

*Review Article*

## **The Need for an Academic Resilience Approach to Cognitive Task Performance of Malaysian Students in Secondary Schools and Higher Education**

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### **ABSTRACT**

Rendering students resilient and intellectually rigorous is a primary objective of education in Malaysia. The Education Ministry has emphasised the enhancement of problem-solving and critical thinking skills, but reported that the skills performance of students in secondary schools and higher education is below the targeted proficiency level. According to the Ministry, the educational institutions are responsible for the lack of optimal performance. However, the unsatisfactory result might also be ascribed to the students' overall experience of adversity. Some students, against all odds, are academically resilient. How Malaysian secondary and higher-education students construct, develop and demonstrate academic resilience has yet to be investigated. This review of related literature is, therefore, aimed at explaining how the academic resilience approach relates to cognitive task performance of the students. Further investigations can provide guidelines to help students who are not academically resilient. This would facilitate achievement of the objective .

*Keywords:* Malaysian students, resilience, academic resilience, resilience assets, risk factors

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### **INTRODUCTION**

A universal objective of education is to render students as academically resilient and intellectually rigorous learners who are effective problem solvers as well as critical and creative thinkers. Such students would be better equipped to carry out cognitive tasks successfully and demonstrate

resilience in the face of adversity; they would be able to handle the challenges of studying at higher institutions of learning, and afterwards, cope with problems in life (Benard, 1995). This objective is central to secondary schools and institutions of higher learning in Malaysia (Nagappan, 2000, 2010). However, research has yet to be carried out to investigate how secondary and higher-education students construct, develop and demonstrate academic resilience. The lack of findings in this area might lead to inconclusive evaluation of factors underlying satisfactory or unsatisfactory cognitive task performance and academic achievement (Hanewald, 2011).

The main purpose of this review, therefore, is to draw attention to the need for an academic resilience approach to improve the cognitive task performance of secondary and higher-education students in Malaysia. The review is divided into three main parts. The first part sets out the reasons for the resilience approach in the Malaysian context. The next part expounds human resilience. The last part highlights the promotion of resilience as an essential aim of education, explicates the conception of academic resilience and identifies the resilience assets that can be promoted.

#### **THE NEED FOR INVESTIGATING ACADEMIC RESILIENCE ASSETS OF MALAYSIAN SECONDARY AND HIGHER EDUCATION STUDENTS**

Human development showcases potential resilience process, capacity, and outcome. Human resilience enables an individual to overcome various challenges and succeed

in spite of adversity. Strengthening human resilience has become a focal point of interest in the educational philosophy of many countries, including Malaysia. Educational endeavours in Malaysia are aimed at rendering Malaysian students resilient and intellectually rigorous, thereby realising the vision of the educational philosophy (Curriculum Development Centre, 1989; Educational Planning and Research Division, 1994). The Ministry of Higher Education (MOHE 2006), currently known as The Ministry of Education (MOH), recognises the vision as the central purpose of education and places emphasis on the need to help Malaysian students acquire higher order thinking skills, especially problem-solving aptitudes. Malaysian students should be able to practise critical, creative, and reflective thinking skills to solve problems, undertake demanding cognitive tasks and adapt to challenging environments. Problem-solving skills facilitate coping with adverse circumstances inside and outside the classroom (Georges, 1988). Thus, it is of paramount importance to ensure that students acquire such skills so that a primary objective of the educational policy is met.

Notwithstanding the educational endeavours, findings have indicated low proficiency levels of critical thinking skills of Malaysian secondary school (Nagappan, 2000, 2001) and higher-education students (MOHE, 2006; Tarmizi *et al.*, 2008). For instance, students from technical institutions were found to have difficulty in generating critical and creative ideas

(Heong *et al.*, 2012). A similar report on the skills performance of secondary school students showed a lack of ability to apply knowledge to real-life problems (Nagappan, 2000). According to Nagappan, “after 12 or 13 years of public education, many students are unable to give evidence of a more than superficial understanding of concepts and relationships that are fundamental to ... subjects they have studied” (p.1). The Education Ministry has ascribed the low proficiency level to national institutions. Relying on more recent findings, Nagappan (2010) highlighted the need for a comprehensive review of educational programmes for the teaching of thinking skills. In this connection, national institutions should gear their educational programmes towards enabling students to identify and analyse problems and be creative enough to look for the most practical solutions (Nagappan, 2010).

However, holding educators or educational institutions wholly responsible for the poor cognitive task performances of students does not reveal the true picture (Hanewald, 2011). Other factors should be taken into consideration, such as “risk factors” that increase the probability of a future negative outcome, and “protective factors” that decrease such a probability (Durlak, 1998). Growing up, a student may face multiple risk factors that inevitably affect his or her behaviour academically (e.g. truancy, poor grades or disengagement in learning activities), socially (e.g. having conflicts with peers), physically (e.g. self-harming or deteriorating appearance),

emotionally (e.g. worry, depression, sadness and hopelessness). The student may be exposed to the aggregated effects of these factors (Hanewald, 2011). In contrast, the weight of the evidence suggests that the effect of a specific risk factor in isolation tends to be modest on the generated outcomes, usually leading to academic underachievement (Appleyard *et al.*, 2005; Fergusson *et al.*, 1994; Masten *et al.*, 1990; Oades-Sese *et al.*, 2011).

Students who have experienced several past or present risk factors, which are associated with individual, family, school and community variables, are very likely to demonstrate poor cognitive and academic performance (Doll *et al.*, 2011; Flouri *et al.*, 2010; Hanewald, 2011). Examples of individual-related risk factors are insecure attachment, poor social skills and addiction to alcohol or the internet. Family-linked risk factors are low socio-economic status, poor parental supervision, parental substance abuse, unemployment of parents, family conflict, domestic violence, divorce and social isolation. School-associated risk factors are academic failure, poor attachment to school, bullying and negative peer group influences. Community-connected risk factors are neighbourhood violence and crime, lack of social support and social or cultural discrimination. A number of longitudinal studies, such as those by Cicchetti and Manly (2001) and Lansford *et al.* (2002), have shown that children who suffer neglect are at risk of school failure, anxiety, depression, aggression and

delinquency during childhood, adolescence and adulthood.

Despite their disadvantaged backgrounds, coupled with various risk factors, some students demonstrate academic resilience and enjoy satisfactory or even excellent academic achievements (Borman & Overman, 2004; Martin & Marsh, 2006). Such students possess academic resilience assets (also called protective factors) associated with the individual, family, school and community variables. Examples of individual-associated protective factors are secure attachment to family, improvement of social skills and school achievement. Family-connected protective factors are parental employment, access to social networks and caring parents. School-related protective factors are positive school climate, sense of belonging, opportunities for some success at the school environment and recognition of achievement. Community-linked protective factors are participation in community groups and access to community support. These examples raise the question of what and how resilience assets enable some students to perform the same task better than those who have the same background. Miller (2002) and Russo and Boman (2007) suggested further studies to bring the issue to light, so that an optimal resilience-enhancing strategy can be developed for non-resilient students.

Thus, students with risk factors have different educational needs in their pursuit of academic success, compared to their counterparts who are impacted by multiple protective factors. Not every institution or

every educator is able to meet the needs of individual learners as to curb the effect of risk factors on cognitive and academic performance (Russo & Boman, 2007). An academic institution or an educator is very likely able to provide developmental support, promoting academic success, but less likely to eliminate the bulk of risk factors or disadvantaged backgrounds that promote failure.

With regard to the local educational context (secondary schools and higher institutions of learning), reports of empirical examinations on the relationship between backgrounds of students and the recommended cognitive skills are scarce (Devadason *et al.*, 2010). According to Nikitina and Furuoka (2012), none of the existing studies have examined the acquisition of skills and teacher guidance, both of which are considered by students to be important. Nevertheless, although students are aware of the necessity of skill acquisition, they lack a clear guidance on the types of skills and how to acquire and develop them while studying. In addition, they know that lectures and tutorials alone cannot equip them with the knowledge and skills they consider vital, some of which must be acquired through their own endeavour (Devadason *et al.*, 2010; Nikitina & Furuoka, 2012). Malaysian public educational institutions need to identify students who severely lack proficiency in problem-solving, critical thinking and management skills (Shakir, 2009). Subsequently, special programmes for these students need to be organised

to make them realise that having well-developed skills would help them compete successfully against adverse circumstances.

Further studies are required (a) to ascertain whether students have successfully acquired and applied the recommended skills to help them reinforce their academic resilience during their secondary and higher education, and (b) to explore and explain what individual, family, school and community assets lend support to students in the acquisition of cognitive skills to improve academic task performance. An examination of resilience assets would shed light on how students can be academically resilient and how their resilience level can be raised. Such studies would provide educators and policy makers with new insights into the Malaysian student's academic resilience assets and assist in the formulation of strategies aimed at making the necessary changes in the capacity, process and outcome of human development. The findings of such research would provide useful guidelines on the development of resilience assets in order to bring a positive difference in the lives of students from disadvantaged backgrounds. When educators and policy makers are facilitated in breaking the cycle of poor academic performance, a primary educational objective would be achieved.

### **HUMAN RESILIENCE**

A central concern of education is to empower innate resilience, so that students can face and overcome challenging conditions over the course of a lifespan. Hence, a very important educational objective requires

the teaching and learning of how to activate latent resilience to ameliorate a variety of personal, societal and academic life challenges. Students should be taught how to acquire and use cognitive skills through specially designed programmes and courses (Brown, 1997; Ennis, 1989). Educators ought to take cognisance of cognitive skills (e.g., problem-solving) and motivational factors (e.g., self-esteem) that can strengthen the learner's academic resilience.

Human resilience refers to "the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances" (Masten *et al.*, 1990, p. 425). Resilience can be (a) the outcome as a quick recovery from misfortune or disruptive change (Hanewald, 2011), (b) the process of human development (Benard, 1991), and (c) the capacity in terms of individual differences in response to adversity (Rutter, 1990). Resilience covers the cognitive, emotional, social and physical aspects of human development (Lee *et al.*, 2010), as the ability to deal with developmental tasks effectively in the face of adversity (Bottrell, 2009).

Resilience is innate to all humans, being "an inborn developmental wisdom that naturally motivates individuals to meet their human needs for love, belonging, respect, identity, power, mastery, challenge, and meaning" (WestEd, 2002, p. 2; see also Benard, 2004). According to Masten (2001), "Resilience does not come from rare and special qualities, but from the everyday magic of ordinary, normative human resources in the minds, brains, and

bodies of children, in their families and relationships, and in their communities” (p. 9). Resilience is not an individual trait or a fixed quality that a person has or has not (Zimmerman & Arunkumar, 1994), but rather the development process and capacity that can be promoted by the individual, school, community and family variables (Doll *et al.*, 2011; Howard *et al.*, 1999; Luthar *et al.*, 2000; Masten & Coatsworth, 1998; Rutter, 1979, 1987).

#### **ACADEMIC RESILIENCE APPROACH TO STUDENTS’ COGNITIVE TASK PERFORMANCE**

A resilience approach to cognitive development and academic achievement is based upon the basic tenet that everyone has some measure of innate resilience that enables the individual not only to rebound from adversity, but also to succeed in spite of it (Hanson & Kim, 2007). Despite the odds, “coping” successfully with the problems, “overcoming” them and “recovering” from disruptive changes are demonstrations of academic resilience (Garmezy, 1985; Rutter, 1985). Academic resilience can be conceived of as “the process and results that are part of the life story of an individual who has been academically successful, despite obstacles that prevent the majority of others with the same background from succeeding” (Morales & Trotman, 2004, p. 8). As Morales (2008) stated: “Academic resilience, unlike psychosocial resilience, is not determined by how well-adjusted or emotionally healthy an individual might be. Rather, it is defined

solely by exceptional academic achievement in the face of adversity” (p. 152).

The resilience approach in the educational context suggests focusing on protective factors that promote human potential resilience, thereby leading to academic success, rather than on eliminating the risk factors that promote failure (Grotberg, 1995). It specifically calls attention to the understanding of how some individuals thrive against all odds, rather than examining failures or disadvantages. This suggestion is congruent with the “Ecological Systems Theory” (Bronfenbrenner, 1979), “Resilience Theory” (Rutter, 1987; Ungar, 2005), “Educational Resilience Theory” (Wang *et al.*, 1994, 1999), and with Garmezy’s (1991) triadic model of resilience. According to these theories and the model, multiple levels of the surrounding environment mould human behaviour or development as growing within a complex system of relationships. Resilience, as a developmental process, empowers individuals to shape and in turn be shaped by their environment. This is a widely accepted ecological framework for understanding the resilience assets, the dynamic interactions among individual, family and environmental risk and protective factors (see Doll *et al.*, 2011; Esquivel *et al.*, 2011; Gordon & Song, 1994; Morales & Trotman, 2004; Von Soest *et al.*, 2010). A further study might draw on the ecological framework of educational resilience theory to explain how Malaysian secondary and higher education students develop their academic resilience and what internal and



external resilience assets help them in this development process.

### INTERNAL AND EXTERNAL RESILIENCE ASSETS

According to educational resilience theory (Wang *et al.*, 1999), learners may confront adversities everywhere or anytime, a situation in which they may have recourse to their resilience assets existing in their environments (external resilience) and within themselves (internal resilience), instead of dealing with adversities as problems to be solved or compensated for (see Fig.1). The interpersonal relationships with members in the family (parents), school (teachers) and community (friends) are the external resilience assets that promote internal resilience assets, thereby simulating academic success (Benard, 2004; Benson *et al.*, 2012; Hawkins *et al.*, 1992; Masten

& Coatsworth, 1998; Resnick *et al.*, 1997; Rutter, 1987; Werner & Smith, 1992).

Internal assets refer to individual cognitive factors, which are problem-solving skills, social competence, critical consciousness of the self, a sense of purpose and autonomy (Benard, 1995). Problem-solving skills encompass the ability to think reflectively, critically and creatively. Social competence refers to communication skills, sense of humour, the ability to understand the feelings and problems of others and to elicit positive responses. Critical consciousness is the reflective awareness of the source and structure of adversity (e.g. a racist society, discrimination and the like), including creativity in developing coping strategies to overcome the odds. A sense of purpose encompasses hopefulness, goal direction, persistence, achievement motivation, optimism, spiritual connectedness and

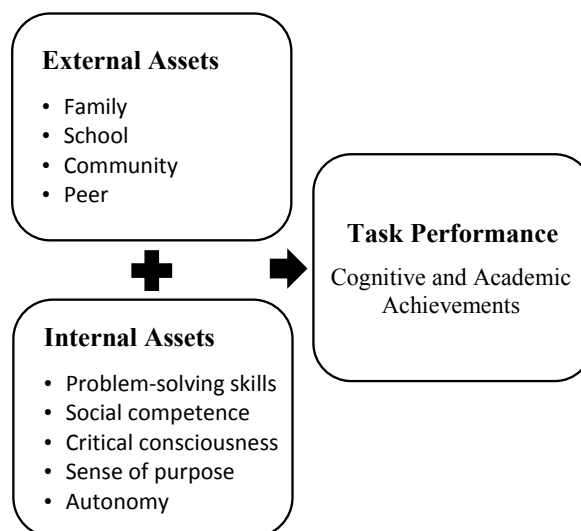


Fig. 1: Theoretical framework of academic resilience (adapted from WestEd, 2002)

educational aspirations. Autonomy is the ability to have a strong sense of one's own identity, a sense of internal locus of control, task mastery and self-efficacy, being able to exert some control over one's environment. Relevant literature describes these protective factors as characteristics of human resilience that should be developed (see Doll *et al.*, 2011; Flouri *et al.*, 2010; Garmezy, 1985; Gore & Eckenrode, 1994; Hanewald, 2011; Masten *et al.*, 1990; Rutter, 1984; Waters & Sroufe, 1983; Werner & Smith, 1988).

### **PROMOTING THE INTERNAL ASSETS OF ACADEMIC RESILIENCE**

Individuals essentially use their internal resilience assets to build and show remarkable resilience in varying degrees when they encounter challenges (Howard *et al.*, 1999; Mandleco & Craig, 2000). Internal assets are developed through interactions with external resilience assets (Rutter, 1987, 2002). External assets allow one to become self-reliant, responsible, empathic and altruistic; they also encourage trustworthiness and confidence when approaching people and situations (Grotberg, 1995). External assets facilitate circumventing life stressors and demonstrate resilience against risk factors, thereby altering or even reversing expected negative outcomes (Benard, 1995), and allow one to become more resilient and less vulnerable (Garmezy, 1985; Jain *et al.*, 2012; Mandleco & Craig, 2000; Rutter, 1987). The cumulative impact from a combination of external resilience assets is likely to increase positive outcomes (Rutter,

1999), such as avoiding academic failure and coping with adjustment problems, when a student is exposed to extremely adverse circumstances (Jain & Cohen, 2013; Oades-Sese *et al.*, 2011; Rutter, 1984; Werner, 1993; Werner & Smith, 1992).

A care-giving environment, family, school or community counteracts risk factors. The most immediate care-giving environment facilitating the development of internal resilience is the family; schools and peers also bring about a significant increase in the resilience level (Brooks, 2006). In such an environment, the learner has always someone, parent, peer, friend or teacher, (a) who cares who he/she is, who listens or talks to him/her; (b) who gives support (e.g. encouragement through words, actions and creating a safe environment), guidance and opportunity to promote a sense of safety, autonomy, self-efficacy, self-confidence and of self-responsibility so that he/she can fulfil his/her hopes, needs or concerns; and (c) who gives him/her the opportunity to plan, make decisions, solve problems, communicate with others, and (d) who encourages him/her to take responsibility for the consequences of his/her choices and behaviour (Hanson & Kim, 2007). To be resilient or build internal resilience, humans need safe relationships in which they can love and be loved, trust and be trusted, respect and be respected.

Home, school and community members, particularly teachers, all play a role in promoting the internal resilience assets of the student by meeting his/her needs (Werner & Smith, 1992). A teacher can provide



adolescent students with opportunities that are based on reciprocity and collaboration, such as encouraging them to participate in teaching and learning activities (i.e., sharing power with students). Such an opportunity increases their intrinsic motivation and enhances their innate ability to learn (Benard, 2004). Obstructing students from such opportunities (i.e. ignoring the fact that students want to have some power and control) usually leads to detachment from the teachers who obstruct them, thereby disconnecting them from curricular activities (WestEd, 2002).

Although it is not necessary to promote many resilience assets, it is not sufficient to focus on just one (Grotberg, 1995). An adolescent learner may be loved but is less likely to show effective resilience against challenges if he/she lacks self-awareness of thoughts and feelings, or if he/she has poor communication skills. A learner may have high self-awareness or self-esteem, but he/she will not be resilient enough if he/she has nobody to help him/her, or does not know how to solve problems, or communicate with others. Effective resilience results from a combination of the assets. How individual (cognitive), family, societal and school assets aggregately contribute to academic resilience needs to be explained further, so that appropriate programmes can be designed to strengthen resilient behaviours (Willms, 2002).

## CONCLUSION

This review paper has set out the need for an academic resilience approach to

improving the cognitive task performance of students from secondary schools and higher education institutions in Malaysia. The Education Ministry places great emphasis on the responsibility of national institutions to equip students with critical thinking and problem-solving skills. This review of related literature suggests taking into account the effect of diverse backgrounds of students on their cognitive task performance. Students' backgrounds can be interwoven with multiple risk factors that increase the probability of poor cognitive performance or with multiple protective factors that decrease such a probability. In-depth analysis of the relationship between students' backgrounds and the level of skills proficiency is needed for a better understanding of how to improve specific cognitive task performance.

According to the ecological framework of the resilience theory (Wang *et al.*, 1999), poor cognitive and academic performance might be associated with students' disadvantaged backgrounds. Nevertheless, despite obstacles that prevent the majority of students with the same background from succeeding, some students can be academically successful as they are academically resilient. Academic resilience enables students to enjoy exceptional academic achievement in the face of adversity.

Empirical data concerning how Malaysian secondary and higher-education students construct their academic resilience has yet to be collected. Empirical studies, drawing on the resilience theory and its ecological framework, are needed to (a)

explore and explain internal and external academic resilience assets of the students, (b) predict the best external assets that promote internal assets, and (c) determine the best internal assets associated with high academic achievement. The findings from such studies would enhance the understanding of the relationship between the academic resilience assets, thus facilitating the actualisation of one of the primary educational objectives of Malaysian secondary schools and institutions of higher learning. To conclude, educators should be aware of the need to adopt a resilient approach towards more effective learning and skills development.

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