

**The Pathways to Resilience Research Project (New Zealand):**  
*Whāia to huanui kia toa*

**Patterns of Service Use,  
Risk, Resilience and  
Outcomes**

**Technical Report 4**

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## INTRODUCTION

A central research question in the New Zealand Pathways to Resilience Research programme is explaining the role that services<sup>1</sup> play in enhancing outcomes for youth with complex needs and who face high levels of risk located in a range of places (at the individual, family/whānau or community level). Related to this are interests in understanding whether or not resilience is associated with enhanced outcomes for youth and the nature of the relationship between service delivery and the ways in which resilience can be harnessed by services to contribute to enhanced outcomes. In this research resilience is an ecological concept; it includes factors in the individual make-up of youth, in their familial relationships and in their wider social environments (social ecologies) that sometimes work together and sometimes work in tension to shape the social environment within which youth, particularly those exposed to high levels of risk, are able to create the conditions under which they might succeed. Accordingly several measures are used to capture the different dimensions of risk and resilience; these are described below as are the other measures used for the analysis contained in this paper.

The youth who are a particular focus of this research were multiple service users (MSU) and the process by which they were identified and recruited into the study is described elsewhere<sup>2</sup>. In addition to questions about their own backgrounds and their current circumstances, youth were asked a range of questions about their lifetime contact with services and their experience of services. A path analysis was used to model the relationship between risks (individual and contextual); service use history (numbers of services involved

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1 In this study services include: juvenile justice, child welfare, alternative or special education services, or mental health services. They can be provided either by statutory or non-governmental organisations (NGO).

2 See [Technical Report 2 – Methodological Overview](#).

with youth) and service quality with resilience as a mediator, and functional outcomes as the dependent variable.

Resilience as a social ecological construct is now well recognised (Ungar, 2012). Interactions between the young person, their familial and social relations, their life circumstances and those providing formal supports (such as services) need to all be considered when trying to understand the way in which youth facing risks can achieve good outcomes. It is important, therefore, to consider the roles of multiple factors operating in all of these domains in order to build an understanding of the ways in which services can work effectively with youth with complex needs. The analysis presented in this technical report considers the ways in which risks and services interacted together and the role resilience (those resources within youth lives) played in facilitating good outcomes for youth with complex needs.

## **SAMPLE**

This analysis concerns a subset of youth recruited into the Pathways to Resilience Research programme from the Auckland metropolitan area and the Palmerston North, rural Horowhenua and Kāpiti, greater Wellington, Christchurch and Dunedin areas during 2009 and 2010 ( $n = 1494$ ). The 605 youth included in this analysis were purposefully selected because they were concurrent clients of two or more service systems (juvenile justice, child welfare, alternative or special education and mental health). These youth were therefore defined as multiple-service using youth (MSU), meaning that they had received services from at least two service providers in the six months prior to participating in the study.

The mean age of the MSU youth was 15.34 years ( $SD = 1.097$ ); 382 (63.1%) were male and 223 (36%) were female. Using a prioritised

classification system for ethnicity (Cormack & Robson, 2010) just under half ( $n = 294$ , 48.6%) of the MSU participants self-identified as Māori (with or without any other ethnicity), 106 (17.52%) as Pacific, and 188 (31.07%) as Pākehā and 17 (2.8%) were classified as of “other” ethnicity. Just over half of the MSU youth (57%) were living with one or both birth parents at the time of the study, 102 (16.8%) were living with both birth parents 178 (29.4%) were living with one birth parent and 66 (10.9%) were living with a birth parent and a step-parent. Seventy-six youth (12.5%) were living with other family/whānāu members. Ninety-one (15%) MSU youth were living in secure or supervised facilities such as child welfare or juvenile justice residences, 57 (9%) were living in group homes, foster or adoptive situations, and 35(5.7%) were living independently.

## MEASURES

### 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 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;  $\alpha = .85$ ; 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 ( $\alpha = .73$ ; 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* ( $\alpha = .60$ ) 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 that assessed parent/legal guardian presence and involvement. 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 .65. *School risk* assesses a range of dimensions of the educational experience including factors such as youth sense of safety at school, engagement with education and other educational experiences. The alpha coefficient in the present study was .67. 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 assess community cohesion as well as levels of community trust and interaction. The alpha coefficient for this sample was .64.

### **3. SERVICE QUALITY AND SERVICE USE HISTORY**

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 which 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.

Service use history comprised a composite score counting the

number of services for which youth had been clients over their lifetime up to the point of the interview. This measure is a simple count of the numbers of services youth had contact with; that is has the youth ever had contact with a service, and if so, how many times had they been a registered as client, it did not measure the numbers of times youth had contact with this provider nor did it measure the effectiveness of that contact. The service list covered child welfare, juvenile justice (including contact with the police), educational supports beyond regular classroom programming, mental health and general health services. The alpha coefficient this measure was .81.

#### **4. FUNCTIONAL OUTCOMES**

Functional outcomes were measured in five different ways. The measure was designed to measure 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 assesses youth capacity for kindness, sharing and concern for others. Positive social interaction is measured on a 3-point scale from 0=*Not true* to 2=*Certainly true* ( $\alpha = .66$ ). The alpha coefficient for the scale was .64.

##### **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,  $\alpha = .87$ ) 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 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) Social participation

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

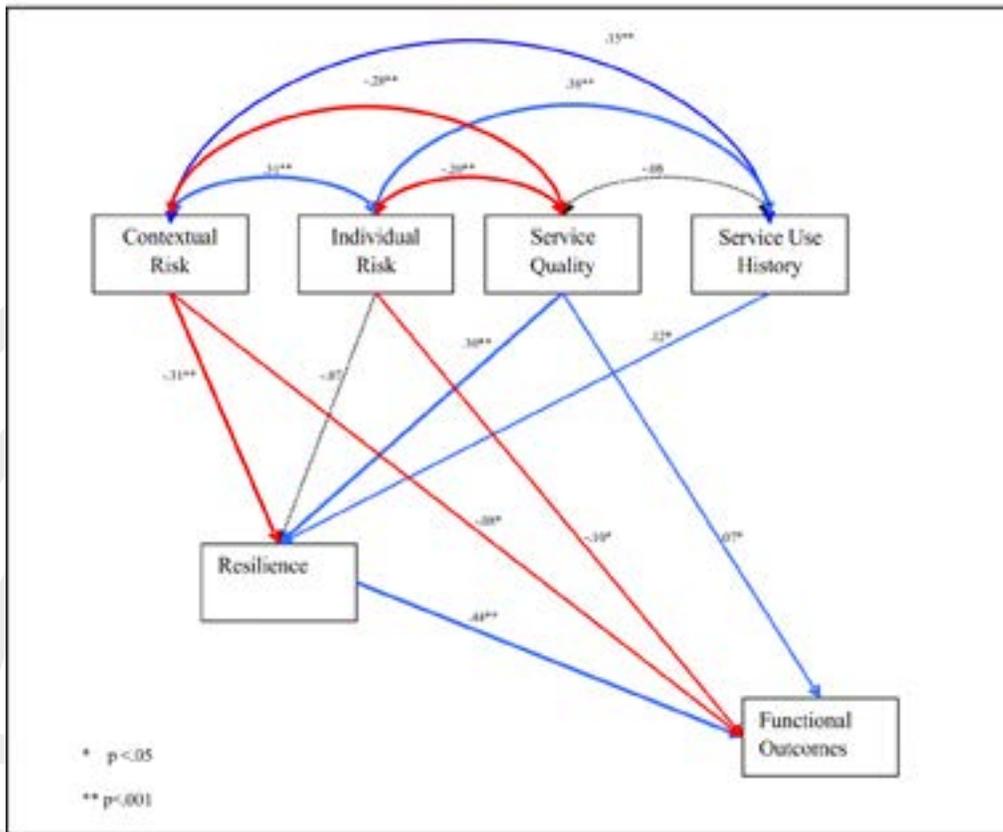
## THE RELATIONSHIP BETWEEN RISK, SERVICES, RESILIENCE AND FUNCTIONAL OUTCOMES

### DATA ANALYSIS

Prior to any analyses cases with more than 10% missing data on key scales were removed from the data set (1% of total cases). Missing data was replaced using maximum likelihood estimation (EM; Enders, 2010). The resultant dataset comprised 1477 youth. The analysis discussed in here concerns the 605 youth who were identified as multiple service users, the procedures for identifying and recruiting these youth is described in a separate paper (see footnote 2).

Continuous variables were examined prior to the analysis for normality, linearity, and homoscedasticity. All of the variables were found to be within acceptable limits. The data were analyzed using PASW Statistics 18 and AMOS 18 for Windows.

To assess the relationship between individual and contextual risk, service provision and experience, and their impact on functional outcomes with resilience as a mediator (Ungar, Liebenberg, Dudding, Armstrong & van de Vijver, 2012) a model was tested in which the four exogenous variables – contextual risk, individual risk, service quality, and service use history - were allowed to correlate. Resilience was the mediating factor and the combined functional outcome measures were the outcome variable. Results of this full mediation model showed a poor fit. Modification indices suggested that individual risk factors and service quality, both variables already in the model, were directly related to functional outcomes. Once these direct relationships between the two exogenous variables and the outcome variable were added to the model, an excellent fit was obtained ( $\chi^2(2, N = 605) = .426, p = .514$ ; GFI = 1.000; AGFI = .995; CFI = 1.000; RMSEA = .000).



## RISK

The model (above) demonstrates that there was a *very strong positive* relationship between individual risk and contextual risk (.31,  $p < .001$ ) such that youth with high individual risk also reported high risks in their social environments. There was also a *positive* relationship between individual risk and service use history (.38,  $p < .001$ ); youth who had the greatest amounts of individual risk had contact with a greater number of services than those who had less individual risk. There was also a positive relationship between contextual risk and service use history (.15,  $p < .001$ ).

## SERVICE QUALITY AND SERVICE USE HISTORY

Although positive, the relationship between the number of services youth had contact with and service quality was not significant.

However, there was a notable and concerning relationship between both individual and contextual risk and service quality; youth with higher contextual ( $-.28, p < .001$ ) and individual ( $-.20, p < .001$ ) risks experienced lower service quality than did youth with lower risks. Service quality assessed the extent to which youth experienced service provision in ways that were respectful of them as clients, empowering and responsive to their situations. Put differently, the greater the exposure to risks (individual and contextual) the less likely it was that services would be delivered in ways that were empowering, respectful and responsive; youth facing the highest risks had the fewest opportunities to experience services that provided them with spaces to exercise agency and to build trust in providers that might assist them to embark upon change processes. On the other hand, service quality also had a direct positive relationship with functional outcomes ( $.07, p < .05$ ) suggesting that when services did work in empowering and enabling ways with youth that better outcomes were achieved. This impact of service quality factors on its own was, however, small.

## THE ROLE OF RESILIENCE

Reviewing the impact of risk and service provision on the resilience resources<sup>3</sup> within the young people's lives, the model suggests that contextual risk ( $-.31, p = .001$ ) undermined resilience processes in a very powerful way; it had a *very strong negative* relationship with resilience. Youth who lived in the highest risk environments had significantly fewer resilience resources to call upon to assist them with their positive development. On the other hand, while there was a negative relationship between individual risks and resilience, this was not significant ( $-.07, p = .69$ ). Individual risks did undermine

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3 Resilience was measured in three ways that captured individual dimensions, relationship with caregivers and contextual dimensions of resilience (see Liebenberg et al., 2012).

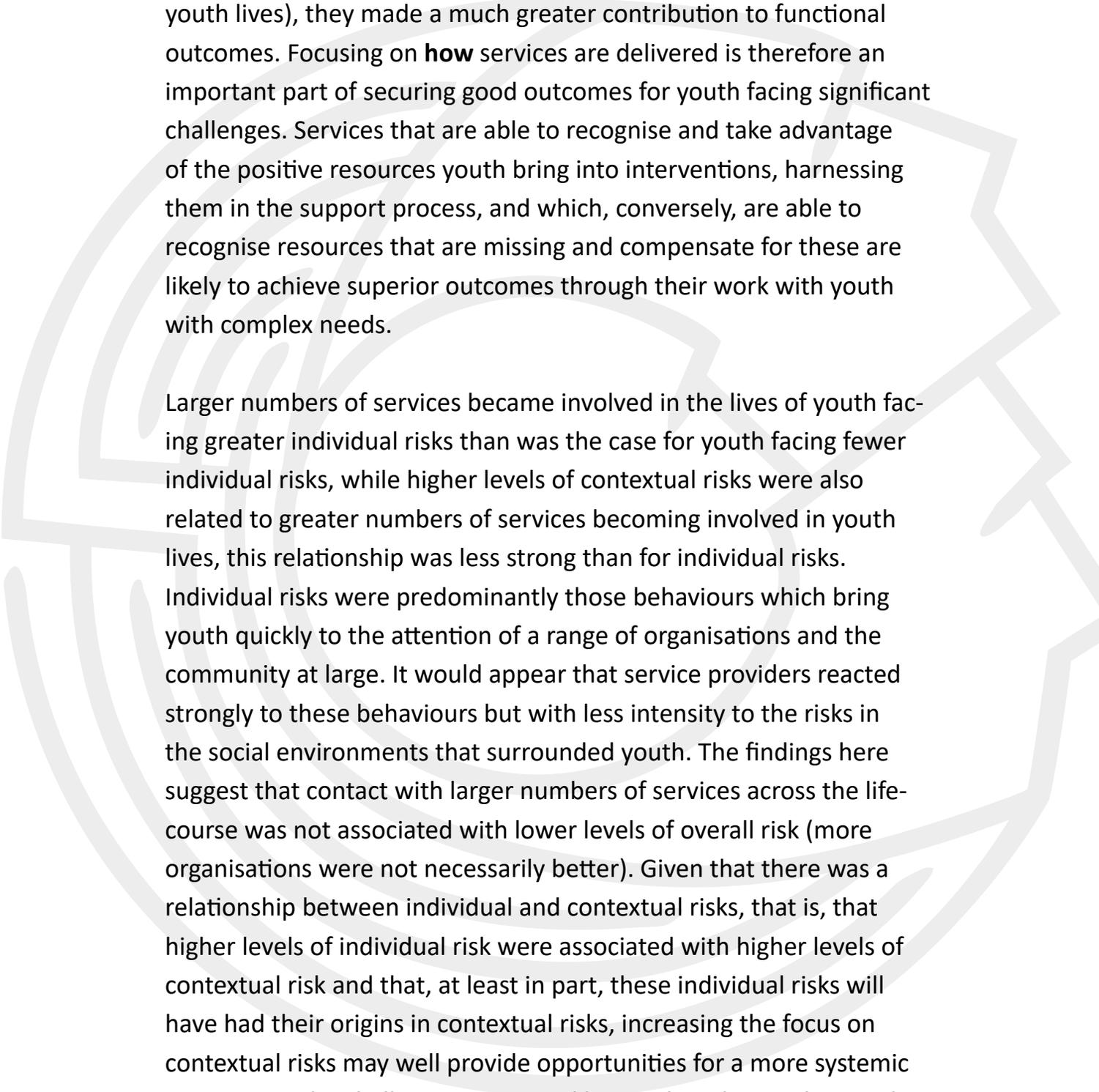
functional outcomes ( $-.10, p < .05$ ) as did contextual risks ( $-.08, p < .05$ ). High quality services harnessed resilience in a significant way ( $.30, p < .001$ ). The total number of services used over the lifetime had less of an influence on resilience, although it was still significant ( $.12, p < .05$ ).

## FUNCTIONAL OUTCOMES

The model suggests that resilience mediated functional outcomes ( $.44, p < .001$ ). Services that were able to work effectively to integrate the individual, relational and contextual resources (resilience processes) available to youth with complex needs, and compensate for those resources that were lacking, achieved functional outcome effects to a greater extent than did services that did not take active account of the nature of the resilience resources available to youth. The model suggests that resilience moderated the impact of risks youth confronted and this, in turn, contributed to improved outcomes when services were able to work in respectful and empowering ways that took account of these resilience resources.

## CONCLUSION

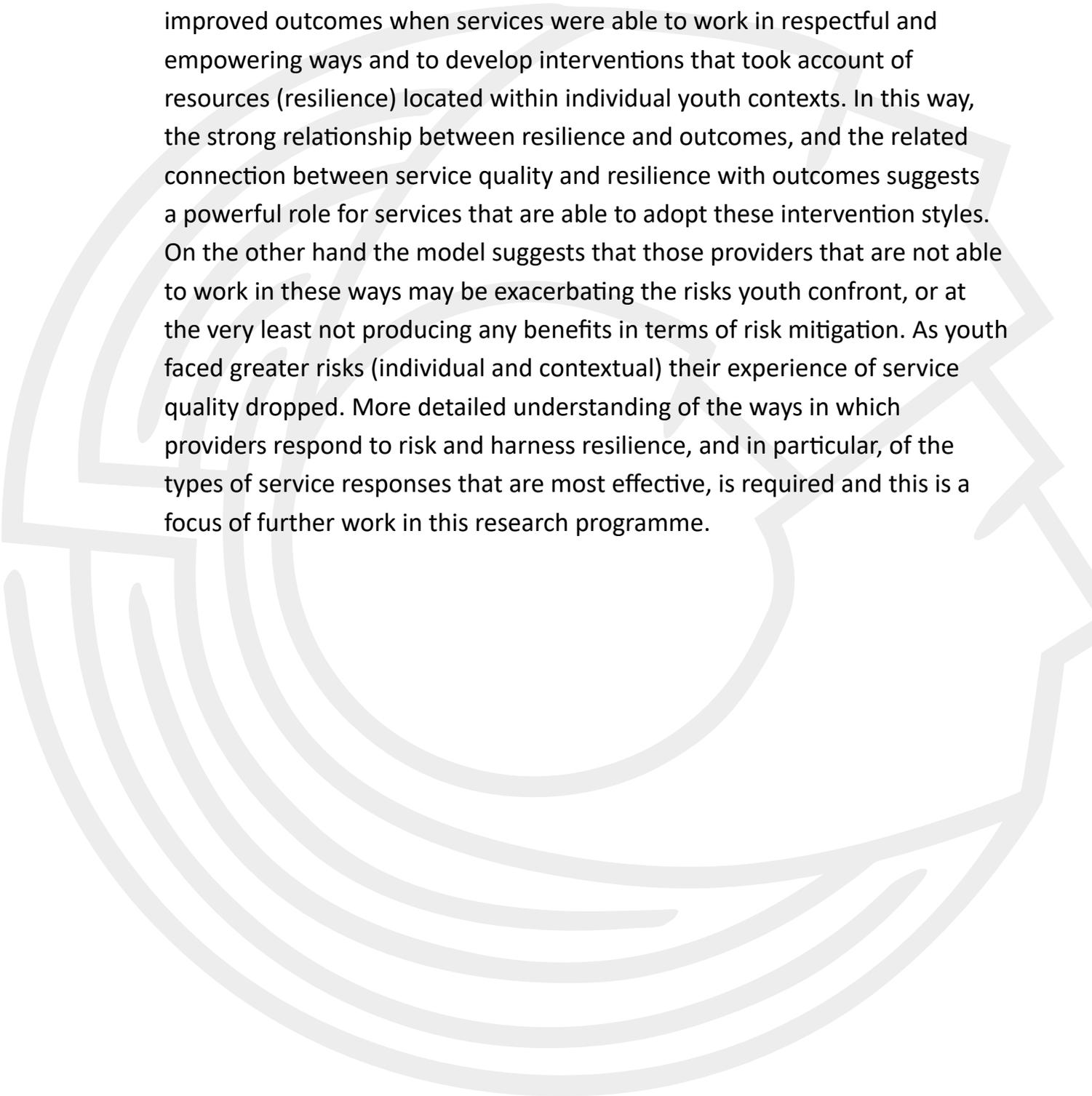
In conclusion, it is notable that service quality (measured through a set of questions regarding the extent to which providers were able to effectively engage with vulnerable youth) had a very strong positive relationship with resilience. Having contact with more services over the lifetime made a modest contribution to resilience but it did not on its own contribute to better outcomes. This important finding suggests that service quality rather than simply the numbers of services involved with youth was the key to achieving good outcomes for those exposed to numerous risks and with complex needs. In this regard, it is notable that while service quality on its own had a small impact on functional outcomes, when services were



able to enhance youth resilience (that is, when services worked to promote and build upon the positive resources already present in youth lives), they made a much greater contribution to functional outcomes. Focusing on **how** services are delivered is therefore an important part of securing good outcomes for youth facing significant challenges. Services that are able to recognise and take advantage of the positive resources youth bring into interventions, harnessing them in the support process, and which, conversely, are able to recognise resources that are missing and compensate for these are likely to achieve superior outcomes through their work with youth with complex needs.

Larger numbers of services became involved in the lives of youth facing greater individual risks than was the case for youth facing fewer individual risks, while higher levels of contextual risks were also related to greater numbers of services becoming involved in youth lives, this relationship was less strong than for individual risks. Individual risks were predominantly those behaviours which bring youth quickly to the attention of a range of organisations and the community at large. It would appear that service providers reacted strongly to these behaviours but with less intensity to the risks in the social environments that surrounded youth. The findings here suggest that contact with larger numbers of services across the life-course was not associated with lower levels of overall risk (more organisations were not necessarily better). Given that there was a relationship between individual and contextual risks, that is, that higher levels of individual risk were associated with higher levels of contextual risk and that, at least in part, these individual risks will have had their origins in contextual risks, increasing the focus on contextual risks may well provide opportunities for a more systemic response to the challenges presented by youth with complex needs.

Resilience played an important role in the capacity of young people



to achieve positive outcomes when services were involved in their lives. Resilience moderated the impact of risks and, in turn, contributed to improved outcomes when services were able to work in respectful and empowering ways and to develop interventions that took account of resources (resilience) located within individual youth contexts. In this way, the strong relationship between resilience and outcomes, and the related connection between service quality and resilience with outcomes suggests a powerful role for services that are able to adopt these intervention styles. On the other hand the model suggests that those providers that are not able to work in these ways may be exacerbating the risks youth confront, or at the very least not producing any benefits in terms of risk mitigation. As youth faced greater risks (individual and contextual) their experience of service quality dropped. More detailed understanding of the ways in which providers respond to risk and harness resilience, and in particular, of the types of service responses that are most effective, is required and this is a focus of further work in this research programme.

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