time point as the respective dependent variables. Ethnic group was dummy coded (0 = ENZ; 1 = Māori), and multiplied with the HSD scores at the three time points. None of the three regressions

for the negative outcome score yielded a significant moderation result, but all three of the regressions performed on positive outcomes did, βs = 0.17–0.36, *p*s = 0.05–0.001. The results for all 3 years were virtually identical, and to give an example, Year 2 was graphed with ModGraph (Jose, 2013) and **Figure 2** depicts the resulting figure. The simple slopes analysis showed that the Māori group slope was clearly flatter, slope = −0.14, $t = -5.39$, $p < 0.001$, than the ENZ group slope, slope = −0.255, $t = -10.72$, $p < 0.001$. This set of analyses indicated that the negative association between HSD and positive outcomes was stronger for ENZ than for Māori youth.

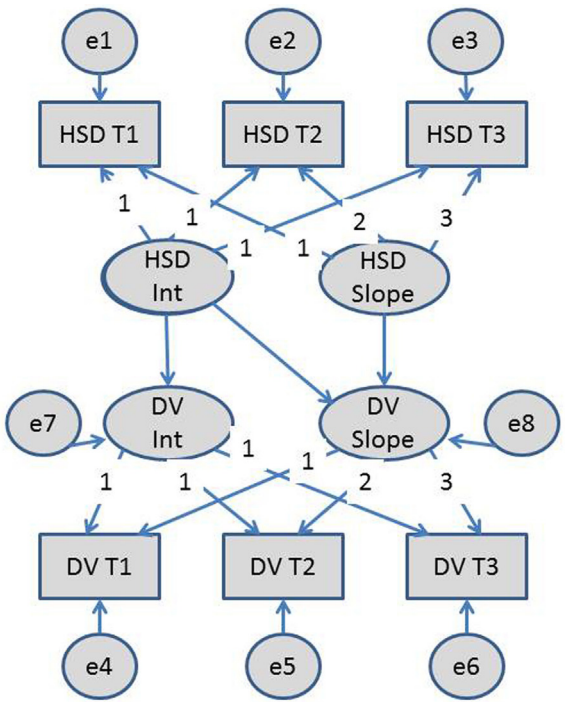

FIGURE 1 | Parallel process analysis of home–school dissonance (HSD) latent growth model predicting a dependent latent growth model.

DISCUSSION

The goal of this research was to explore how dissonance between adolescents' home and school lives might impact on indicators of well-being in a sample of Māori (indigenous New Zealander) and ENZ students. As predicted, our measure of HSD predicted weaker school connectedness and family connectedness, which was consistent with our view that students would be unlikely to be highly engaged in two domains considered to be at odds with each another. We argue that this result supports our claim of construct validity for our home school dissonance measure, but since evidence of validity is largely lacking in the literature, future work should continue to probe this issue.

Also, as predicted, we found that Māori students reported higher levels of HSD than their ENZ counterparts. Although one study has found comparable HSD rates between minority and majority youth (Arunkumar et al., 1999), the thrust of the theory and the scant empirical evidence about HSD is that minority youth should report higher HSD than majority youth. At the same time, we should acknowledge that the obtained difference yielded a small effect size. As with construct validity, future research on group differences in HSD is warranted.

Next, we assessed the relationship between HSD and a range of positive and negative outcome variables. As predicted, HSD predicted higher levels of negative outcome variables (lack of autonomy, rumination, avoidance, and negative affect), and lower

TABLE 3 | Parallel process latent growth models of HSD predicting the eight outcomes.

Predictor	Variable	Predicted	Variable	β	SE	Model fit
HSD	Intercept Slope	Aspir	Intercept Slope	−0.13*** −0.40**	0.03 0.15	CFI = 0.98; RMSEA = 0.04; Crit *N* = 811
HSD	Intercept Slope	Confid	Intercept Slope	−0.15*** −0.43**	0.03 0.16	CFI = 0.97; RMSEA = 0.05; Crit *N* = 540
HSD	Intercept Slope	SRQSW	Intercept Slope	−0.33** −0.90*	0.06 0.38	CFI = 0.95; RMSEA = 0.05; Crit *N* = 564
HSD	Intercept Slope	Pos Rels w/Teacher	Intercept Slope	−0.32** −1.64**	0.05 0.53	CFI = 0.97; RMSEA = 0.05; Crit *N* = 595
HSD	Intercept Slope	Avoid	Intercept Slope	0.48*** 0.78***	0.05 0.19	CFI = 0.97; RMSEA = 0.05; Crit *N* = 553
HSD	Intercept Slope	Lack of autonomy	Intercept Slope	0.53*** 0.73***	0.05 0.18	CFI = 0.97; RMSEA = 0.05; Crit *N* = 544
HSD	Intercept Slope	Rum	Intercept Slope	0.55*** 0.59***	0.04 0.16	CFI = 0.97; RMSEA = 0.06; Crit *N* = 496
HSD	Intercept Slope	Neg affect	Intercept Slope	0.30*** 0.44**	0.04 0.16	CFI = 0.96; RMSEA = 0.05; Crit *N* = 585

****p < 0.001, **p < 0.01,*p < 0.05.*

HSD, home–school dissonance; aspirations, purpose in life from Ryff's WB scale; Pos Rel w/Teacher, positive relations with teacher; SRQSW, self-reported quality of schoolwork; lack of auto, lack of autonomy; Rum, rumination; Neg Affect, negative affect.

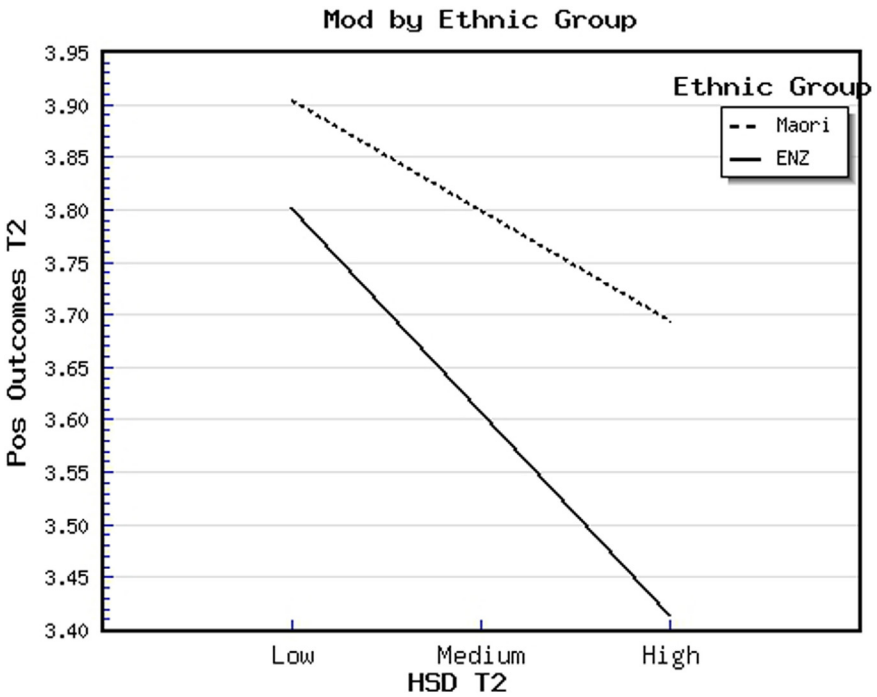

FIGURE 2 | The association between home–school dissonance (HSD) and positive outcomes at Time 2 moderated by ethnic group status.

levels of positive outcome variables (confidence, aspirations, self-reported quality of schoolwork, and positive relations with teacher). These findings are entirely consistent with previous published work.

Finally, as a research question, we assessed the effect of ethnicity as a moderator on the relationship between HSD and negative and positive outcome variables. The results indicated that while the relationships between HSD and negative outcomes were similar for Māori and ENZ youth, the relationships between HSD and positive outcomes were stronger for ENZ compared to Māori youth. This question has not been investigated in the literature previously, so we were not guided by prior work. The result suggests the somewhat counterintuitive conclusion that majority youth may be harmed by HSD more than minority youth for positive outcomes. This finding implies that majority youth can be harmed by HSD as much as, if not more, than minority youth, something that has not been verified before.

Findings within the Context of the Literature

As noted previously, the study of HSD among students is in its infancy, and little is known about this phenomenon. Boykin et al.'s (Boykin et al., 2005) "home–school cultural misalignment argument" suggests that minority students may experience dissonance between the two worlds of home and school, and in support of that hypothesis, empirical evidence has been obtained to show that it is related to poor school performance (Brown-Wright and Tyler, 2010; Tyler et al., 2010) and negative psychological outcomes (Arunkumar et al., 1999).

In line with these findings, within New Zealand society, our findings suggest that Māori youth experience a greater mismatch between the culture of the home and the culture of the classroom than their ENZ counterparts, which may be due, at least in part, to the Eurocentrism of New Zealand's mainstream education system (Penetito, 2002). Given that HSD predicted lower self-reported quality of schoolwork in this study, it is possible that poor educational outcomes among Māori youth (Education Counts, 2014) are at least partially due to the dissonance Māori experience between their home and school lives. The link between HSD and poor mental health outcomes found by others might also help to explain higher rates of psychological symptoms (e.g., depression) among Māori than that found among their ENZ counterparts (see Robson and Harris, 2007). In sum, these findings highlight the disadvantage that minority youth may experience trying to navigate two contexts that are based on different values and that may encourage compliance for different sets of behaviors, cognitive skills, and affective displays.

Implications for Educational Practice

The results of this study could be used to inform the efforts of education providers. The results suggest that increasing the cultural congruence of the education setting with students' homes would be likely to improve education and mental health outcomes, as well as increase students' connectedness with both their school and their families. These findings support the pedagogical approach taken within the kaupapa Māori education movement, which includes establishing an equal power relationship between the school and students' families, who are jointly responsible for the education of the students (Smith, 1990). As the students' families

shape the school environment, it follows that students' home and school lives would more likely to become more congruent.

These findings also support the approach taken in the professional development program Te Kotahitanga promoted in New Zealand. In this program, teachers are encouraged to acknowledge and respect students' cultural heritage and realities and build strong relationships with students (Bishop et al., 2003). While our findings indicated that Māori experienced more HSD than their NZE counterparts, we also discovered that the link between HSD and poor outcomes was stronger amongst ENZ students than their Māori counterparts in our sample. A possible explanation for this result is that ENZ youth who experience HSD may be marginalized from mainstream society and may not engage with any cultural institution that are congruent with their home lives. By contrast, Māori youth who experience HSD and may feel uncomfortable at school may still engage with distinctly Māori cultural institutions (e.g., the community marae) that are congruent with their home lives.

Authors have speculated that Māori adolescents might be more adept at transitioning between culturally incongruent spaces. Webber's (Webber, 2012) research into Māori student success outlined that successful Māori students actively managed their cultural identities and adapted to multiple cultural domains, while Te Huia and Liu (2012) found that Māori New Zealanders adapted more successfully to an unfamiliar culture (in this case, the Japanese cultural context) compared to their New Zealand European counterparts, due to their experience of being members of a minority culture who were required to transition between Māori and mainstream cultural spaces within New Zealand.

Limitations of the Present Study

The chief weakness of the study of HSD is that few self-report measures have been developed to measure this important construct. We relied upon the measure devised by Arunkumar et al. (1999), and although it yielded adequate internal reliability in the present case, further work is needed to substantiate its content and construct validity. And second, although we were able to identify interpretable associations between slopes in HSD and other related variables, the mechanisms by which these associations work over time were not elucidated. Longitudinal mediation analyses (Jose, 2016) would be helpful to clarify these processes.

CONCLUSION

We tested the construct validity of a measure of HSD and found, as predicted, that HSD was linked to lower home and lower family connectedness, that Māori students reported higher levels of HSD than ENZ counterparts, and that HSD was linked to poor outcomes across the sample. As Māori experienced higher levels of HSD, we concluded that cultural congruence between home and school is an important factor to consider in Māori education provision.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of the New Zealand Psychological Society with written informed consent (and/or assent) from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the Victoria University of Wellington Ethics Committee. Consent procedures were to obtain parental informed consent for all participants under 16 years of age (as stipulated by New Zealand law; note that it is not the same age as is customarily used in North America). Participants under 16 years of age were also asked to give assent. Participants 16 years and older provided their own informed consent. Principals and teachers were also asked to give their consent to allow participation of students. No data were collected from any individual without proper consent (and assent).

AUTHOR CONTRIBUTIONS

PJ obtained the grant to fund the research efforts, and designed and implemented the study. PJ analyzed the data, and chiefly wrote the Method and Results of the manuscript. In addition, he sketched out the Introduction and Discussion sections and created the tables and figures. AR (second author) and AR (third author) substantially contributed to the Introduction and Discussion sections, and helped with the revision of the rest of the manuscript.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at http://www.frontiersin.org/article/10.3389/feduc.2017.00053/full#supplementary-material.

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