IN THE NAME OF GOD

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ACADEMIC RESILIENCE REFERS TO STUDENTS' CAPACITY TO PERFORM HIGHLY DESPITE A DISADVANTAGED BACKGROUND

- in most countries a group of children is academically successful despite the challenge of their backgrounds .
- These students are termed resilient

HISTORY

- Resilience : 1970
- Academic resilience : 1994
- Resilience in mathematics : 2013

- Since attention on educational psychology rises day by day, there is hope that in the future, there will be a clear border on which concept the researcher will use for the study.

DEFINITION OF RESILIENCE

- Students in the bottom 25% of the SECI(Social, Economic, and Cultural Index)with a performance in the top 25% were considered to be academically resilient.

- Relative background and relative outcome thresholds

DEFINITION OF RESILIENCE

- An act to rebounded back after an adverse situation
- criteria of a person to display specific positive outcomes after experiencing risk
- According to the dictionary, resilience has two meaning: I The capacity to recover quickly from difficulties; toughness. II The ability of rebound

DEFINITION OF RESILIENCE

students are able to demonstrate academic resilience, which is satisfactory performance in cognitive or academic tasks in spite of their disadvantaged backgrounds.

IMPORTANCE

- those factors influencing achievement of disadvantaged students also influenced achievement of other students

IMPORTANCE

- The resilient in a student can increase or decrease over time, depending on their protective factors

IMPORTANCE

The adolescence period of life comes along with changes and challenges in terms of physical and cognitive development. In this hectic period, many adolescents may suffer more from various risk factors such as low socioeconomic status, substance abuse, sexual abuse and teenage pregnancy

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- self-confidence and motivation were the most important factors
- student attitude to mathematics
- teacher confidence in student performance
- the test language being spoken at home
- low levels of bullying at school

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- boys tended to be more resilient
- in Girls who speak their native language
- Positive attitude
- valuing learning

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- Family structure
- expected education
- kindergarten attendance
- reading engagement
- Immigrant status
  was negatively associated with
  academic resilience.

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- **Self-efficacy**
- **familiarity with mathematical concepts learned in the earlier grades moderately, and anxiety weakly associated with academic resilience**

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- More extracurricular activities and a more positive school climate
- Classroom disciplinary climate
- The amount of human and material resources available in school was weakly associated with academic resilience.

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- Students who were socially and emotionally resilient also tended to do better academically
- the amount of time they spent in regular science lessons were strongly associated with academic resilience.

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- Parental education level and length of poverty experience
- Sense of belonging was associated with academic resilience

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- The review stresses the need for developing a caregiving relationship model for at-risk adolescent students in Malaysia.
- Such a model would focus to meet the students' needs for enhancing thinking skills, counteracting risk factors and demonstrating academic resilience

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- students from disadvantaged backgrounds who expected to finish 2 or 4 year college were much more likely to achieve academically than their counterparts from non-disadvantaged homes with the same expectation

FACTORS ASSOCIATED WITH GREATER CHANCES OF ACADEMIC SUCCESS

- Students attending schools with fewer disadvantaged students were much more likely to achieve academic success than those at schools with a large proportion
- learning time plays a crucial role in academic achievement of students of disadvantaged students

resilience in mathematics

RESILIENCE IN MATHEMATICS

- resilience in mathematics is student reflexivity in making the decision when encountering a new situation.
- mathematics learning requires reflective works and think out of the box

- Some of researchers use model to represent academic resilience in mathematics subject the model of Self-Efficacy, Coping Skills and Educational Aspiration (Hope)

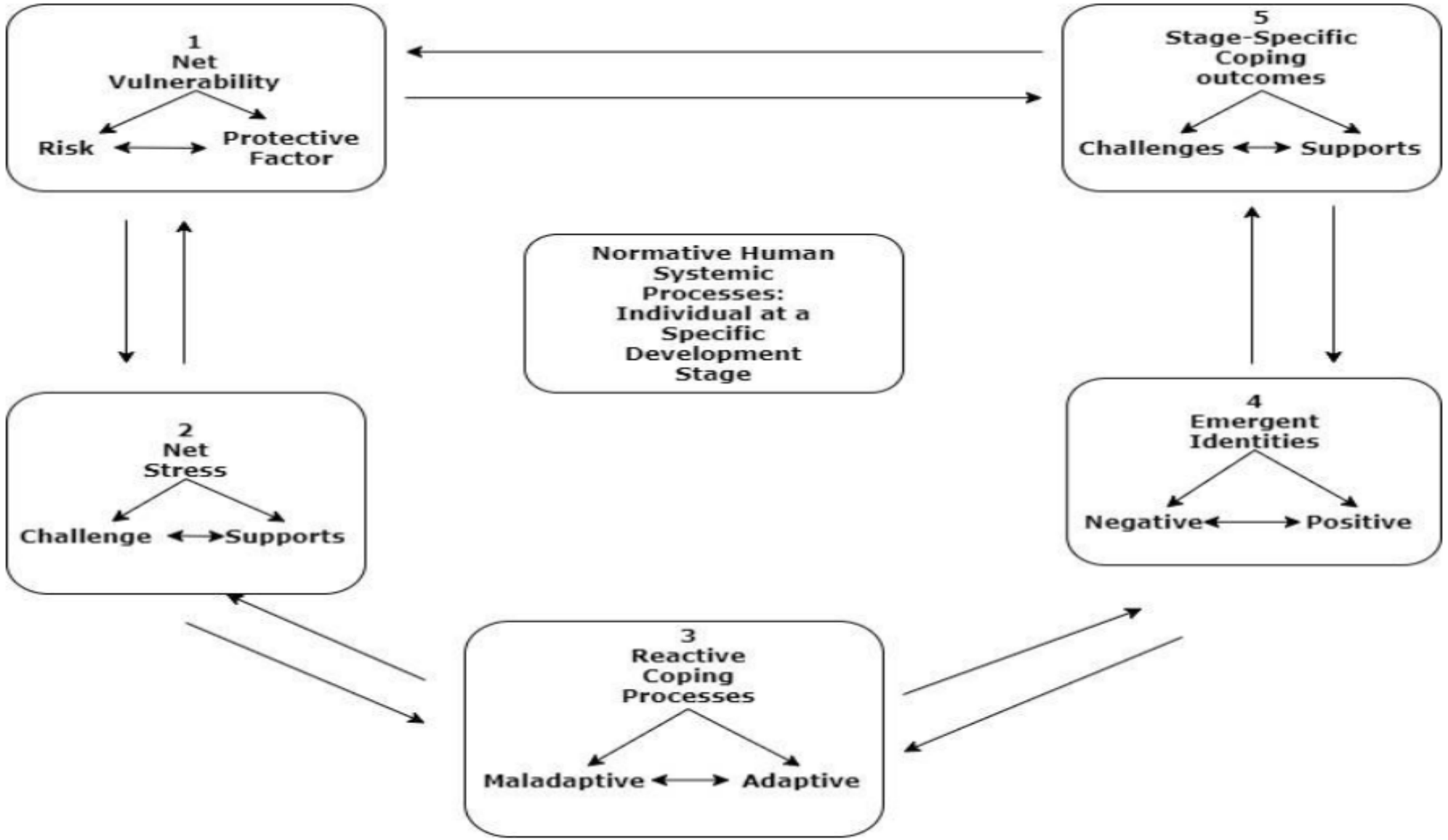

Figure 2. Phenomenological Variant of Ecology Systems Theory (PVEST)

- When a student exhibits mathematical resilience, he or she will be characterized by a growth mindset.
- A growth mindset is a belief where with desire and effort, everyone can learn mathematics.
- It emphasizes the ability of the brain to develop with skills and resilience when the faced problem It is a change from "I cannot" to "I can."

FACTORS ASSOCIATED WITH BETTER RESILIENCE IN MATHEMATICS

- little time spent on math homework was associated with poor achievement
- homework set for over 3 hours a week did not substantially improve achievement in mathematics

- Results of a study :after10 weeks of class, and then reported on instructor rapport, classroom connectedness, academic resilience, and hope:
- Results revealed that when both instructor and peer relationships were considered together, only peer connectedness was significantly and positively associated with academic resilience and student hope when faced with an academic challenge.

- To change the mindset of a student in learning mathematics can be hard, especially when they already suffer anxiety and learner helplessness.

- This model will enable the learner to understand their feeling when they are working in solving a mathematical problem.

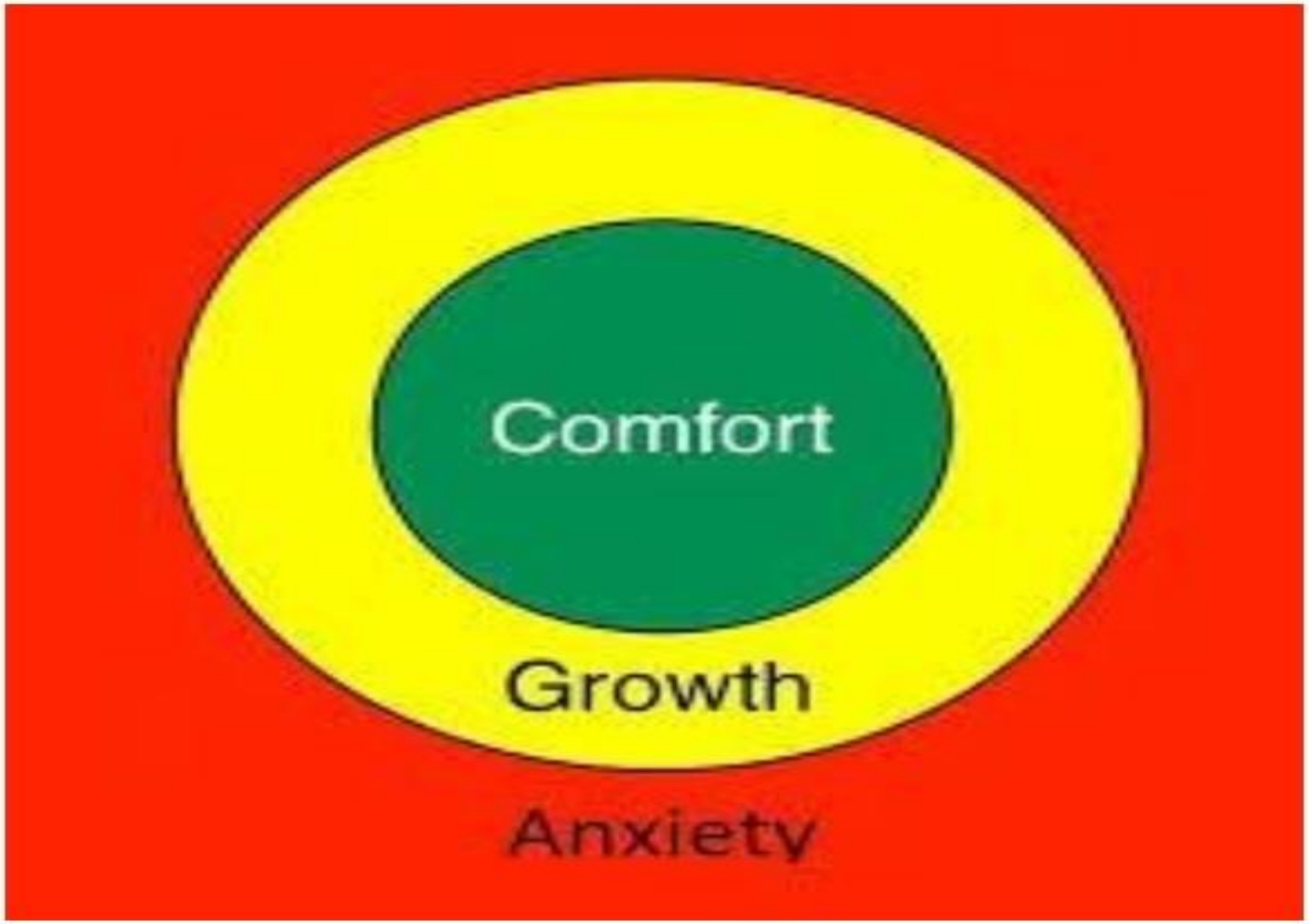

Figure 4. The growth zone model

- Based on the diagram, there are three zones, which are anxiety or danger zone, growth, and comfort zone:
- Anxiety or danger zone: Offline zone where learner encounters bad memories when learning which lead them to feel danger when talking about mathematics
- Growth zone: Learner able to learn and progress as more time taken in this zone. They will be challenged to some degree and generate some novel idea.
- Comfort zone: Learner will feel comfortable to work with mathematics and develop fluency in this subject

MATHEMATICAL RESILIENCE

- the resilience which allows a learner to approach their anxiety and allow them to learn.

MATHEMATICAL RESILIENCE

- The issue that relates to mathematical resilience is mostly related to anxiety and learner helplessness.
- For example, stated to overcome repeated failure among students, it is by implementing mathematical resilience in them.
- mathematic resilience maybe one of the solutions for mathematical anxiety problems.

MATHEMATICAL ANXIETY OR MATHEMATICS ANXIETY

- Mathematical anxiety or mathematics anxiety is the feeling of tension and stress when dealing with a number or solving mathematical problems in life

There are three effective domain to be a resilient mathematical learner which are:

- Value (consider experience learning mathematics is valuable)
- Struggle (recognize that everyone face hardship with mathematics)
- Growth (a belief that all people can develop mathematics skills)

TREAT FOR MATHEMATICAL RESILIENCE

- ✓ Coaching :
  - Peer mentoring
  - Problem-based learning
  - Cognitive behavior therapy

The end