
# Methodological Overview - The Pathways to Resilience Study

## Technical Report 2

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This is a preliminary working paper from the Pathways to Resilience Research Programme funded by the Ministry of Business, Innovation and Employment.

Massey University Youth Transitions Research Programme
2013

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## ACKNOWLEDGEMENTS

We would like to thank all the young people who have participated in this study and taken the time to share their experiences with us. They have been generous in their time and in the effort they have put into answering a complex questionnaire. Many of the youth who participated in this research also nominated an adult who knew a lot about them (PMK) who we could interview. We would like to thank all the PMK who generously gave their time to this study.

The following individuals and organisations have provided intensive support to us at various points in the study. Professor Michael Ungar and Dr Linda Liebenberg at the Resilience Research Centre based at Dalhousie University in Halifax Canada provided the methodologies and research materials and supported us in applying their ground-breaking Canadian study in New Zealand. They have provided enormous amounts of ongoing support to the project. Kāpiti Youth Support (KYS) and particularly Raechel the Manager and Briar the social worker, Presbyterian Support Upper South Island, and in particular Sue Quinn, the Highbury Whānau Centre and particularly Michelle Swain and Anjali Butler,  Pete Butler and his team at START, Youth Transitions in Palmerston North. Special thanks to Barbara, Vicki and the team at Otago Youth Wellness Trust who provided assistance and support to the Dunedin research team for the duration of the study. The Ministry of Social Development, and particularly Child Youth and Family, The Families Commission, as well as the Department of Corrections also provided ongoing support at various stages in the research which would like to acknowledge. We also acknowledge the contribution of the Victoria University Research Trust and its staff; The Donald Beasley Institute; Youthline Auckland and Otago University. Finally, we would like to thank and acknowledge the Ministry of Business Innovation and Employment for funding this research.

## INTRODUCTION

This is the second in a series of technical reports that outline the research processes and present the results from the New Zealand Pathways to Resilience Research Programme. The research was funded by the Ministry of Science and Innovation (now the Ministry of Business, Innovation and Employment) between 2008 and 2014[1]. This report describes the methods used to gather data for the Pathways to Resilience Research Project.

The purpose of the study was to identify the factors that were related to the achievement of positive outcomes for youth who were users of multiple services. These were very vulnerable young people who faced a complex mix of challenges in navigating safe pathways through adolescence and into adulthood (Berzin, 2010; McLeod & Allard, 2007; Rogers, 2011; Stein, et al., 2011). The study had a particular interest in explaining the ways in which the risks confronted by these youth, their resilience and wider social ecologies, combined with supportive and remedial services to create different patterns in outcomes. While data was collected from a number of sources, the research placed a particular priority upon providing spaces for youth themselves to explain their own experiences and to reflect upon the factors that made a positive difference in their lives (Bolzan & Gale, 2012; Bottrell, 2009; Fleming, 2011; McLaren, 2002; Munford & Sanders, 2004; Sanders & Munford, 2005).

The research programme has several distinct components:

- A survey of Multiple Service Using (MSU) and Comparison Group (CG) youth aged between 12 and 17 years;

1 We gratefully thank the Ministry of Business, Innovation and Employment (MBIE) for their ongoing support of our work.

- A survey of adults nominated by MSU youth as knowing the most about them (PMK - person most knowledgeable);
- Qualitative interviews with a subsample of MSU youth and their PMK;
- Reviews of case files held by a range of organisations that worked with the subsample of MSU youth.

Taken together, these four components constituted the New Zealand Pathways to Resilience Study. The study built upon the Canadian Pathways to Resilience study (http://resilienceproject.org/).

## RESEARCH QUESTIONS

The research sought to answer five key questions:

1. What key personal and ecological factors precipitate children and young people's entry into multiple service systems?
2. When services are provided in particular ways does this make a difference to functional outcomes?
3. What key personal and ecological factors facilitate functional outcomes?
4. How do high-risk children and young people construct healthy and resilient identities as they negotiate for resources with families/whānau and services?
5. What impact does collaboration between families/whānau and professionals play in effective service provision?

This paper provides an overview of the methodology and the methods adopted in the Pathways to Resilience Research study. It focuses on data gathering and management of the research and includes discussion of ethical processes, sampling and recruitment strategies, data gathering techniques and research quality assurance

processes. The specific data analysis procedures are included in other papers that detail the research results and discussion.

## ETHICS

The project was submitted to and approved by the Massey University Human Ethics Committee prior to fieldwork commencing (MUHEC approval 08/33). In addition to this University Ethical approval, ethical approval was secured from any organisation that supported the research in terms of either facilitating access to assist with recruitment or providing access to information such as case file data (see file reviews technical reports). This included Research Access Committee (RAC) approval from the Ministry of Social Development, approval from the Department of Corrections, District Health Boards, as well as approvals from schools and a wide range of NGO organisations that supported the research. There were a number of ethical issues that required careful attention, such as the processes for gaining access to young people via organisations; obtaining direct consent from the young people for their participation in the research and obtaining their agreement to be available if selected to participate in the various phases of the research; and, managing sensitive issues such as when a young person disclosed that they were unsafe or subject to abuse of some kind. Protocols to cover these issues were all included in the ethical approvals. Ethical approval was given that allowed young people themselves to give consent even when they were minors. The ethics committee recognised that the youth participating in the research may have been living in situations where they had become estranged from caregiving adults or that seeking permission from adults for youth to participate could place them at risk. Accordingly, youth gave their own consent. In situations where a supporting organisation had a policy that required parent/caregiver consent, this was followed.

As per the requirements of the MUHEC, clear protocols were in place for managing situations where youth might disclose that they were unsafe or subject to some form of abuse and all of the interviewers participated in training prior to going out into the field. They then participated in ongoing debriefing processes to ensure that they were following the ethical procedures approved for the study and that any potential ethical issues were immediately dealt with and resolved. In addition to the MUHEC approval individual access protocols were also negotiated with each organisation youth were recruited from. Protocols were also negotiated with service providers who gave access to file review data. These approaches ensured that the research processes complied with each organisation's own ethical protocols in addition to complying with MUHEC requirements.

## SAMPLING AND RECRUITMENT

The study population is composed of three different groups drawn from six areas in New Zealand (the Auckland metropolitan area, Palmerston North/Manawatu, Kāpiti/Horowhenua, Greater Wellington, Christchurch and Otago):

1. A group of multiple service using youth (MSU) – either concur rently using two or more services or having used two services in the past six months;
2. A comparison group (CG) of youth who were not using two or more services;
3. A group of persons most knowledgeable (PMK) nominated by the multiple service using youth as being the adult who knew the most about them at the time of the interview.

Multiple service using youth (MSU) were recruited from organisations that provided formal support services to youth and Comparison Group (CG) youth were recruited from schools, community programmes and organisations located in the

communities from which the MSU youth were drawn. To be eligible to be included in the MSU category youth needed to be using two or more services within six months of completing the survey. The services were: juvenile justice, child welfare, alternative or special education services or mental health services. These services could be provided by either a statutory organisation or an NGO providing services under contract to government.

A total of 1494 youth (610 MSU youth and 884 CG youth) and 448 PMK nominated by MSU youth were recruited into this study. Twelve youth from the CG and five youth from the MSU were excluded from the dataset either because their age was outside of the specified band (12-17 years) or because of incomplete data relating to responses on key scales used in the research. Analysis indicated that data was missing completely at random in these cases. The resultant data set of 1477 youth form the base data set for this study.

Comparison Group youth were matched to the MSU youth based on age, gender and prioritised ethnicity (Cormack & Robson, 2010). This process generated 605 matched pairs of MSU and CG youth (this subgroup of CG youth is labelled MCG) and this set of 605 pairs of MSU and MCG youth are used for analyses where matching on demographic characteristics is required.

In terms of capturing data on ethnicity, youth could identify as many ethnicities as they felt accurately described their sense of cultural identity. Youth predominantly identified with one ethnic group only ($n$= 799, 54%), approximately one fifth ($n$= 330, 22%) identified with two ethnic groups and a small number identified with three or four ethnic groups ($n$=34, 2%). As noted above, a system of prioritising ethnicity that is used in analysis of social and health data in New Zealand was used (Cormack & Robson, 2010). This involved classifying any youth who identified Māori as one of their ethnicities

as Māori, any youth who identified as having Pacific identity were next coded as Pacific youth providing they did not also identify Māori as an ethnicity. Finally, youth who did not identify either Māori or Pacific identities, but who did identify Pākehā (white New Zealander) or other Western European identities were coded as Pākehā. This coding system accounted for 95% of the youth in the study. The remaining 5% were coded as being of 'other' ethnicity.

The MSU group were recruited from a range of services[2] working in the four service systems (juvenile justice, child welfare, alternative or special education services or mental health services) in six locations. As there was no single database that would allow a random sample of multiple service using youth to be drawn to generate the MSU population, the research adopted a 'community saturation' approach to sampling the MSU (Bowen, 2008). This involved negotiating and securing support of all, or most of the service providers who worked with the target population of youth in each geographic area. Researchers then worked from the largest to the smallest organisation in each locality to identify youth who met the selection criteria. This process was continued with each organisation until no new names were generated. All eligible youth were approached first by agency staff to gain permission from the youth to meet a researcher and then consent for participation was secured with the youth by a member of the research team. In situations where the youth were participating in group-based programmes such as alternative education or group-based support, researchers explained the research to the group; individual consent was then secured at the time of completing the interview. In all cases, organisations were not aware of which of the youth they had nominated eventually completed questionnaires as even when data was collected in group settings, youth were able to appear to be completing the forms, but

2 The research team gratefully thank and acknowledge the ongoing support for this research of a wide range of organisations, listed in the acknowledgement section.

could actually return a blank questionnaire or ask the interviewer to remove their questionnaire from the study.

This approach was successfully used in all but one site, which found it challenging to engage a wide range of youth organisations in the study. The result was that at this site the focus was heavily, although not exclusively, upon alternative education providers. It should be noted, however, that even in this site, to be eligible for participation as a MSU youth, youth needed to be involved in at least one other service system at the time of interview and a good distribution across the four different service systems was still achieved in this site.

In addition to the youth described above, multiple service using youth were asked to nominate an adult who knew them well and they trusted to be interviewed about their experiences. This person, the PMK (person most knowledgeable) was interviewed using a shortened version of the survey instrument; a PMK was also interviewed in the qualitative phase (see later).

## REFUSAL RATES

The refusal rates for this study were 2.5% for the MSU, and 12% for the CG. The low rate for the MSU is consistent with the Canadian parent study (Ungar and Liebenberg, 2010) and as was the case with that study, was a result of the recruitment methods adopted which involved a careful process of negotiation with providers to secure their support for the research and their willingness to support youth to participate in the research. The refusal rate included youth who declined to participate as well as youth who could not complete interviews for a variety of reasons, such as becoming critically ill or experiencing a major life event between first meeting the researcher and the scheduled interview. The relatively higher refusal rate for the CG was also a product of the overall recruitment strategy. It is com-

posed of a 1.5% outright refusal rate where the youth or their parents refused their participation plus 10.5% of eligible youth being not present at school or in the community activity on the day of sampling.

## DATA GATHERING TECHNIQUES

### *Quantitative procedures - The PRYM - Scales and Measures*

All youth were asked to complete a quantitative questionnaire entitled the Pathways to Resilience Youth Measure (PRYM) which was adapted from a validated tool used in Canada by the Resilience Research Centre[3]. Adaptations primarily concerned changes to make educational questions relevant to the New Zealand educational system, additions to the risk questions to capture information pertinent to the New Zealand context and adaptations to wording to reflect New Zealand terminology. In addition, MSU youth were also asked to nominate a Person Most Knowledgeable (PMK) to participate in the research. PMKs completed a companion questionnaire also based on the Canadian instrument (PRYM-PMK). These instruments were adapted for use in New Zealand and pre-tested on 20 participants after MUHEC (The Massey University Human Ethics Committee) approval and prior to commencement of sampling. The PRYM was administered in one-on-one situations for youth from the MSU or in small groups of 2-3 youth at a time. CG youth were often interviewed often in larger groups, such as classes at school, and in these situations four or five interviewers would provide support to youth to complete the instrument. All PMK were interviewed individually. All data from the PRYM and PRYM-PMK surveys was entered into access databases and later transferred into SPSS for analysis.

The quantitative phase of this study was designed to understand

3 See the Resilience Research Centre http://resilienceproject.org/.

youth's patterns of service use, their risks and the role of material, social and emotional resources in achieving functional outcomes. The questionnaires captured demographic information on the young person, lifetime service use patterns and satisfaction with services, access to community supports and resources, relationships with family and friends, school engagement and academic achievements. These instruments also contained various subscales that measured adolescent risk-taking behaviours (that is, substance abuse, delinquency), pro-social behaviour, risk of depression, risk of conduct problems, peer problems, perception of community risk, as well as the Child and Youth Resilience Measure (CYRM-28), which measured individual, relational, and contextual factors contributing to a young person's resilience.

The scales that measured different aspects of youth lives included:

### 1. Resilience

Resilience was measured using the three sub-scales of the Child and Youth Resilience Measure – 28 (CYRM-28; Liebenberg et al., 2012). Items are rated on a 5-point scale from 1=*Does not describe me at all* to 5=*Describes me a lot*. The three CYRM sub-scales assess (1) individual resources including personal skills (such as ability to problem solve, cooperation, and awareness of personal strengths), peer support, and social skills (2) relationships with parents or primary caregivers including physical and psychological caregiving, and (3) contextual resources that facilitate connection to culture, the role of religious and spiritual beliefs, and engagement with and relevance of education. The alpha coefficients which measure internal reliability were .78, .79 and .79 respectively.

## 2. Risk

### *i) Individual Risk*

Two components were used to measure individual risk. These covered both internalising and externalising aspects of personal risk. The 12-item version of the *Centre for Epidemiological Studies Depression Scale* (CES-D-12-NLSCY; α = .85; Poulin, Hand, & Boudreau, 2005) was included to measure 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, Field, Prodromidis, & Scafidi, 1998). The reliability of the scale in the current study was strong, with an alpha coefficient of .80.

Externalising risk was assessed using two subscales of the 4-H study of Positive Youth Development (α = .73; Theokas & Lerner, 2006); Delinquency (frequency of behaviours such as theft, vandalism and aggression) and Risk (frequency of use of substances including alcohol, tobacco, marijuana and other drugs such as ecstasy, speed, heroin and crack) sub-scales. 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 .87 and .82 respectively. Externalising risk was also assessed using the *Conduct Problems* subscale of the SDQ questionnaire (Goodman, 1997, 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* (α = .60) with some item being reverse scored. The reliability of the scale in this study was supported, with an alpha coefficient of .70.

### *ii) Contextual risk*

Contextual risk reflects exposure to acute or chronic adversity within

the family, school and community. *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 including if they had a mother figure and a father figure and the nature of their relationship with these individuals and the amount of affection received from them. The alpha coefficient in the present study was .86. *School risk* considered youth's sense of safety at school as well as sense of engagement with education, using reverse scored items. Questions explored teacher intervention in violent situations, the extent to which youth considered their school a good place to be, and the educational level they hoped to attain. The alpha coefficient in the present study was .66. A composite score measuring *sense of community danger* 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. The alpha coefficient for this sample was .64.

### 3. Service Quality and Volume

A *service quality score* composed of 13 questions assessed personal agency (overall satisfaction with the service, having a say in how the service is provided, as well as relevance and accessibility of the service) and staff respect (respect and sensitivity for youth and their whānau/family including their beliefs, and staff engaging in clear communication with youth), adapted from the *Youth Services Survey* (YSS). This descriptive measure assessed youth satisfaction with services as a whole with a particular focus on the extent to which youth experienced service delivery as responsive to their situations and whether services engaged appropriately with their family/whānau or caregivers. Items were rated on a 5-point scale from 1=*Strongly disagree* to 5=*Strongly agree*. Alpha coefficients were

.86 and .78 for the two services about which youth answered.

Youth were able to nominate two organisations about which they wished to provide detailed answers to the service quality question. While there is some evidence (see for example, Liebenberg, et al., 2012; Stiffman, et al., 2000; Ungar, et al., 2013) that youth self-reports of service involvement may be unreliable, in the current study considerable effort was expended to ensure accuracy of this data. Researchers were trained specifically in the names and service type (for example, child welfare, juvenile justice, education services (alternative education or special education services) and mental health of the programmes available for youth in each area. When youth were unsure of what type of specific service the agency delivered they were asked to name the service and its location and this was checked against locally available service information and information available on the internet. In addition, where youth were uncertain what the service may have been called, they were asked to name the workers they could remember who had supported them and the researchers then searched for workers to locate the particular service in which they were employed. It was interesting to note that in the qualitative phase of this project where youth and their PMK were interviewed, and where case file reviews were completed, that there was congruence between the services to which youth and their PMK referred in interviews and also in the file-based evidence of which services had been involved with the youth at different points in their lives.

Service use was also measured with a composite score that assessed the total volume of services that youth had received over their lifetimes (that is, it was a count of the number of services youth had had contact with over their lifetime up to the point of the interview) from child welfare, juvenile justice (including contact with the police), educational supports beyond regular classroom programming, (such

as special education services, alternative education), mental health and general health services. This included questions covering general health (α = .58), mental health (α = .78), child welfare (α = .79), juvenile justice (α = .87) and educational supports beyond regular classroom programming (α =70).

## 4. Functional Outcomes

Functional outcomes were measured in five different ways that together assessed a number of key normative, age-appropriate dimensions of youth lives:

### *i)Pro-social behaviour*

This was assessed using the SDQ pro-social behaviour subscale (Goodman, 1997, 2001) which assessed youth capacity for kindness, sharing and concern for others. Positive social interaction was measured on a 3-point scale from 0=*Not true* to 2=*Certainly true* (α = .66). The alpha coefficient for the scale was .63.

### *ii) Positive peer group*

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, included in the Canadian PRYM survey instrument, upon which the current research is based, was used to obtain information surrounding peer activity. The alpha coefficient for this set of questions was .91.

### *iii) Future aspirations*

Future aspirations were measured using two different sets of questions. Firstly, the Satisfaction with Life measure (Diener, et al., 1985, α = .87) in which youth ranked five questions assessing their overall satisfaction with life. In the current study, response options were reduced from a 7-point to a five point scale from 1=*Strongly disagree* to 5=*Strongly agree*. Secondly, two supplementary questions assessed youth confidence in their futures where they were asked to rank the extent to which two statements relating to their thoughts about the future on a five point scale where 1=*Does not describe*

*me at all* to 5=*Describes me a lot*. The alpha coefficient for this complete set of questions was .85.

### *iv) Educational involvement*

Involvement in education was assessed by an answer to a single yes/no question that asked if youth were enrolled in any school subjects at the time of the survey. Youth did not have to be attending a mainstream school to answer yes to this question. For instance, they could be enrolled in Te Aho o Te Kura Pounamu (The Correspondence School) or attending an alternative education programme in their local community.

### *v) Civic Engagement*

Levels of civic engagement were assessed using a composite score of 8 questions that measured the extent to which youth were involved in community-based activities. Questions asked youth to rank themselves on a 5 point scale where 1=*Does not describe me at all* to 5=*Describes me a lot* in relation to questions and to identify the frequency of their involvement in nominated activities. The alpha coefficient for this set of questions was .65.

## THE PYRM-PMK

The PRYM-PMK - a shortened version of the PRYM - was administered to an adult nominated by the youth who had knowledge of the young person's experiences and whom they trusted to be interviewed. It contained the same sub-scales as the PRYM. Reflecting quite starkly the circumstances of youth who face significant risks, MSU youth could not always nominate an adult who had meaningful knowledge of their experiences (448 PMK (74%) were interviewed). Of those who could nominate an adult, approximately half nominated a parent or family member, while the other half nominated a social worker or other person employed to work with youth or a caregiver or foster parent recruited by social service agencies to provide care. As would be expected, this latter group of PMK typically had detailed knowledge of some aspects of the youth's life or of a specific period of time in their lives, but they

often could not provide a full overview of the youth's life.

## Qualitative procedures

Based on their responses to the PRYM, a sub-sample of youth was invited to participate in individual qualitative interviews and to have their service files reviewed. Youth were identified for inclusion in the qualitative phase based on their responses to the risk and resilience scores in the PRYM. Youth were first ranked according to their answers to the set of risk scales and those returning the highest risk scores were then ranked according to their resilience profiles as measured by their answers to the CYRM-28 (Ungar & Liebenberg 2010). Youth who had either the highest or lowest scores in each geographical area on the CYRM-28 and who also scored above the mean on the combined risk measure were invited to become part of the qualitative phase. This sampling process meant that youth facing the highest levels of risk and with ecological support around them (high resilience) and not having ecological support around them (low resilience) were able to share more detailed reflections of the risks they faced and the resources that had been available to them throughout their life including formal services such as statutory and NGO services as well as the informal support networks such as family and community support. In total 109 youth and 76 PMK were interviewed for this part of the study. While qualitative studies often use the principle of data saturation to guide sampling processes, in the current study the importance of having a rich distribution of youth who met the high risk/high resilience and high risk/low resilience profile from all sites guided sampling decisions.

There were three parts to the qualitative component of this study: a semi-structured interview with the youth; a semi-structured interview with a PMK nominated by the youth and, with youth

permission: reviews of case files from organisations that had worked with them. The qualitative phase of the study was designed to provide detailed, in-depth information on the service experiences of youth and the ways in which risk and resilience worked together to generate different outcomes for high risk youth. It explored the process of becoming a client in a range of organisations, the youth's pathways through services identifying key decision making points in their service journeys, the experiences youth had while attending school and what happened for those youth who had been excluded from formal education settings, and it also examined the relationships and networks around youth. Youth were also asked to nominate a PMK who could be interviewed about their perspectives on the youth's experiences. They were asked the same set of questions and this approach resulted in a deep and rich account of youth's experiences. As with the quantitative phase of the study, not all youth could nominate an adult whom they trusted sufficiently and whom they were confident could speak knowledgeably about them.

## Interviews

Qualitative interviews were conducted individually with this subsample of multiple service-using youth. This interview provided the youth with an opportunity to provide their perspectives and interpretations of their experiences and engagement with services. In keeping with the protocols of youth-centred research the interview enabled the youth to tell their story in their own words (Abrams & Aguilar, 2005; Abrams & Hyun, 2009; Barry, 2010; Fleming, 2011; Halvorsen, 2009). The interview focused upon the youth's experiences of family, school and other services, the risks they identified in their lives and how they managed these, their definitions of what it would mean to achieve successful outcomes, their understanding of health, and their suggestions about how effective services could be provided. Interviews were transcribed

verbatim and coded both in terms of the a priori questions which were the focus of this study and also in terms of concepts that emerged as the research progressed (Houston & Mullan-Jensen, 2012; Liamputtong, 2009).

Qualitative coding was completed in NVIVO, a two stage approach was adopted. An initial 'cut' of interviews was completed using endogenous themes that were generated from the research questions and the interview schedule. Initial coding thus used an etic perspective (Ryan & Russell-Bernard, 2003) drawing upon the theoretical and conceptual material that had informed the development of the research project. Eight transcripts were coded by two researchers using these codes, and then adapted as required to ensure good capture of patterns and themes as well as novel or unique characteristics of individual transcripts. At this stage emergent concepts were able to be brought into the coding process. This first level coding organised the qualitative data collected from both youth and their nominated PMK into conceptual pieces that targeted specific aspects of the research questions and to also generate new conceptual insights that had not been anticipated at the outset. In particular, attention was directed at extracting material that elaborated upon how participants explained the process by which risks emerged in their lives; how risk was related to key relationships and events–those that exacerbated risk and those that moderated it; the ways in which services, including schools, were experienced by youth including the factors that increased or reduced the capacity of services to be effective; and aspects of communities and neighbourhoods that enhanced coping or reduced it. The analysis enabled understanding of how multiple service- using youth constructed healthy and resilient identities as they negotiated for resources to create meaningful and safe lives. It revealed the personal and ecological factors that precipitated entry into service systems and how these factors in interaction with service provision

then contributed to functional outcomes for these young people. Also of interest was the way in which services worked with families and other informal networks to provide effective services and to enhance outcomes for young people. Of particular interest was learning about the way in which services were provided including whether or not services were integrated across and within organisations and the roles youth and their families had in negotiating access to these services.

The next stage of coding involved further thematic coding to achieve more detail around the guiding research questions and to ensure that the emergent themes and concepts were captured. The initial coding was undertaken by two members of the research team who had completed 25% of the interviews. To assist with triangulation, the more detailed coding and the analysis of the first 'cut' codes was undertaken by a newer research team member who had not completed any of these interviews. The initial coding of transcripts was done separately from analysis to ensure that interpretation was not overly influenced by the perspective of individual team members. In addition to transcript coding, narrative summaries were produced of each transcript which presented an overview of the participant's experiences and which had a particular focus upon factors which contributed to good outcomes or which inhibited these. One team member worked on generating analytical codes and memos from the thematically coded transcripts and summaries and then engaged in a dialogical inquiry process with two additional team members to deepen understanding and to refine analytical themes. This iterative process meant that the analysis process was kept open and themes or concepts that both supported or diverged from the emerging analysis continued to be identified and interrogated. The analysis process involved detailed reading and writing of conceptual material in order to produce coherent sets of analytical statements that appeared to consistently summarise all or most extracts for each

code as well as those extracts that differed from emerging patterns.

This part of the project generated a very large qualitative data set comprising 185 (109 youth and 76 PMK) interviews. While this presented some logistical and workload challenges, and the justification could have been made to limit coding to a sub-sample determined by the point at which saturation of data appeared to have been achieved, the decision was made to exhaustively code all transcripts on all nodes. This gave a very detailed, rich and nuanced data set that ensured all youth and PMK experiences contributed to the analysis and the maximum analytical value was able to be generated from the data set. This comprehensive and exhaustive coding allows for ongoing analysis of project data beyond the key research questions and for the detailed analysis of quite specific and specialised themes.

### Case File Reviews

Beyond the interviews, detailed reviews of case files were carried out for youth who participated in the qualitative interviews and gave permission for researchers to access these files. Youth were asked to nominate the services which researchers could include in the case file reviews and wherever possible these were the services they had spoken about in interviews (both in the PRYM survey and the qualitative interviews) so that this information could be analysed alongside the two sets of interview data. The file review process was complex and challenging. It required negotiations with numerous service providers across the country and detailed agreements with each provider about the terms under which access would be given to the research team. Once all qualitative interviews were complete a full list of organisations youth had given consent for access was generated and negotiations were commenced with each of these organisations. While the research had an overarching approval from

MUHEC, in order to access case files, new ethics and access protocols had to be negotiated with each of these organisations individually. A substantial number of youth nominated Child Youth and Family (for child welfare and juvenile justice interventions). The Ministry of Social Development and Child Youth and Family (CYF) had supported this research from the outset and provided a significant level of ongoing support during the file review process where the research team had the equivalent of two full time researchers at various CYF offices for over a year. In other cases, statutory mental health providers at DHBs and a range of NGO providers of alternative education, counselling, addiction services, welfare and juvenile justice services also provided support to the research by facilitating access to case files. In all, 291 files were accessed and analysed for this part of the research. The files provided a valuable opportunity to learn more about youth's pathways through services, about decision-making in service delivery and about the interactions between services and their respective roles in this decision-making.

While not the intention of the file review process, data collected from the case files typically aligned well with the youth and PMK narratives collected in the qualitative interviews and with data collected in the PRYM. This triangulation increased the overall level of confidence in the data collected in both the qualitative and quantitative phases. It also provided us with a unique opportunity to learn that youth do honestly answer the questions we ask, even when we are asking challenging questions. This finding also reinforced our approach to the research, that is, the maintenance of robust and rigorous data collection and data quality checking procedures and the management of these across multiple research sites for the duration of all phases of the study.

For the coding of the file reviews, a template was developed by two team members to extract data from the file records. The template

identified dates, the nature of the file item (referral, investigation, case record, supervision, court record, etc) and narrative which briefly summarised the content of that item. These extracts were compiled into word documents that summarised the intervention pathway for each youth in each service. These files were then read independently by a researcher who had not extracted the file and a summary produced which captured the process of engagement of the service in the life of the youth. This highlighted the reasons why the service became involved, processes of assessment and investigation that informed decisions, interventions with the youth including referral to and involvement in other services and support systems, and the rationale for case closure. Key issues in the case file overall were also identified; this included, for instance, identification of particular issues that might have required assessment, referrals to other services that were or were not accepted as well as any overarching contextual factors that characterised the time the youth was involved with the services. An analytical approach was taken to the coding of file reviews that categorised file items in relation to a set of theoretical themes. These themes were identified by four research team members who had extracted most of the file data and these were also informed by the thematic analyses undertaken for the qualitative interviews. Case files were also coded fully in NVIVO using these theoretical codes that identified both common patterns in intervention pathways as well as discordant pathways. The purpose of this analysis was to provide an understanding of the ways in which youth became involved in services, the focus of work while a client, reasons for case closure and any outcome for the youth as a result of their involvement in the service.

## Data quality processes and field management

A number of procedures were adopted to ensure high quality data was consistently collected and processed throughout the study. From

an ethics perspective, all personnel who had any involvement with the study, including administrative staff, signed confidentiality agreements that required them to keep all aspects of the research confidential within the research team. As a matter of principle, the project leaders undertook every research task in the first instance so that they had a sound working knowledge of every aspect of the project. They then worked with field staff to monitor each stage of the research. The procedures used for ensuring data quality are detailed below. Prior to commencement of the study one of the Canadian leaders of the Pathways Study, Dr Linda Liebenberg trained forty staff across the country to undertake survey interviews with youth and with the PMKs. Four of these staff were also trained as trainers so that as new interviewers were taken on a New Zealand researcher was competent to undertake training of new staff and to monitor data quality.

Field management

During data collection weekly updates were circulated among field staff informing them of any patterns found in data collection that suggested incorrect interpretation of questions and they were required to check all their interviews to ensure that they had been interpreting questions correctly. For any incorrect interpretations they were required to return to the participant and check answers received. For instance, in one case it became apparent that one site was misinterpreting questions about educational engagement. This site was required to resurvey all interviewed youth with these questions and interviewers were questioned at the other sites to ensure that they had been interpreting these questions correctly. These procedures were undertaken consistently irrespective of whether interviews were completed individually or in group settings at schools or within other group programmes. In addition to these processes, ongoing support was provided to all field researchers so that they were able to debrief after distressing interviews. In all

cases, interviewers ensured that another member of the research team knew where they were for each interview and when they were expected to finish the interview. If they did not check in within a reasonable time period a member of the research team would call to ensure they were safe. In general terms research interviews were expected to be completed during daylight hours. Back-up team members were available seven days a week to support interviewers in the field; youth and their PMK did not always want to be interviewed during business hours and often instead found it more convenient to participate on public holidays and at weekends. To facilitate this throughout the fieldwork period field staff made themselves available to complete interviews at times that best suited the needs of participants, and back-up researchers were always available to support researchers through these interviews.

Survey data

All interviewers were required to undergo a minimum of two hours of training prior to completing an interview. They were then required to undergo debriefing of the first interview to ensure that they had built a complete understanding of the meaning and intent of each survey question and also of appropriate processes and practices for conducting interviews with vulnerable youth and for managing any issues that these interviews raised for them. The first five interviews each interviewer completed were carefully checked by trained coders (see later) and detailed feedback given on each of these questionnaires. Ongoing debriefing procedures occurred at each site as required and the project leaders had regular contact with each of the sites.

Coding

Data coders were trained prior to commencing coding and were also required to undertake at least one interview, most did substantially more than this, so that they had a detailed understanding of the

questionnaire or interview schedule. Coding was undertaken as soon as practicable after interviews were completed and coders returned to interviewers any missing data or any unusual patterns in answers from the surveys. For instance, they would seek clarification from interviewers if youth had ranked themselves with the same number for a series of questions to confirm that youth had in fact understood the questions and not simply ticked boxes down the page. Coders maintained regular contact with interviewers to ensure that this missing data was provided and also that any other issues or anomalies that particular questionnaires raised were answered satisfactorily. Once the survey data was entered it was quality checked for completeness and accuracy by two coders and again any errors or inconsistencies were returned to sites for correcting. The project leaders closely managed this process (including having oversight of data input, coding and storage) and were available to support the coders in retrieving information from the sites. They supported the sites to complete data retrieval processes in a timely and robust manner and made regular visits to sites to support data collection.

The data quality procedures provided opportunities for ongoing training of interviewers and coders. Requiring interviewers to return to participants to confirm data was a valuable method for rapidly increasing interviewer competence and also for building confidence in the team that they had a good understanding of the meaning of each question. These processes were undertaken in a collaborative way that emphasised a commitment within the team to high quality research. This meant that staff did not feel threatened by these intense checking processes but rather they saw it as a normal part of a quality research process. The low percentage of cases excluded from the survey dataset due to incomplete or missing data (1%) reflects the effort put into data collection, coding and quality checking.

Qualitative data

Quality management processes for qualitative interviews followed similar general procedures to those used in the surveys in terms of training, mentoring and debriefing. The project leaders set up the process and undertook initial interviews. Lessons learned from this process were passed on to other research team members. Whenever possible interviewers were required to transcribe one of their first interviews for training purposes. All interviewers debriefed their early interviews with an experienced member of the research team. This debriefing covered both content and overall management of the interview process. As with the survey, support was continuously available for interviewers for debriefing purposes because the content of these interviews was often distressing. Another member of the research team was always aware of where interviewers were when they were in the field and checked to ensure that they were safe on completion of interviews. Interviews were transcribed verbatim and returned to interviewers for checking.

Case file extraction

File data was extracted by experienced research team members. The project leaders set up the initial process for case file extraction so that they could then train and support other team members. An initial coding template was generated in consultation with the Canadian team and adapted for use in New Zealand. Two team members extracted the first 10% of the files together to establish a detailed methodology for undertaking this work. They then worked independently for a further 10% of the files and checked each other's coding to ensure consistency. After this point four additional team members were trained in the extraction methodology and the files were divided up amongst this team. Regular debriefing was undertaken throughout the extraction process to ensure consistency of procedures and also to provide peer support given the sensitive and sometimes distressing nature of the content of the files.

Triangulation for the qualitative data

Triangulation is a process by which confidence can be gained that qualitative findings faithfully and accurately represent the situation under investigation. It is a process for gaining confidence in the validity of findings. Triangulation is in this sense a body of techniques for reducing the chances that the perspectives of researchers swamp the perspectives of participants (Patton, 2002). Thurmond (2001, p. 254) suggests that in addition to assisting with confidence that findings are a realistic and faithful representation of the field under study, these strategies can bring benefits to research including novel or innovative interpretations of data, challenging previous understandings or clarification of complex issues that have not hitherto been well understood. However, as Thurmond notes (p.256) triangulation can add layers of complexity to projects and be resource and time intensive. Care therefore needs to be taken to develop and integrate triangulation strategies into research projects rather than adding them on as the research progresses.

There are a range of places where triangulation can be built in to research projects. These include: having numerous researchers involved in the collection and analysis of data (investigator triangulation), using a range of data sources (data triangulation), using a range of professionals to assist with data interpretation (theoretical triangulation) and collecting the same data from different places (environmental triangulation). This study was fortunate in being able to triangulate in all of these ways throughout each stage of the project. These processes were established at the beginning of the project.

Between the qualitative interviews and case file reviews this stage of the research generated 476 items of data. This large and multi-faceted data set provided numerous opportunities for triangulating data. Triangulation was built into each stage of the process. At the

data collection stage, interviews were completed by in excess of 13 interviewers spread across the country. Training and ongoing interviewer supervision ensured consistency, but the involvement of a large number of interviewers provided opportunities for triangulation in that diverse perspectives on the content and experience of the interviews were a routine part of the data collection process; no single researcher dominated or controlled these processes. Interviewers produced a brief 'case summary' of each interview completed and this provided additional opportunities for checking on emerging interpretations of data. At each site and across sites, regular communication between interviewers provided opportunities for discussion of convergent and divergent perspectives on the emerging data. The project leaders regularly visited the sites to address any data collection issues that emerged and to participate in discussions on research processes and findings.

In a similar way, six researchers undertook the case file reviews. Initial extraction processes were developed by two researchers working on the same files which were then compared. Four additional researchers were then trained with this method, but ongoing constant comparison of files and discussion around the focus of extraction procedures ensured that multiple perspectives were maintained during the extraction process.

The three sets of data collected: interviews with youth, with a PMK, and file reviews provided the next level of triangulation. These three data sources were treated as separate perspectives on a similar course of events, and the focus here was on producing and understanding these complex differences rather than on trying to establish whether one source was more 'truthful' than the others.

Triangulation was also built into the coding process. Codes for each set of data were initially developed by two team members who had

been involved in collecting that data. Codes were then applied by other team members to the data who checked that coverage was achieved paying particular attention to eliminating any instances where codes might have represented perspective closure by the coders. This also provided opportunities for consistency and definition checking. Coders generally worked in pairs to allow for ongoing checking of interpretation, where this was not possible coders were provided with supervision to ensure that individual coder perspectives and biases did not shape coding. The coding process was collaborative and involved ongoing peer review to ensure it remained open to the perspectives contained in the data.

Coding was divided into two phases. This involved an etic phase where the research questions were used to shape the first definition of themes and were informed by the research questions and the theoretical concepts that informed the study. This was done by one part of the research team. The second phase, where emergent themes both emic and etic were coded was undertaken by other team members, who also reviewed the first etic phase of coding to ensure that the first coders had not missed any important themes in the coding process.

Environmental triangulation was also achieved in this study by having six separate sites in different geographic regions which captured different demographics and experiences of youth who used services. In addition the diverse range of agencies involved in the recruitment of young people into the study enabled a broad range of service experiences to be investigated. A final stage of analysis in this research involved engagement with key stakeholders who worked with youth and vulnerable families/whānau, across the statutory and NGO sectors. This process provided the final opportunity to triangulate data and enabled researchers to trust that the findings of the study made sense to those who had long and intense

involvement with youth who used multiple services (Lietz, et al., 2006). Here preliminary findings inform the framework for discussion with these diverse experts and again, the focus is upon encouraging multiple perspectives and interpretations to shape the process of coming to a rich and nuanced understanding of this data set.

## CONCLUSIONS

This paper has provided a general methodological overview of the New Zealand Pathways to Resilience research programme. Other reports detail specific methods used to conduct particular analyses. The Pathways to Resilience (NZ) research was a large, multi-site, mixed method project. The overall purpose of the research was to build a comprehensive understanding of the factors that shape the development of youth who use multiple services and that influence their capacity to achieve good outcomes. These youth come to services with complex needs; they face many challenges not experienced by their peers in navigating a safe path to adulthood. In keeping with positive youth development approaches the research was premised upon the view that youth themselves were best placed to provide answers to the key research questions. Other strategies such as interviews with a PMK and case file reviews were developed to provide depth of understanding of the complexity that is a characteristic of the life-worlds of these youth.

This paper has detailed the procedures used to produce a valid and reliable investigation of the issues vulnerable youth confront in navigating a safe course through adolescence. To do this the study adopts a mixed methodology, drawing on surveys of youth and adults they nominate as knowing the most about them. Alongside this qualitative interviews with these two groups are gathered that provide detailed case studies of a large number of high risk youth who

either have high or low resilience. This material is supplemented with a large data set of case file reviews that provide information about the pathways through services for these youth. The instruments used have been validated elsewhere and are therefore robust instruments for undertaking this work and a number of strategies are used to provide for triangulation of the data. A number of techniques ensured that data was of high quality and careful management of field relationships helped the study to achieve a very low refusal rate.

The research was divided up into a series of stages that allowed for collection of different types of data. Survey data (PRYM) was first collected on a large number of youth ($n$=1494) some of whom were clients of two or more services at the time of the study ($n$=610) and others who were not involved ($n$=884). This dataset was divided up into an MSU group ($n$=605) who were clients of two or more services and, to allow comparison an MCG (matched comparison group, $n$=605). MSU youth were asked to nominate a person who knew the most about them, who they trusted to participate in an interview about them. A total of 448 PMK (74%) were interviewed with a shortened version of the PRYM survey instrument. Approximately half of the PMK had a biological connection to the youth the remainder were service providers such as social workers and youth workers.

A subsample of 110 youth and 76 PMK participated in qualitative interviews. Youth were selected into this phase to provide a mix of high risk/high resilience and high risk/low resilience youth as defined by the risk and resilience measures defined above. With their consent, case file reviews were also completed for these youth that provided an overview of the intervention process. A final stage in the research process involved engagement with a range of stakeholders to examine preliminary findings and assist with the final interpretation of results.

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