

Educational Resilience in Primary School Children  
in South Australia:  
An Investigation

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## **ABSTRACT**

### *Introduction*

The field of resilience research has evolved considerably in the last forty years, although most research in this area has been done in the United States and may not reflect the Australian experience. Educational resilience has become an increasingly well-researched area in recent times. The Kumon Method of mathematics education draws on many factors linked to educational resilience. While international research has demonstrated the effectiveness of Kumon in improving academic achievement, no information exists on whether the program promotes educational resilience amongst Kumon students. This study had two aims: to improve understanding of the factors and processes affecting educational resilience in young people in Australia; and to determine whether the Kumon method has an influence on educational resilience.

### *Method*

Participants were 164 primary school students (49% male), recruited from Kumon education centres (Kumon group), or State Primary schools (Control group), in metropolitan Adelaide. Data were collected using a battery of tests, including the Woodcock-Johnson III BIA (2001), Locus of Control Scale for Children (from Nowicki & Strickland, 1973), Resiliency Module of the California Healthy Kids Survey (WestEd, 2005), Kumon Diagnostic Test (Kumon, 1994), Family Inventory of Life Events (McCubbin & Patterson, 1991) and the Child Experience of Adverse Events Scale. A brief qualitative interview was also conducted. Educational resilience over time was measured using participants' successive Literacy and Numeracy (LAN) test results.

### *Results*

Kumon study was associated with higher academic achievement: the Kumon group scored a higher mean LAN2 score than the Control group. The initial LAN

score, Cognitive Ability, Locus of Control, Months of Kumon study and Cultural background were significant predictors of LAN2 score. The overall model explained 68% of the variance in LAN2 scores.

When multiple regression was used to predict factors associated with educational resilience, a significant model emerged, with Internal Locus of control and Months of Kumon study emerging as significant predictors. The overall model explained 23% of the variance in educationally resilient outcomes. Likewise, multiple regression found the following factors were associated with a non-resilient educational response in a significant model: External Locus of Control and Total siblings. The overall model explained 17% of the variance in educationally non-resilient outcomes.

Qualitative analysis of parents and children's opinions about resilience demonstrated both similarities and differences regarding aspects of a child's life that could be considered *characteristic* of resilience, and those that *contributed* to the development of resilience. The results supported the hypothesis that parents rated Education as more important than children.

### *Discussion*

Compared to many populations whose educational resilience has been investigated, the present sample of Australian school children were relatively privileged with regard to protective factors such as high parental income, support from unrelated adults and connection to their schools; and relatively protected from risk factors such as family violence, parental alcohol/drug use, parental mental health issues, bullying and parental separation or divorce. This may have been an artefact of the sample under study, which came from a comparatively affluent area. Had the sample been selected from suburbs with a lower socio-economic index, the sample may have demonstrated greater exposure to risk factors.

The impact of Kumon study on academic improvement was clearly demonstrated, with the multiple regression model demonstrating that Kumon study was associated with an improvement in LAN results. Locus of Control, Cognitive Ability, and Cultural Background also had an influence on LAN scores. Length of Kumon study was also linked to resilient patterns of educational attainment, as was internal Locus of Control.

### *Conclusion*

The present study made three key contributions: results replicated international findings that Kumon enhances academic achievement and indicated that Kumon may enhance educational resilience; the study measured risk and protective factors operating within the lives of mainstream Australian children; and the research considered the perspectives of child participants in the study outcomes. Incorporating children's understandings of resilience was important for understanding aspects of the quantitative results. Limitations of the current research included: the lack of comparisons with other forms of tutoring on resilience outcomes; and an inability to test the impact of Kumon study on a variety of different adversities. Future research should address these limitations through the execution of large scale, longitudinal studies (such as the Longitudinal Study of Australian Children), or through replications, extensions and generalisations of previous research to validate and confirm previous findings.

## THESIS DECLARATION

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution to Jordan Bell and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

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Jordan Bell

Signed.....

Date: 23 / 12 / 2010

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