

# In Transition – Patterns of Development and Change Among Vulnerable Young People

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**Abstract** This paper seeks to contribute to current debates about the nature of youth transitions. Transitions research seeks to account for more than just individual-level maturational processes, recognising that the pathway from childhood to adulthood is heterogenous and subject to the influence of macro-level factors such as political, social and economic environments. Within these larger debates this paper has a particular concern with three things. First, responding to calls for research to gather a diverse suite of indicators when examining youth transitions, it examines a range of potential indicators in terms of how they might help us understand better the transition experiences of a group of vulnerable young people. Here improvements in individual-level and neighbourhood-level indicators are observed alongside increasing educational risks and high levels of family risk that remain stable over time. Second, building on the work of others, who have argued that we need to be concerned about the experience of transition as a process as much with the various destinations at which youth may arrive, it explores the ways these indicators change over time. Third, by focusing specifically on the in-transition experiences of a group of youth who face more than the ‘normal’ range of challenges during adolescence it seeks to add to the corpus of knowledge concerning the heterogeneity of youth transitions.

**Keywords** Transition · Youth · Education · Relationships · Risks · Emotions · Neighbourhoods

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## 1 Introduction

Youth research has become increasingly interested in the idea of transitions, and transitions also increasingly occupy the attention of those in the policy and service delivery communities who are concerned with young people (EGRIS 2001). Briefly, youth transitions refers to the movement of individuals through adolescence to independence. Transitions research seeks to account for more than just individual-level maturational processes, recognising that the pathway from childhood to adulthood is heterogenous and subject to the influence of relationships with others, macro-level factors such as political, social and economic environments in addition to changes within individual young people themselves (EGRIS 2001). The idea of transitions has a good fit with adolescent and emerging adulthood research given the focus on changes over time (Andresen 2014). As Berzin (2010) has noted, however, while transitions may fit with a developmental perspective this should not be taken to imply that the transition process is trouble-free, linear or predictable for all youth. Key contemporary debates concerning youth transitions draw on extensive theoretical work that can only be briefly touched upon here. First, as the field of transitions research has grown, debates have emerged regarding the appropriate focus; is the concern primarily with transitions in terms of the destinations to which they lead, or should attention also be paid to the nature of the journey itself (Bottrell and Armstrong 2007). Ideas about young people 'in transition' are beginning to be debated in much the same way as in aged-care research, that is, the concern is primarily with the quality of the ageing process rather than with the destination. Second, while youth studies have historically emphasised ideas of personal agency, there is growing recognition of the bounded, or limited nature of this agency (Aaltonen 2013; Munford and Sanders 2015; Evans 2002). In relation to both the process-destination, and structure-agency debates, Roberts has observed (2010 p. 146):

...whereas once young people could be viewed as being on trains being hurled across a set track to some final destination, they are now making their journey to adulthood in a car, navigating their own way. However, political rhetoric espousing equality of opportunity in a meritocratic society obscures the fact that 'cars' of varying quality and reliability are unevenly distributed, that there is variable access to different standards of 'road', and that while many are supplied with 'maps', a differential ability to read them exists (Williamson 2006, 4). Understanding youth in this way allows us to account for the fact that while many young people go through this process without too many problems, a significant minority seemingly remain more prone to risk and vulnerability. Instead of a smooth road, in relation to employment, housing and relationship biographies, some encounter periods of 'break down', have collisions, find themselves in 'cul-de-sacs' or arrive at 'inappropriate destinations' (Williamson 2006).

As interest in understanding more about youth transitions has grown, so contemporary theorising in this area has argued that not only is the very nature of young people's transitions constantly changing in response to wider social, political and economic changes (EGRIS 2001) but furthermore that there is considerable heterogeneity in

young people's transition pathways (Aaltonen 2013; Bottrell and Armstrong 2007). In this way, current work seeks to locate the concept of transition in a more nuanced framework that is able to take account of discontinuities as well as continuities, fluctuation, multiple directions and complexity. This development is important because it highlights the need to capture the experiences of diverse groups of young people including LGBT youth, ethnic and cultural subgroups, refugee and migrant experiences as well as subgroups that are particularly vulnerable or exposed to a-typically high risks during transitions and whose transition experiences may not reflect conventional passages to adulthood (Aaltonen 2013). Indeed, there is a need to understand how the intersection between different social and cultural axes influence the nature of transitions (Gordon et al. 2008). While some young people may be able to experience prolonged transitions (EGRIS 2001) others are confronted with abrupt endings to their childhoods and their transitions are fast tracked (Wilson et al. 2008) or compressed (Stein et al. 2011) because circumstances demand that they shoulder adult responsibilities early as their families, schools and neighbourhoods fail to provide them with adequate support and resources.

The emerging consensus is that (as processes as well as destinations) transitions are fundamentally contextually sensitive, influenced by factors particular to specific youth, by wider cultural, socio-economic and political processes and also by factors in the families and communities in which youth live. In this regard, Bottrell and Armstrong (2007, p. 361) argue for consideration of the “near and distant frames”, that is; to include data from a range of ecological levels in order to build an accurate picture of youth transitions. Given this, there is a clear need for research to develop a diverse suite of indicators that can capture the varied nature of transition processes and ‘destinations’. In selecting indicators, attention must be paid to the particular population of youth under consideration, to positive dimensions as well as risk factors and factors located across the social ecologies of youth must also be included (Anderson Moore et al. 2009). For these reasons, this project captured resource and risk-related data at the relational, educational, neighbourhood and individual levels to build a picture of the ways in which these different aspects of youth lives changed over time. A critical feature of this investigation is the use of Generalized Estimating Equation models (GEE; Liang and Zeger 1986) to estimate change across time in a series of indicators, and to examine differences in indicators across key demographic groups, such as gender and ethnicity.

### 1.1 Relational Factors

It has been suggested that relationships in general and familial relationships in particular are a relatively neglected area of research in the transitions literature (Hedges 2011). While non-familial relationships increase in significance as young people move through adolescence, this does not mean that the significance of family diminishes or disappears (Herrenkohl et al. 2001). Indeed, for young people who may face a-typically high challenges and risks during adolescence, family relationships can be critical in terms of providing access to the resources and networks that might support aspects of a more conventional transition such as locating educational options or securing a job (Hardgrove et al. 2015). On the other side of the coin, difficult or challenging family circumstances can provoke risk behaviours in young people as they seek to manage the

impact these challenges have upon them (Aaltonen 2013) and chronic family disruption is associated with poorer outcomes (Anderson Moore et al. 2009). Some research suggests that females are particularly susceptible to negative impacts from challenging family circumstances (Quinn and Poirier 2005). There is a well-established relationship between parenting style and the emergence of problem behaviours in adolescence (Steinberg et al. 2006). Lack of parental support increases psychological distress (Auerbach et al. 2010a, b) while hostile, controlling or coercive parenting can propel youth towards peers engaged in high risk behaviours (Donovan and Jessor 1985). Thus, elevated individual-level risk behaviours may be attributable to issues within the family and in this sense represent young people making the “least bad” choice available to them (Aaltonen 2013, p.377) as they attempt to deal with challenging family relationships.

While family relationships are sometimes left off the agenda in transitions research, the impact of relationships with friends, peers and intimate partners has received considerable attention. Positive peers generate protective effects for youth (Herrenkohl et al. 2001) while anti-social peers have a well-recognised connection with poorer adulthood outcomes; they cast long shadows forward, impacting negatively on a wide range of later outcomes (Herrenkohl et al. 2001). It is not always easy to separate out what comes first, but there have been suggestions that early antisocial and delinquent behaviours lead to involvement with deviant peers who model and reinforce various deviant behaviours (Patterson 1996). It is thought that there is a ‘deviancy training’ (Dishion et al. 1999) effect whereby youth learn from each other. The tendency for behaviour among friendship groups to stabilise over time has also been observed, suggesting that when young people stay within the same peer group through adolescence either pro or anti-social behaviours tend to become fixed (Maxwell 2002). Relationships with peers are thought to act as emotional substitutes when families do not meet young people’s needs. If these are anti-social peers, these relationships can facilitate a pathway into higher risk taking. Understanding patterns of change in peer relationships in the current study is important, given that these young people confronted substantial challenges in their families, schools and neighbourhoods and therefore peer relationships may be a very significant part of their relational landscapes.

## 1.2 Educational Factors

Schools play a significant role in young people’s lives and the successful completion of schooling has important implications for the later capacity to build sustainable adult lives (Arthur et al. 2000; Sanders et al. 2016; Nordlander and Stensöta 2014). Positive engagement with education and feeling supported by school are important markers that predict successful transitions (Herrenkohl et al. 2001). Low attachment to school and poor academic achievement combine to predict later offending by youth and this relationship is independent of co-existing levels of anti-social behaviour; being able to keep vulnerable youth at school is critical in terms of improving their chances of making successful transitions (Savolainen et al. 2011). Being excluded, losing your place or removing yourself because you do not feel you belong at school represents more than simply the lost opportunity to gain qualifications, it represents exclusion from participation in normative activities and vital connections to mainstream society are lost in this process (Milburn et al. 2009).

The extent to which education is able to provide this ‘social glue’ and contribute to positive transitions depends on the capacity or willingness of schools to provide meaningful and rewarding experiences for students that encourage them to feel a sense of belonging at school. There is evidence across the world that schools struggle to do this successfully with young people who live difficult and challenging lives (Milburn et al. 2009; Yao et al. 2015). The critical factor in retaining such youth within mainstream settings is being able to foster a sense of belonging and this requires a long-term effort on the part of educators. Children who do not feel an attachment to school and who do not achieve academically are at risk for a wide range of problematic outcomes such as increased levels of violence as adults (Hedges 2011; Herrenkohl et al. 2001; Milburn et al. 2009). These two dimensions; achieving academic credentials at around the appropriate age and not being excluded or needing to remove oneself from school are two key facets of the educational experience that need to be considered when exploring the transitions of young people who live challenging and difficult lives.

### 1.3 Neighbourhood Factors

A significant body of evidence establishes a clear connection between young people’s reported exposure to neighbourhood stresses, disadvantage and violence and poor outcomes for youth (e.g., Gorman-Smith and Tolan 1998; Herrenkohl et al. 2001; Margolin and Gordis 2000). Perceiving the neighbourhood to be unsafe, regardless of the socio-economic status of the area, predicts anti-social behaviour (Herrenkohl et al. 2000). Anthony (2008) argues for the need to include consideration of young people’s perception of their neighbourhoods in research and in assessments of at risk youth alongside traditional factors such as mental health and educational progress because these neighbourhood factors exert a powerful influence upon mental health status, capacity to engage productively with education and to adopt pro-social behaviours. The pervasive consequences of neighbourhood deprivation and stress on young people’s capacities erodes optimism, fosters hopelessness and undermines the capacity to envisage a future beyond neighbourhood boundaries (Swisher and Warner 2013). Walther and colleagues (2005) describe the restricted availability of conventional pathways into employment for young people from poor neighbourhoods; noting that they draw primarily upon contacts from within their own locality. This leads, they suggest, to “fragile careers” (p. 231) based on restricted networks that are hard to orient beyond family, peer and neighbourhood linkages.

While poor, disadvantaged and disorganised neighborhoods have been implicated in a wide range of problematic outcomes, compromising the positive development of young people, there is also evidence to suggest that many young people raised in such neighbourhoods adapt well in the midst of this risk (Seidman and Pedersen 2003). Indeed much of the early work on resilience examined just this type of question, why some young people growing up amidst significant amounts of challenge and adversity did well (Werner and Smith 1992). Certainly, it would appear that simply moving young people from disadvantaged to comparatively less risky neighbourhoods does not produce any long term benefits (Fauth et al. 2007). Locales generate identity material for young people, and while they may contain risks and have the potential to seriously limit life chances, they can also bring a strong sense of belonging; providing emotional connection and a sense of

conditional safety that can compensate for emotional resources missing at home and at school (Holland et al. 2007). Such neighbourhoods can restrict life chances. However, they can also create comfort zones that bring benefits such as a sense of emotional safety and identity (Holland et al. 2007).

#### 1.4 Individual Factors

As part of the effort to understand adolescence as more than ‘storm and stress’ (Ayman-Nolley and Taira 2000) attention is increasingly being paid to the development of positive traits and capacities even among youth who are exposed to high levels of ongoing risk (Carlo et al. 2007). For instance, a strand of research considers positive, adaptive aspects of youth lives such as life satisfaction or subjective wellbeing (Nordlander and Stensöta 2014; Coyle and Vera 2013). Life satisfaction is a consistent marker of positive outcomes (Hawkins et al. 2009). Measures of life satisfaction can also be used alongside internalising risk measures, such as depression or anxiety to build a more comprehensive picture of young people’s emotional experiences (Coyle and Vera 2013). There have been suggestions that life satisfaction decreases across adolescence partly in response to growing dissatisfaction with family relationships (Goldbeck et al. 2007). Gendered patterns have also been observed in life satisfaction, with a suggestion that males have higher levels of life satisfaction than females (Nordlander and Stensöta 2014; Coyle and Vera 2013).

Gordon and colleagues (2008) draw attention to the powerful role that emotions play in shaping both how transitions are experienced and also in terms of the range of choices particular young people perceive as being available to them at any point in time. While thinking about and planning for the future are recognised as key developmental tasks in adolescence (Crockett and Bingham 2000; Greene 1990), Aaltonen (2013) argues that this involves more than just the pragmatic, linear development of more or less concrete plans. Rather there is a complex interaction between young people’s feelings, the opportunities available to them and their plans. Feelings and perceptions about options and possible directions have a complicated relationship with each other and these internal states (feelings and perceptions) shape interactions with the external world; they influence how and to what extent young people will take up or reject various options, and the ways in which they will utilise the resources and respond to the constraints and challenges around them. Aaltonen (2013) further contends that choices are not always rational or conscious; situations can call for an immediate reaction or response, such as the need to remove oneself from a household in order to be safe, and these reactions then set off their own chains of events. In these types of contexts youth are often faced with having to make the “least bad” (p. 377) choice. In these ways, transitions become laden with emotional meaning (Gordon et al. 2008).

Patterns in the development of pro-social behaviours; that is behaviours that have the purpose of benefiting others, have also been examined (Staub 1978). While theoretically, it has been argued that there are likely to be age-related maturational changes in pro-social behaviours during adolescence, to date the evidence is mixed and inconsistent (Carlo et al. 2007). This relatively recent study (Carlo et al. 2007) found that pro-social traits declined during adolescence, particularly in boys, and then rebounded slightly as youth moved into adulthood. On the other hand, there is some evidence to suggest stability in traits usually considered to indicate pro-sociality such as empathy

(Davis and Franzoi 1991; Eisenberg et al. 1999). Elsewhere it has been suggested that pro-social traits are closely connected to other facets of youth lives, such as friendship and family relationships and that as these relationships change, so levels of pro-sociality may also change (Carlo et al. 2007; Wentzel and Asher 1995). This would suggest that pro-sociality was a malleable trait subject to modelling effects.

The knowledge base regarding individual level risks in youth is vast and growing. This literature examines a wide range of internalising (such as depression and anxiety) and externalising (such as delinquent behaviours, health risks and conduct disorders) risk factors (e.g., Hasin et al. 2007; Lahey et al. 2000), whether certain risks predispose youth to developing other risks (eg., Hallfors et al. 2005; King et al. 2004;), the interactions between various risks (e.g., Angold et al. 1999; Capaldi 1992), the impact of such risks on subsequent development (e.g., Andersson et al. 1999; White et al. 1993), demographic patterns in risks (Alfven et al. 2008; Capaldi 1992; Sweeting and West 2003), and the link between maturation and levels of risk (Piquero 2008; Sampson and Laub 2003; Twenge and Nolen-Hoeksema 2002). While there are compelling arguments that our understanding of youth needs to extend beyond negative factors (Ayman-Nolley and Taira 2000), particularly those that concern individual risk behaviours, this should not result in research ignoring the very real impact that individual-level risks have upon young people's lives because adolescence is a peak period of risk and vulnerability (Auerbach et al. 2010a, b).

Against this background, the aims of the present study were to use data from a cohort of at risk young people to fit a series of Generalised Estimating Equation models (Liang and Zeger 1986) to examine:

1. Trajectories of relational factors, educational factors, neighbourhood factors, and individual factors over three assessment periods;
2. The extent to which trajectories in these factors differed over time according to gender and ethnicity.

## 2 Methods

### 2.1 Study and Population

The data presented in this paper was collected as part of the New Zealand Youth Transitions Research Programme, a longitudinal, mixed-methods study of the transition to young adulthood for a group of vulnerable teenagers. The research was submitted to and approved by the Massey University Human Ethics Committee prior to any data collection commencing. The study commenced in 2009 and six waves of data collection will occur between 2009 and 2016. Because there was no national list from which a sample could be drawn, participants were identified by schools, community organisations, recreational clubs and a range of services that provided therapeutic support to youth. This community saturation approach to recruitment involved the sequential examination of client records from all relevant youth organisations in five geographic locations across New Zealand to identify potential youth; once all potential youth had been identified within an organisation, researchers moved to the next organisation and reviewed their client lists to identify additional youth. To be included in the survey



youth needed to have one or more of the following characteristics at the time of their first interview: they had prematurely stopped attending mainstream schools (prior to age 16; the mandated school leaving age), they were involved in one or more of the major service systems (juvenile justice, child welfare, mental health, or attending an alternative education programme), or they were living independently or were homeless while attending high school.

The study involves the administration of a survey instrument to youth annually for 3 years and a further three annual qualitative interviews with a sub-group of youth. Youth were interviewed by trained interviewers who assisted youth with questionnaire completion. The current paper focuses on data collected in the first three surveys (time 1:  $n = 593$ ; time 2  $n = 528$ ; time 3  $n = 506$ ). The refusal rates for the first phase of the study were 2.5 %, and the attrition rate between time 1 and time 2 was 11 % and between time 2 and time 3 was 4 %.

At the time of their first interview, young people were aged between 12 and 17 years, the mean age was 15.3 years ( $SD = 1.13$ ). Given the study's focus upon young people exposed to atypically high levels of risk, the ethnic and gender mix of the sample was as would be expected in that it included an overrepresentation of Māori<sup>1</sup> (47.4 % compared with 19.7 % in this age bracket at the 2013 census) and Pacific Island youth (19.7 % compared with 8.4 % in this age bracket at the 2013 census, see Statistics New Zealand 2013), and more males (58.7 %) than females. In terms of exposure to risks, most youth (61.65 %) reported current experiences of abuse and neglect, as measured by the involvement of statutory child welfare services at the time of their first interview. A majority (83 %) also reported histories of such involvement. The young people's living arrangements were also consistent with what might be expected given the focus of the study. They reported a diverse range of living arrangements; 19.39 % (115) were living with both birth parents, 43 % (256) were living with one birth parent (with or without another adult), 13.6 % (81) were living with non-parental family members; 11.6 % (39) were in secure or supervised accommodation, and 6.4 % (38) were living independently.

## 2.2 Measures

*Family risk* was assessed using a composite score of parent/legal guardian presence when youth woke up, returned from school or work, and went to sleep at night. Youth were also asked about the nature of their relationship with parental figures and the amount of affection received from these individuals. Estimates of internal consistency reliability (Chronbach's  $\alpha$ ) from the current study were: Time 1  $\alpha = .72$ ; Time 2  $\alpha = .80$ ; and Time 3:  $\alpha = .80$ .

The nature of *peer groups* was assessed by an adapted and reverse-scored list of questions from the fourth and fifth cycles of Statistics Canada's National Longitudinal Survey of Children and Youth. Questions asked youth to rank how many of their friends engaged in a range of activities such as smoking, drinking and breaking the law. Youth ranked their answers on a scale from 0 = none to 3 = all). Items were reverse scored to give an overall assessment of the extent to which peer groups were positive.

<sup>1</sup> Māori are the indigenous youth in New Zealand.



In the current study Cronbach alpha scores were: Time 1  $\alpha = .86$ ; Time 2  $\alpha = .84$ ; and Time 3:  $\alpha = .84$ .

*On-Track with Education* this measure captured whether or not young people were attending mainstream school and whether or not they were on-track with their education at the time of each survey. Questions captured whether they were enrolled in educational programmes at the appropriate year-level for their age, whether or not they had achieved school qualifications that would be expected given their age and whether or not they achieved these qualifications in a mainstream educational setting.

*School risk* was assessed via three questions that assessed the frequency with which youth were stood down (required to not attend school for a period of time), excluded (asked to not attend indefinitely) or expelled from school. Questions had a yes/no format and were summed.

A composite score measuring *sense of neighbourhood risk* was established using items from the Boston Youth Survey (BYS), with some items being reverse scored. Items assessed community cohesion as well as levels of community trust and interaction. In the current study Cronbach alpha scores were: Time 1  $\alpha = .60$ ; Time 2  $\alpha = .62$ ; and Time 3:  $\alpha = .66$ .

Levels of wellbeing were assessed by using the *Satisfaction with Life Scale* (Diener et al. 1985;  $\alpha = 0.87$ ). This scale assesses overall levels of current life satisfaction using five items all rated on a 7-point scale, from 1 = strongly disagree to 7 = strongly agree. The scale includes items such as “The conditions of my life are excellent”, “So far, I have gotten the important things I want in life”, and “If I could live my life over, I would change almost nothing”. Higher scores are indicative of greater levels of satisfaction. In this study, response options were reduced to a 5-point scale (1 = strongly disagree to 5 = strongly agree). In the current study Cronbach alpha scores were: Time 1  $\alpha = .83$ ; Time 2  $\alpha = .84$ ; and Time 3:  $\alpha = .83$ .

Hektner (1995) reported on nine questions that could be used to assess *positive and negative emotions in relation to the future*. The questions asked “when thinking about the future, to what extent do you feel any of the following? Young people were asked to rate on a 5-point scale, from 1 = not at all to 5 = very much, four positive (confident, enthusiastic, powerful, curious) and five negative emotions (worried, empty, doubtful, curious, angry). In the current study Cronbach alpha scores were: Time 1  $\alpha = .58$ ; Time 2  $\alpha = .58$ ; and Time 3:  $\alpha = .50$  for positive emotions and, Time 1  $\alpha = .77$ ; Time 2  $\alpha = .77$ ; and Time 3:  $\alpha = .50$  for negative emotions.

*Pro-sociality* was assessed using the SDQ pro-social behaviour subscale (Goodman 2001) which assessed youth capacity for kindness, sharing and concern for others. Such positive social interaction was measured on a 3-point scale from 0 = Not true to 2 = *Certainly true* ( $\alpha = .66$ ). In the current study Time 1  $\alpha = .61$ ; Time 2  $\alpha = .71$ ; and Time 3:  $\alpha = .67$ .

*Individual risk* was assessed via four measures that captured both internalising and externalising dimensions. The 12-item version of the Centre for Epidemiological Studies Depression Scale (CES-D-12-NLSCY;  $\alpha = .85$ ; Poulin et al. 2005) measured risk of depression among participants. Participants rated each item on a 4-point scale from 0 = rarely or none of the time to 3 = all of the time with some items being reverse scored. This measure compares favourably to other depression measures such as the Beck Depression Inventory (Wilcox et al. 1998). In the current study Cronbach alpha

scores were: Time 1  $\alpha = .78$ ; Time 2  $\alpha = .82$ ; and Time 3:  $\alpha = .81$ . Externalising risk was assessed using two subscales of the 4-H study of Positive youth development ( $\alpha = .73$ ; Theokas and Lerner 2006); delinquency (frequency of behaviours such as theft, vandalism and aggression) and risk (frequency of use of substances including alcohol, tobacco, and other drugs). Individual items are rated on a 5-point scale from 1 = never to 5 = 5 or more times. The alpha coefficients in the present study were .82 and .78 at Time 1; .83 and .77 at Time 2; and .83 and .72 at Time 3 respectively. Externalising risk was also assessed using the Conduct Problems subscale of the SDQ questionnaire ( $\alpha = .60$ ; Goodman 2001), which includes shortness of temper and inclination for aggressive and violent responses, lying, theft and bullying. Items are measured on a 3-point scale from 0 = not true to 2 = certainly true, with some items being reverse scored. In the current study Cronbach alpha scores were: Time 1  $\alpha = .60$ ; Time 2  $\alpha = .60$ ; and Time 3:  $\alpha = .64$ .

## 2.3 Statistical Analyses

### 2.3.1 Modelling Change in Indicators Over Time

In order to examine changes over time on the indicator measures, a series of Generalised Estimating Equation (GEE; Liang and Zeger 1986) models with random effects and generalized least squares estimation were fitted to the data using Stata 12 (StataCorp 2011). A separate model was fitted for each (repeated measure) indicator. GEE models are appropriate for use with repeated measures data, and provide robust estimates of association even in cases where data may be missing. The models can be fitted appropriately to distributions with varying properties (identity; Poisson; binomial) using the *family* specification, with the assumptions of the model mirroring those of linear regression models. A critical feature of GEE models is the ability to account for across-time variation in outcome measures, modelling this as either a linear function, or (using design variates) modelling change from one time period to another. Furthermore, these models can be extended to include key covariates. In the case of the present analyses, key covariates included: a) design variates to control for any effects of clustering within interview sites; and b) a dichotomous variable representing whether the participant was in prison at the time of the interview.

Although the data were 85 % complete, all analyses were performed with fully conditional multiple imputation of missing data using chained equations (MICE) in Stata 12.

### 2.3.2 The Effects of Gender and Ethnicity on Indicators

It could be argued that key demographic variables, such as gender and ethnicity, may make an important contribution to indicator measures, and may in fact be associated with differing rates of change over time in indicators. In order to examine these issues, the GEE models described above were extended to include terms relating to gender, Māori ethnicity, and Pacific Island ethnicity. In addition, for the purposes of improving model fit and increasing the precision of estimation, the models were extended to include tests of predictor by time interaction (gender x time; Māori ethnicity x time;

Pacific Island ethnicity x time), and gender by ethnicity interaction (gender x Māori ethnicity; gender x Pacific Island ethnicity). All terms were entered into the models for each indicator measure simultaneously, along with design variates controlling for clustering within interview sites.

### 3 Results

Table 1 shows the cohort classified over three observation periods. For each period, the Table shows mean scores on a range of measures, including: risks; positive and negative feelings about the future; and strengths and resources. The Table also reports on the linear test of significance for changes in scores across time, as well as pairwise tests of significance between each pair of time points (derived from Generalized Estimating Equation (GEE) models; see Methods). The Table shows that:

1. In two cases, risk measures show evidence of statistically significant ( $p < .05$ ) decreases in scores from Time 1 to Time 3. Scores on the measures of individual risk and neighbourhood risk were significantly reduced at Time 3 as compared with Time 1. These two risk measures also showed a steady decrease over the three time periods as seen in the significant reductions at Time 2 compared to Time 1, and between Time 2 and Time 3. However, the measure of family risk showed no evidence of changes over time, and the measure of school risk increased significantly ( $p < .05$ ) at Times 2 and 3, relative to Time 1.
2. The positive and negative future emotions scale scores were significantly ( $p < .05$ ) lower at Time 3 relative to Time 1. However, in the case of the positive emotions

**Table 1** Mean (SD) scores on risk, future emotions and strengths/resources measures at T1 to T3

Measure	Time 1	Time 2	Time 3
Relational factors			
Family risk	7.58 (3.44)	7.65 (3.79)	7.61 (3.66)
Positive peer group	5.64 (3.84) <sup>a</sup>	6.03 (3.63) <sup>b</sup>	6.43 (3.66) <sup>c*</sup>
Educational factors			
School risk	8.37 (3.12) <sup>a</sup>	10.69 (1.99) <sup>b</sup>	10.53 (2.08) <sup>b*</sup>
On track with education relative to peers	1.97 (1.07) <sup>a</sup>	1.95 (1.16) <sup>a</sup>	1.71 (1.07) <sup>b*</sup>
Neighbourhood factors			
Neighbourhood danger	13.30 (3.29) <sup>a</sup>	12.91 (3.41) <sup>b</sup>	12.64 (3.52) <sup>b*</sup>
Individual factors			
Life Satisfaction	15.18 (4.95) <sup>a</sup>	16.01 (4.54) <sup>b</sup>	16.78 (4.57) <sup>c*</sup>
Negative Future Emotions	19.69 (4.19) <sup>a</sup>	18.65 (4.22) <sup>b</sup>	18.24 (3.36) <sup>b*</sup>
Positive Future Emotions	12.55 (3.43) <sup>a</sup>	13.83 (3.18) <sup>b</sup>	12.06 (2.90) <sup>c*</sup>
SDQ pro-social	7.72 (1.75) <sup>a</sup>	8.16 (1.81) <sup>b</sup>	8.49 (1.66) <sup>c*</sup>
Individual risk score	32.80 (13.20) <sup>a</sup>	28.60 (13.09) <sup>b</sup>	25.34 (12.19) <sup>c*</sup>

Differing superscripts indicate statistically significant ( $p < .05$ ) difference

\*Linear trend is statistically significant ( $p < .05$ )

- scale, there was also a significant ( $p < .05$ ) increase in scores from Time 1 to Time 2, followed by a significant ( $p < .05$ ) reduction at Time 3 so that by the end of the study, youth reported significantly less positive emotion regarding the future than they had at the beginning.
3. Scores on three of the four strengths and resources measures (life satisfaction; SDQ pro-social; and positive peer relationships) showed evidence of statistically significant ( $p < .05$ ) increases over time, with scores at Time 3 being significantly higher than at Time 1. The measure of being “on track with education relative to peers” was stable from Time 1 to Time 2, while it decreased significantly ( $p < .05$ ) at Time 3.

These results suggest that at an individual level the cohort members were functioning generally better as time progressed during the Youth Transitions Study. However, the measure of positive future emotions and the indicator of whether the individual was on track with their education relative to their peers both deteriorated over the three time periods, and the lack of change in the family risk measure suggests that cohort members still faced some significant challenges in terms of achieving positive transitions, as these three domains; a positive outlook, family risk and achieving educational credentials are critical to successful youth transitions. With regard to family risk, as noted above (see Study and Population) these youth confronted exceptionally high risks in their families at entry to the study, and so the lack of change on this measure indicates that they continued to confront these exceptionally high levels of risks in their families over time.

### 3.1 Adjustment for Prison Status

As noted in Methods, it could be argued that because the cohort was at high risk of being involved in the justice system, the observations reported in Table 1 may be influenced by those cohort members being in prison at each time of observation (17.7 % were in prison at Time 1; 12.7 % at Time 2; and 11.1 % at Time 3). In order to address this issue, the GEE models fitted in Table 1 were extended to include a term representing whether the cohort member was in prison at the time of observation. The results of these analyses were generally congruent with those shown above, suggesting that the observations in Table 1 were not unduly influenced by cohort members' presence in correctional facilities when interviewed.

### 3.2 The Role of Gender and Ethnicity in Risk, Future Emotions, and Strengths/Resources

A further feature of the data presented in Table 1 is that it may be possible to observe important group differences across the measures over time. As indicated earlier, females made up 41.3 % of the cohort, while 47.4 % of the cohort was of Māori ethnicity, and 19.7 % of the cohort was of Pacific Island ethnicity (see Methods). In order to examine this issue, the GEE models presented in Table 1 were extended to include terms relating to gender, Māori ethnicity, and Pacific Island ethnicity. In addition, the models were extended to include tests of predictor by time interaction (gender x time; Māori ethnicity x time; Pacific Island ethnicity x time). The results of

these analyses are shown in Table 2, which shows the parameter estimates and tests of significance for gender, Māori ethnicity, and Pacific Island ethnicity, for each outcome. The Table shows:

1. Relative to males, females had significantly ( $p < .05$ ) higher scores on the measure of family risk and being on track with education, marginally ( $p < .10$ ) lower scores on the measure of future negative emotions, and significantly ( $p < .001$ ) higher scores on the SDQ pro-social measure.
2. Compared with non-Māori, Māori cohort members had significantly ( $p < .001$ ) higher individual risk scores, significantly ( $p < .01$ ) lower scores on the measure of being on track with education relative to peers, and significantly ( $p < .001$ ) lower scores on the measure of positive peer relationships.
3. Cohort members indicating Pacific Island ethnicity had marginally ( $p < .10$ ) lower individual risk scores, significantly ( $p < .001$ ) lower family risk scores, and significantly ( $p < .01$ ) lower school risk scores, than cohort members not indicating Pacific Island ethnicity, as well as marginally ( $p < .10$ ) higher scores on the measure of life satisfaction.
4. Finally, in no cases was there evidence of a statistically significant ( $p < .05$ ) predictor by time period interaction, suggesting that the strength of association between the three demographic predictors and indicators did not differ across time.

**Table 2** Parameter estimates for the associations between outcome measures and: gender; Maori ethnicity; and Pacific Island ethnicity, across the periods T1 to T3

Measure	Gender		Maori ethnicity		Pacific ethnicity	
	B	SE	B	SE	B	SE
Relational factors						
Family risk	.51*	.24	-.12	.24	-1.33***	.32
Positive peer relationships	.26	.27	-1.22***	.26	.23	.37
Educational factors						
School risk	.14	.15	.15	.14	-.66**	.20
On track relative to peers	.20**	.07	-.18**	.06	-.00	.09
Neighbourhood factors						
Neighbourhood risk	-.13	.21	-.11	.21	-.37	.29
Individual factors						
Life satisfaction	-.29	.30	.45	.30	.77†	.41
Negative future emotions	-.29†	.16	-.06	.16	.13	.22
Positive future emotions	-.22	.18	.17	.18	.00	.24
SDQ pro-social	.60***	.12	-.10	.12	.16	.16
Individual risk score	-.63	.91	3.21***	.88	-2.26†	1.23

\* $p < .05$

\*\* $p < .01$

\*\*\* $p < .001$

† $p < .10$

Additionally, there was no evidence of a statistically significant ( $p < .05$ ) gender by Maori ethnicity or gender x Pacific ethnicity interaction.

In general, while there were relatively few differences within this group of high risk youth, there were some notable areas where risks and resources distributed themselves differently within this cohort. In particular, females confronted significantly greater amounts of family risk, and reported slightly lower negative future emotions than males. In terms of strengths and resources, females reported advantages in terms of pro-sociality and the extent to which they were on track with their education. Māori youth were exposed to far greater individual risks, and were less likely to have positive peer relationships and to be on track with their education than other youth. Pacific Island youth reported the lowest levels of family and school risk and also reported slightly greater satisfaction with life.

## 4 Discussion

The present paper employed a series of repeated measures Generalised Estimating Equation models to examine across-time trajectories in a series of indicators pertaining to relational factors, educational factors, neighborhood factors, and individual factors, amongst a cohort of at risk young people in New Zealand. A further key aspect of these analyses was that it proved possible to examine the extent to which the across-time trajectories of these indicators differed as a function of gender and ethnicity. Looking across the three time points, the value of considering transitions as a process can be clearly seen, as can the importance of taking into consideration a wide range of indicators that encompass both the “near and distant frames” (Bottrell and Armstrong 2007) when trying to understand transitions of high risk youth. Maturation processes that might be expected in any group of young people are apparent when considering the reductions in the individual-level risk indicator and also when reviewing the individual strengths and resources indicators, composed as they were of factors over which young people had direct control. These patterns are consistent with developmental perspectives (Andresen 2014; Piquero 2008; Sampson and Laub 2003; Nordlander and Stensöta 2014; Twenge and Nolen-Hoeksema 2002). Further, well recognised gender-based differences can be seen in the significantly higher scores on the pro-sociality indicator for females compared to males. Considering these changes in individual-level indicators from a personal agency perspective, the steady decline in levels of individual risks, growth in individual capacities, maturing within friendship groups and steady growth in levels of satisfaction with life could be interpreted as indicating that this group of high risk young people were increasingly taking responsibility for both their risk management and their personal development. If the analysis was only to consider these “near frame” factors, the conclusion would be optimistic; the transition processes among this group of high risk young people appeared to be predominantly positive and the indicators pointed to transition processes that were increasingly bringing these young people into more conventional patterns of positive functioning. It might appear that, given time, the impact of the challenges they faced while growing up would gradually disappear.

By adding in indicators that capture the “distant frame” however, a more complicated picture of the transition process emerges. Here, evidence of the limits of young people’s personal agency can be seen, and with it the benefit of using a range of indicators to understand transition processes becomes clear. Evans (2002) introduced the idea of bounded agency to help explain how young people’s capacities to use their personal agency to effect change or, in this case, to shape their transitions, were limited by factors in their social context over which they had little control. She argued that young people’s personal agency was not limitless, rather it was bounded, or constrained, by virtue of their youth; adults had the capacity to control important aspects of their lives. The educational and family risk indicators suggest the presence of bounded agency, and with it potentially blocked transition pathways (Bottrell and Armstrong 2007). Specifically, family risks did not change at all over the three time periods, so while the young people may have undertaken significant developmental work on themselves as could be seen in the reduction in individual risks and improvements on the indicators of positive individual functioning, the risks to which they were exposed within their own families remained high. As others have noted, strong family relationships can be critical in terms of providing access to resources and networks that help mitigate high levels of individual risks, and they are also a critical source of emotional support (Holland et al. 2007). The lack of reduction in the family risk indicator suggests that rather than a compensatory role, families were more likely to be exacerbating the challenges confronted and in this way were limiting the potential for positive outcomes for these youth.

In addition to the lack of positive change on the family risk indicator, both indicators of educational progress showed consistent and significant deteriorations over the three time periods. The improvements achieved at the individual level by these young people did not translate into reduced educational risks or increased educational achievements. Thus, by adding in these “distant frame” indicators, the optimistic interpretation of young people on predominantly positive pathways suggested in the “near frame” indicators, changes to one that suggests that young people are struggling to unlock educational resources required for transition processes to be ultimately successful (Nordlander and Stensöta 2014). Furthermore these young people had limited resources within their families to draw upon as they moved towards adulthood. Others have noted that when young people confront high risks in their families, they are subject to accelerated and compressed transitions; childhood ends abruptly and adulthood responsibilities are shouldered early (Stein et al. 2011). When combined, the individual and family indicators are suggestive of these types of accelerated and compressed transition processes. The risks faced in their families stand in tension with the positive individual-level developments they reported.

The addition of the educational and family indicators may also help explain the apparently contradictory results from the measures of positive and negative emotions regarding the future. Over time, the young people reported feeling simultaneously less negative and less positive about their futures. Aaltonen (2013) argues that when young people do not have access to institutions and resources that support conventional pathways through adolescence, the transition process is fraught with contradictory emotional content characterised by tensions and high levels of ambivalence. The results seen in the current study appear to reflect these tensions; on the one hand youth have made significant reductions in individual risks and gains in terms of an increasingly



pro-social orientation, however on the other hand, key institutional resources remained inaccessible to them limiting their capacity to fashion a transition process upon which a sustainable, positive adulthood could be built. The ambivalence seen in their emotions towards the future may in fact reflect recognition that rather than being able to navigate towards their ideal future they may instead have to settle for the “least bad” option (Aaltonen 2013, p. 377).

The other “distant frame” indicator, neighbourhood risk, showed a steady and significant pattern of decline across the three time points. This might indicate that young people had developed more effective strategies for managing the risks they confronted in their neighbourhoods over the course of the study, or alternatively, it may indicate that they had moved to new localities that posed fewer dangers to them. While young people cannot directly change their levels of family risk, and may face significant challenges in accessing education once they have been excluded, neighbourhood risks are, theoretically, something that they can directly influence themselves either through self-management, or by relocating themselves. The value of including a range of indicators can again be seen and highlights the complex intersections between different facets of young people’s lives as they move through adolescence. While the family and educational domains appeared to be populated with adults who constrained opportunities, neighbourhoods may have contained resources which could be drawn upon to support positive transition processes.

The findings also point to uneven and fluctuating transition processes characterised by subtle yet important differences within this population of high risk youth. In particular, the significantly higher levels of family risk reported by females is of note, given the significance of relationships in the lives of adolescent females and the clear association between indicators of family risk/disorganisation and increased individual-level risks such as offending by young females (Quinn and Poirier 2005). While across the sample, levels of individual risk decreased over time, Māori youth continued to face significantly elevated levels of individual-level risks throughout the study. Given that over the three survey periods, all youth in this cohort were recipients of significant interventions from major systems such as welfare, mental health, education and justice, it is of concern that Māori individual risk levels had not dropped at least to the level of their peers in this high risk group. In this connection, it is notable that Pacific youth had the lowest levels of individual, family and school risk, patterns that are at odds with the distribution of these risks across the general population (Statistics New Zealand and Ministry of Pacific Island Affairs 2010). It may be that within this population of high risk youth, Pacific young people have access to culturally-anchored resources that offer them some protective benefits across the individual, family and school domains. For Pacific youth, however, none of these benefits nor the significantly lower rates of exclusion from school translated into enhanced levels of educational achievement. Thus, although the literature observes that in general terms lower rates of exclusion and a greater sense of attachment to school is associated with increased educational performance (Herrenkohl et al. 2001), this general observation does not necessarily apply to all youth. These within-group differences highlight the heterogeneous nature of young people’s transitions and the value of using multiple indicators in analysis. Indeed, the messages here for policy makers and service providers are important and highlight the need to, for instance, pay greater attention to family risks for females, to focus intensely on supporting Māori youth to address individual-level risks in ways that

are meaningful to them, and finally, to understand the ways in which cultural resources around Pacific youth who face high levels of risks may work together to provide some protective resources but that nonetheless do not appear to easily translate across other domains of their lives. A key question to be asked with regard to high risk Pacific youth is how can the resources they gain from stronger families, lower individual risks, and lower levels of exclusion from school, be translated into greater educational achievements.

## 5 Conclusion

The foregoing analysis illustrates the importance of considering a range of indicators that span the “near and distant frames” (Bottrell and Armstrong 2007) and that include data on both risks and resources when examining youth transitions. It demonstrates that these different aspects of youth lives fluctuate over time and that they may push and pull young people in different directions at different times as they move through adolescence. The importance of looking beyond individual level indicators can be clearly seen and this analysis is particularly important for youth who are vulnerable to poor outcomes. If services and supports are to meaningfully address the real needs of young people, not only is it important to consider a range of indicators, but to also understand that different indicators will be more or less relevant to different subgroups of youth.

The analysis in the current study illustrates that a diverse range of indicators provide a snapshot of the transition process for youth confronting high levels of disadvantage. The change in indicators across time, often in a positive direction, paints a picture of young people who are involved in a process of personal growth and development. These young people are malleable and open to change, but are also frequently confronted by institutions and adults that are not necessarily able or willing to respond positively to their needs.

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