

Development of a multi-dimensional measure of resilience in adolescents:

The Adolescent Resilience Questionnaire

Deirdre Gartland, Lyndal Bond, Craig Olsson, Simone Buzwell and Susan Sawyer

Introduction

The concept of resilience has captured the imagination of researchers, clinicians and policy makers over the past decade. In this study, resilience is defined as achieving or maintaining positive developmental outcomes in the face of adversity or stress. While the literature around the concept of resilience is increasing, there have been few attempts to synthesise research into measurement tools.

Aim

To develop a comprehensive measure of resilience for use in the adolescent population, addressing the domains of self, family, peers, school and community.

Method

The structure and content of the measure were drawn from an extensive review of the literature and focus groups with adolescents living with a chronic illness. Adolescents with a chronic illness deal with adversity in their day-to-day lives and are known to be at risk of poor outcomes (see Table 1). They are therefore a unique group in which to study resilience. Resilience factors were identified and items generated in consultation with professionals working in adolescent health. A pilot version was submitted to focus groups of adolescents and minor revisions undertaken (see Table 1). Two phases of testing have been completed.

Phase 1

The Pilot Adolescent Resilience Questionnaire (ARQ) was administered to two groups—a convenience sample recruited from Catholic secondary schools; and adolescents living with a chronic illness recruited from hospital clinics and support groups in metropolitan and rural Victoria (see Table 1).

Phase 2

The revised ARQ was administered to a random sample of adolescents recruited from government schools in metropolitan and rural Victoria (see Table 1).

Table 1

Samples used in the development of the Adolescent Resilience Questionnaire

	Participants n	Female %	Mean age (range) Years
Item Development phase			
Focus groups	24	71	19 (14 – 24)
Revision of Pilot ARQ			
Focus groups	8	80	15 (12 – 19)
Phase 1 - Pilot ARQ			
Year 9 students	330	57	14 (13 – 16)
Adolescents with chronic illness	247	60	15 (11 – 18)
Phase 2 - Revised ARQ			
Year 7 & 9 students	322	53	14 (11 – 16)

Table 2

Scales and example items in each domain of the Adolescent Resilience Scale

Scale	Example items	Reliability Cronbach alpha coefficient
SELF (35 items)		
Optimism (Reversed)	I dwell on the bad things that happen	0.8
Meaning / Introspection	I like to think about why things happen the way they do	0.7
Social skills	I can share my personal thoughts with others	0.7
Confidence in self and future	I am confident that I can achieve what I set out to do	0.7
Empathy (Reversed)	I am easily frustrated with people	0.6
FAMILY (13 items)		
Connectedness	I enjoy spending time with my family	0.9
Availability	There is someone in my family I can talk to about anything	0.8
PEERS (10 items)		
Connectedness	When I am down I have friends that help cheer me up	0.8
Availability (Reversed)	I wish I had more friends I felt close to	0.6
SCHOOL (11 items)		
Supportive environment	My teachers are caring and supportive of me	0.8
Engagement	I try hard in school	0.7
COMMUNITY (8 items)		
Connectedness	I like my neighbourhood	0.9

Results

The revised ARQ consists of 13 subscales and 74 items covering the domains of self, family, peers, school and community. As shown in Table 2, 11 of the scales had good reliability with Cronbach alpha coefficients ranging from 0.7 to 0.9, the remaining two scales had adequate reliability.

Conclusion

The revised Adolescent Resilience Questionnaire identifies the resources available to an adolescent both internally and externally. The majority of scales are in the individual domain, reflecting the range of personal characteristics identified as important for resilient outcomes. An adolescent's connectedness and the availability of support in the external domains of family, peers, school and community are also assessed.

It is proposed that, with further psychometric testing, this new measure of resilience will provide researchers and clinicians with a comprehensive and developmentally appropriate instrument to measure a young person's capacity to achieve positive outcomes despite adversity.

Potential applications include individual assessments, targeted interventions, evaluation of programs, and facilitation of rigorous resilience research.

Analysis

Factor analyses were used to guide development of scales and selection of items. Factor solutions were examined in terms of:

- Conceptual relevance
- Percentage of variance explained
- Item loadings within and across factors
- Stability of factors across data sets and solutions

Factors from the most parsimonious solution in each domain were developed into scales. Cronbach alpha scores were examined. Further elimination of items was guided by:

- Excessively high or low endorsement
- Poor face validity
- Improved Cronbach alpha coefficient when item deleted