

Concept Mapping: **A critical thinking exercise in community health nursing education**

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The Puzzle:

To be solved

Community Health Nursing Theory: Course goals

- 3rd year undergraduate students will:
 - Learn how to apply core community health concepts of population health and primary health care to nursing practice
 - Understand that creating health necessitates incorporation of an intersectoral approach
 - Improve analytical and critical thinking skills
 - Learn innovative techniques for strategic planning
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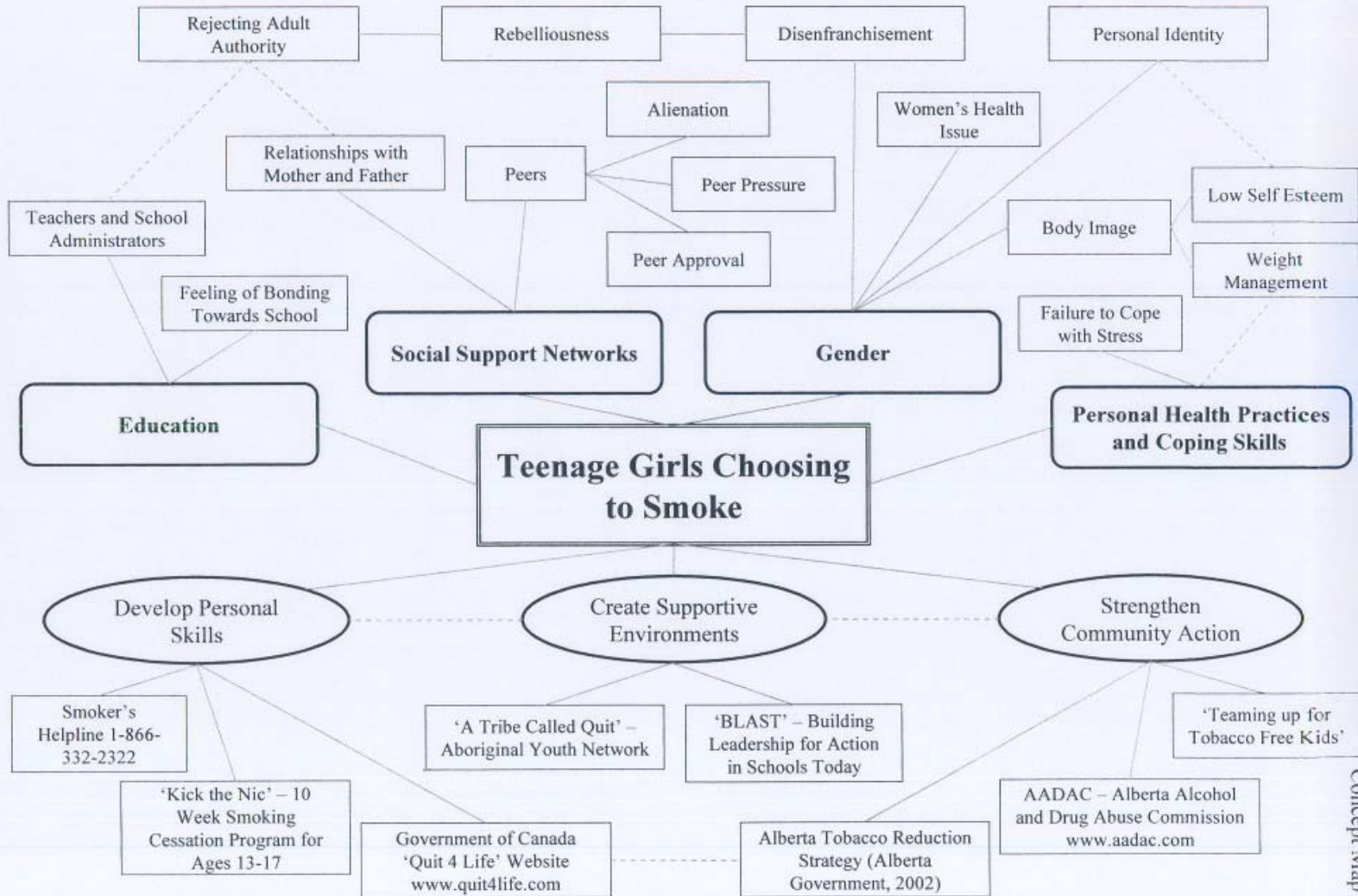
CONCEPT MAPPING

Definition

- to create a picture showing relationships between key concepts and sub-concepts
- most often accomplished using nodes with links and cross links

see example

How do we, as a community, address the root causes of adolescent female smoking and create supportive environments, which will help them to quit smoking or make the choice not to smoke?



Attributes of Concept Maps

- Provide meaningful learning as they assimilate new knowledge into existing cognitive structures
- Knowledge retention & transfer greater than:
 - reading text,
 - attending lectures,
 - participating in class discussions

(Verbal knowledge and visual spatial images reside in separate but potentially interlinked memory codes)

Meta-analysis by Nesbit & Adesope (2006)

More Attributes

- ❑ Information presented in a condensed manner without the loss of complexity and meaning
 - ❑ Inquiry based: Encourages critical thinking as students examine ideas and assumptions/beliefs
 - ❑ Appeals to visual learners and those with limited writing skills
 - ❑ Increases confidence applying knowledge in clinical work
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Assignment

- Draw a “link and node” diagram or picture representation incorporating the following 3 elements:
 - 1) Centering on a community-based vulnerable population
 - 2) Primary health care (PHC) principle(s) OR element(s) of the population health promotion model (PHPM)
 - 3) Risk/protective factors OR interventions
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Concept Map - Marking Rubric

- Title (2 marks)
 - Concept Map (12 marks)
 - To fit on one sheet (letter or legal sized paper)
 - Computer generated or hand drawn
 - Summary & Reference list (6 marks)
 - 250 Words
 - Reference list
 - Minimum 10 references
 - APA format
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Marking Rubric - Content

Title question

- Relevant to chosen vulnerable population group
 - Included three key elements
 - Community-based vulnerable population,
 - PHC principle(s) or PHPM
 - Risk/protective factors or interventions
-

Marking Rubric - Content

Concept Map

- Comprehensiveness of themes, concepts, sub-concepts and key words
 - Meaningful interrelationships demonstrated through pathways, links or pictures
 - Application of PHC or PHPM
 - Layout and general appearance
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Marking Rubric – Content

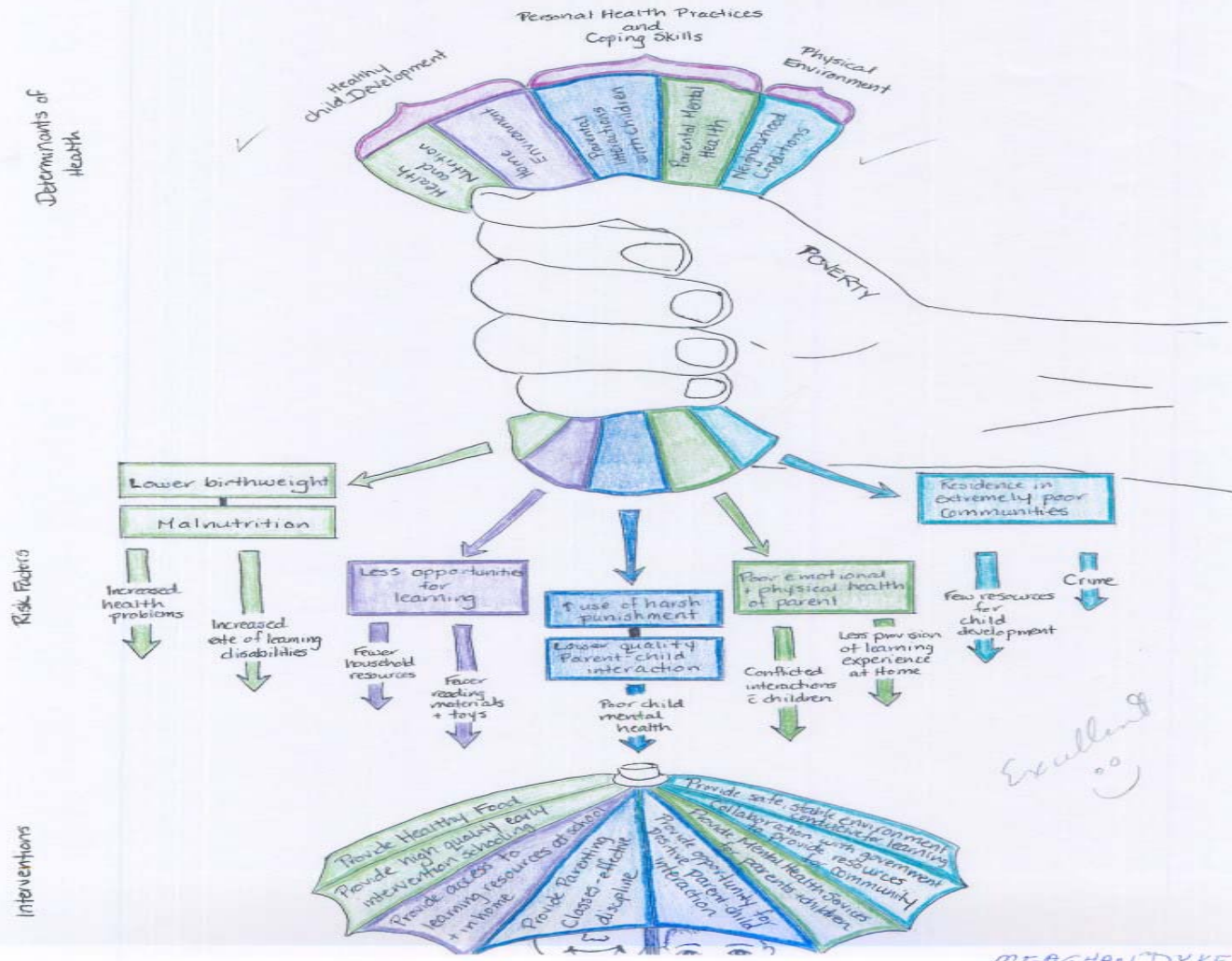
□ Summary (250 words)

- Concise, clear description and discussion of the concept map that shows depth of understanding of the integration of the 3 elements
 - Description of the Community Health Nursing theme demonstrated by the concept map
 - Core message of the concept map
 - APA format
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Examples of concept maps produced by the students.

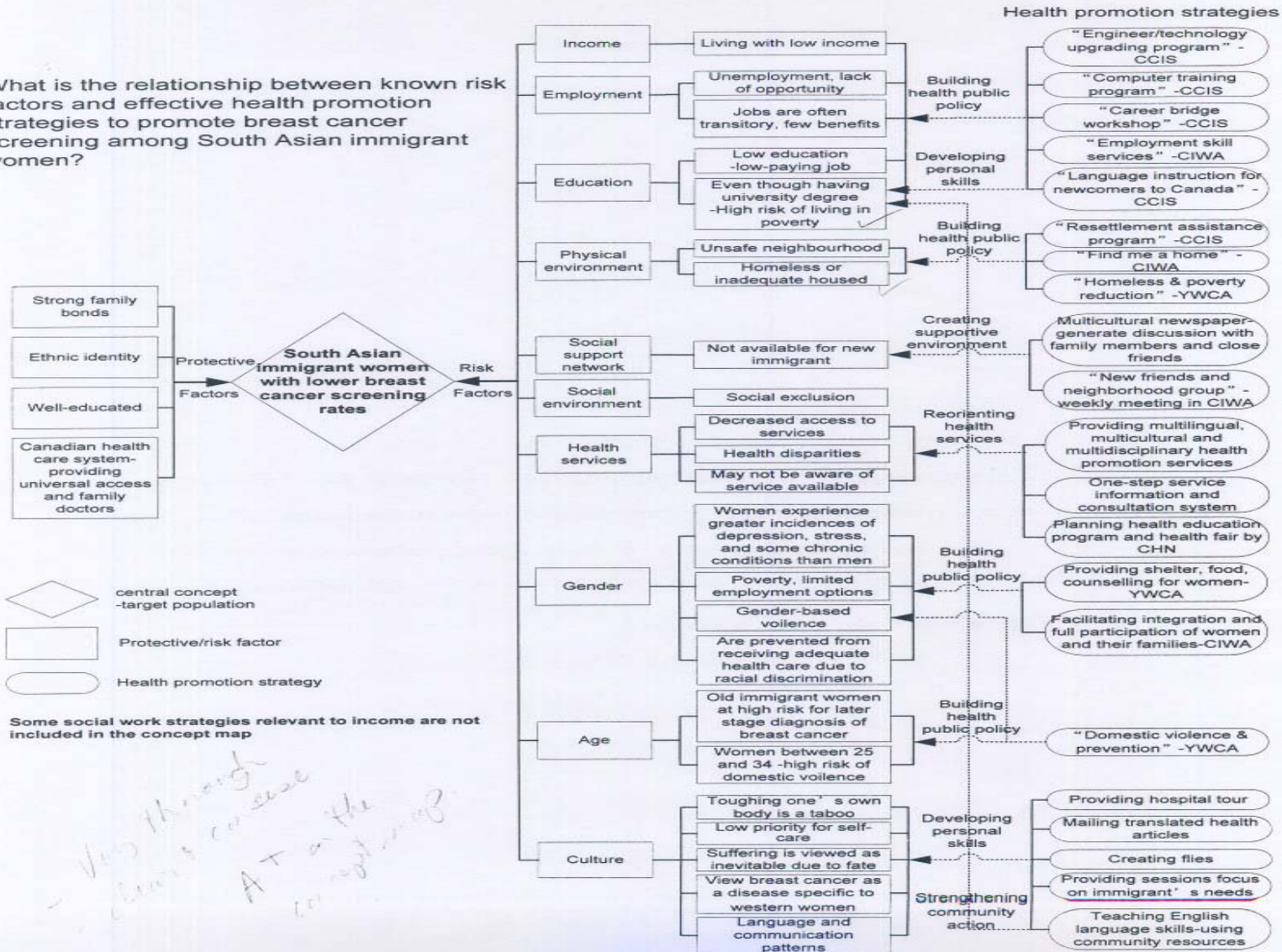
What is the relationship between known risk factors for parents and children living in poverty, and current recommended interventions to combat the effects of poverty on healthy child development, personal health practices and coping skills, and physical environment?

Figure 1: What is the relationship between the known risk factors for parents and children living in poverty and current recommended interventions to combat the effects of poverty on healthy child development, personal health practices and coping skills, and physical environment?



What is the relationship between known risk factors and effective health promotion strategies to promote breast cancer screening among South Asian immigrant women.

What is the relationship between known risk factors and effective health promotion strategies to promote breast cancer screening among South Asian immigrant women?



Some social work strategies relevant to income are not included in the concept map

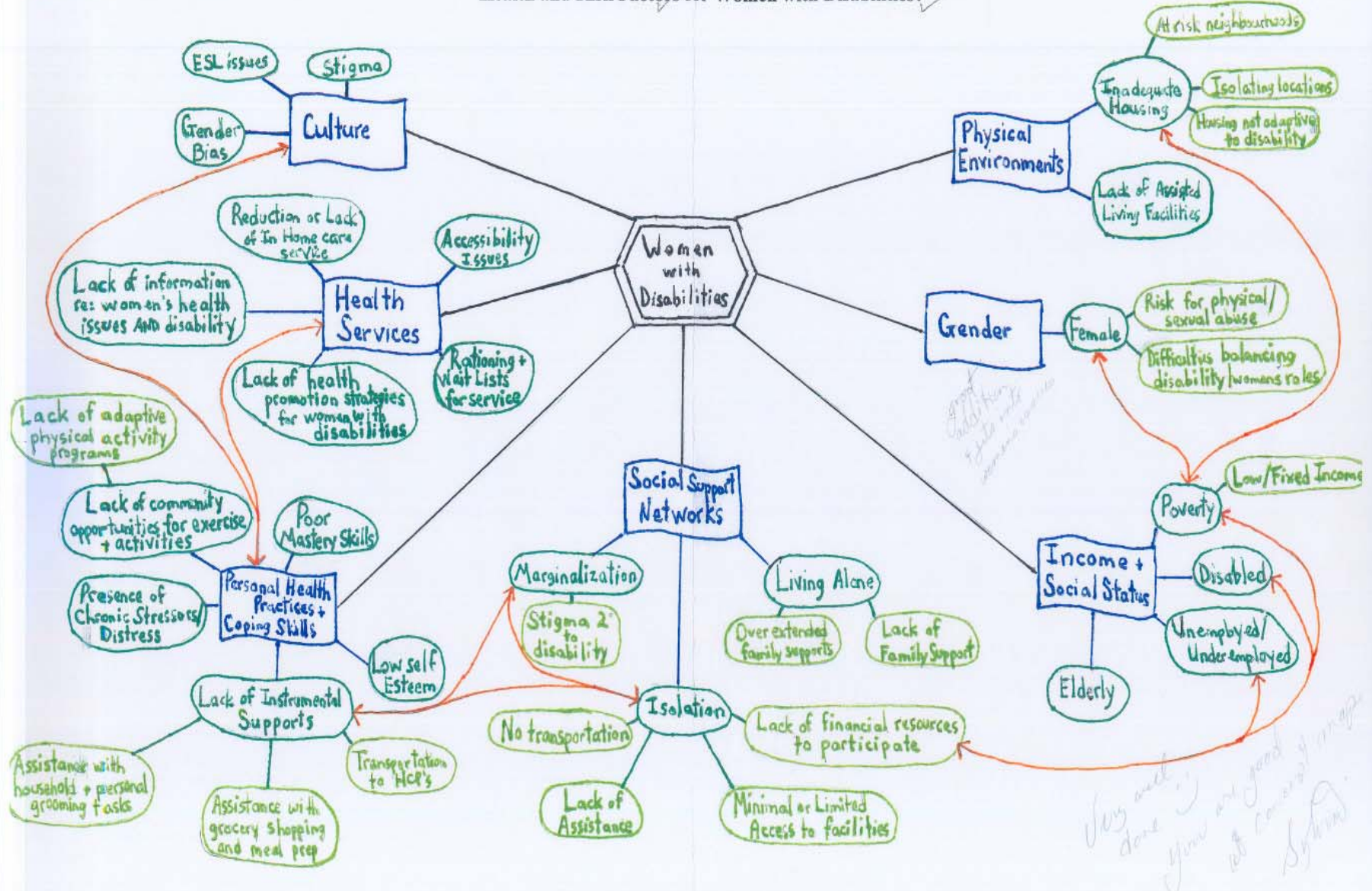
Very thorough about breast cancer AT on the concept map

WEIHUA LIU

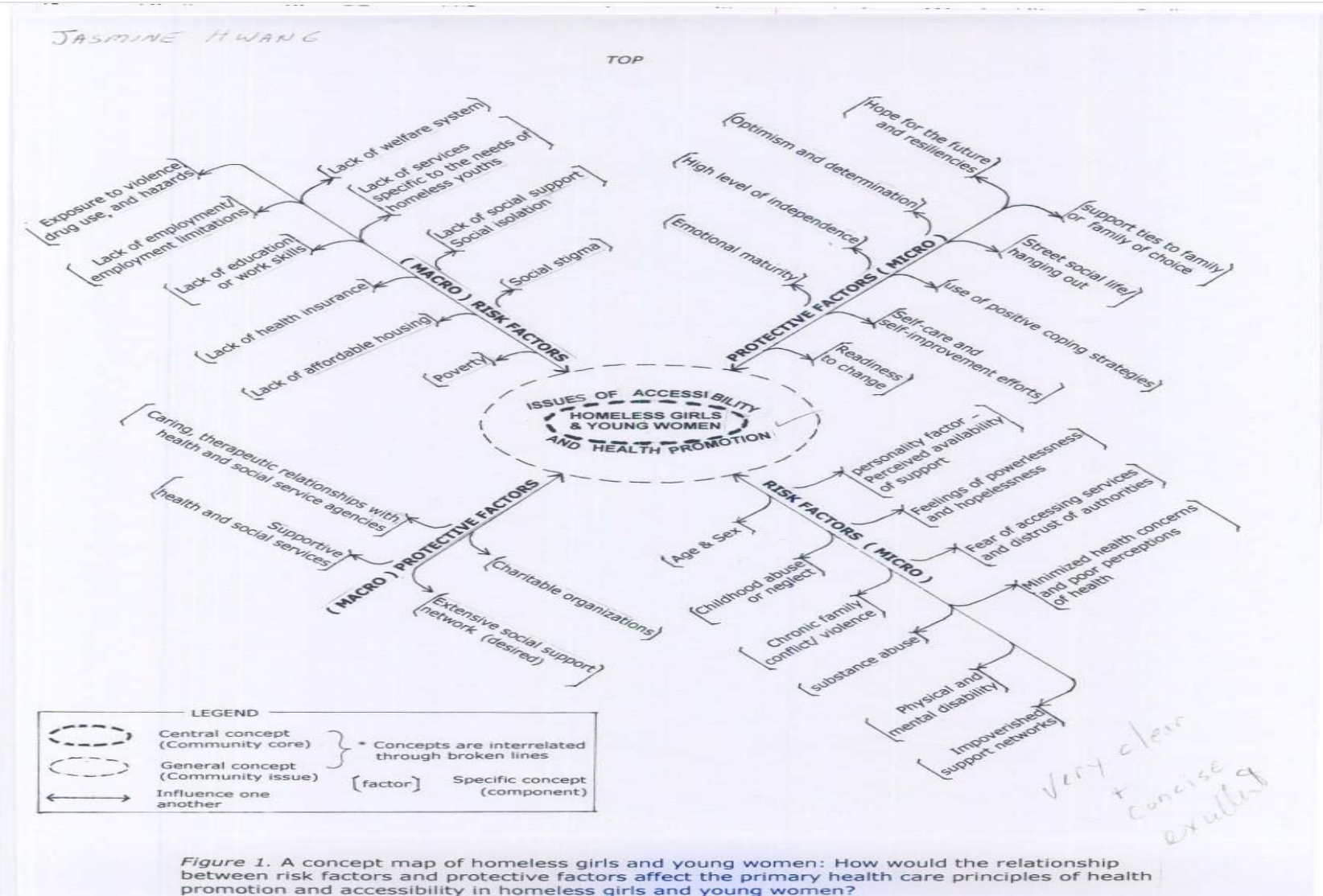
What are the relationships between relevant determinants of health, and risk factors for women with disabilities.

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What are the Relationships between the relevant Determinants of Health and Risk Factors for Women with Disabilities?

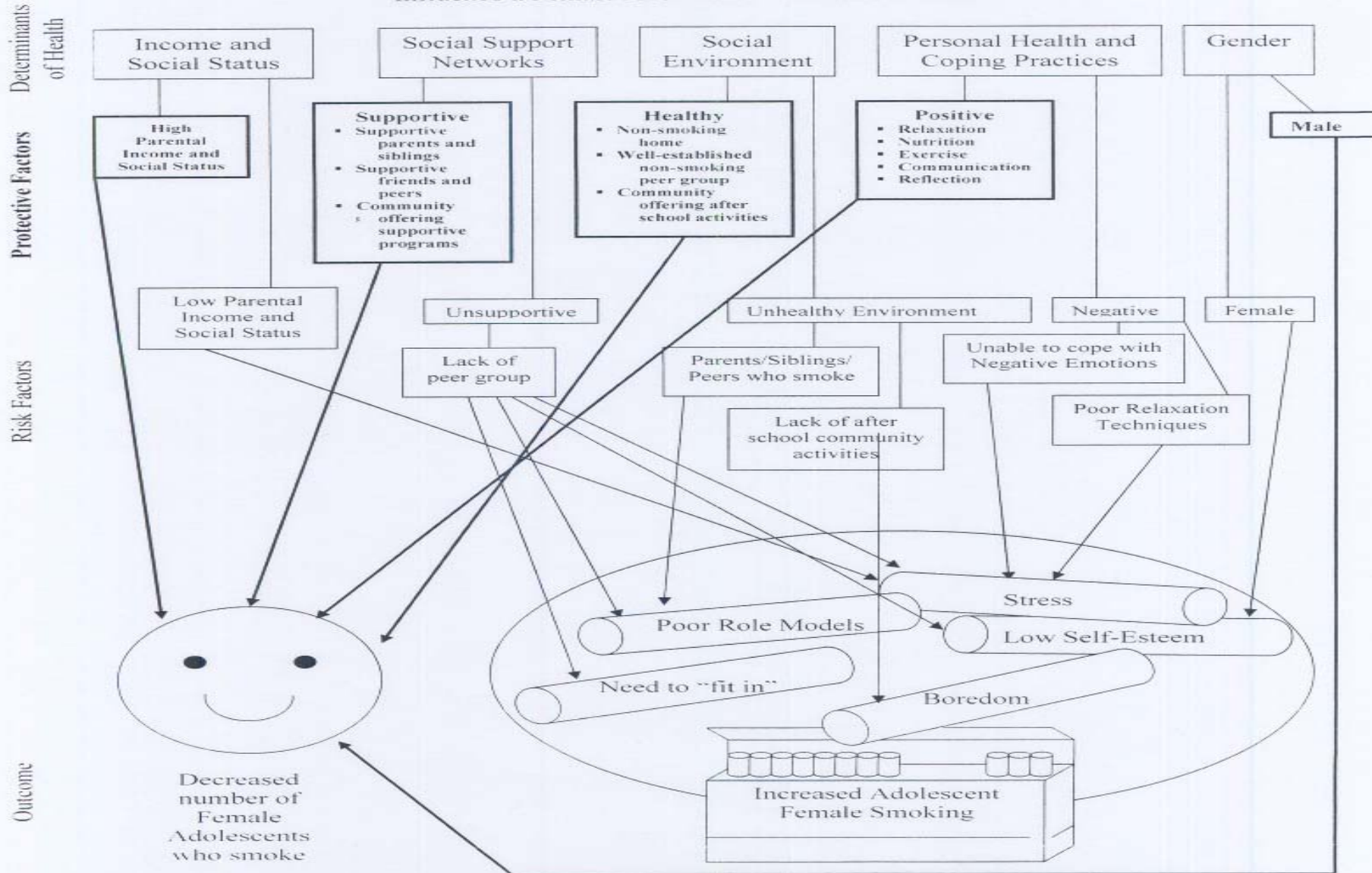


Issues of accessibility for homeless girls and young women and health promotion.



Protective and risk factors among the determinants of health that influence a female adolescent's decision to smoke.

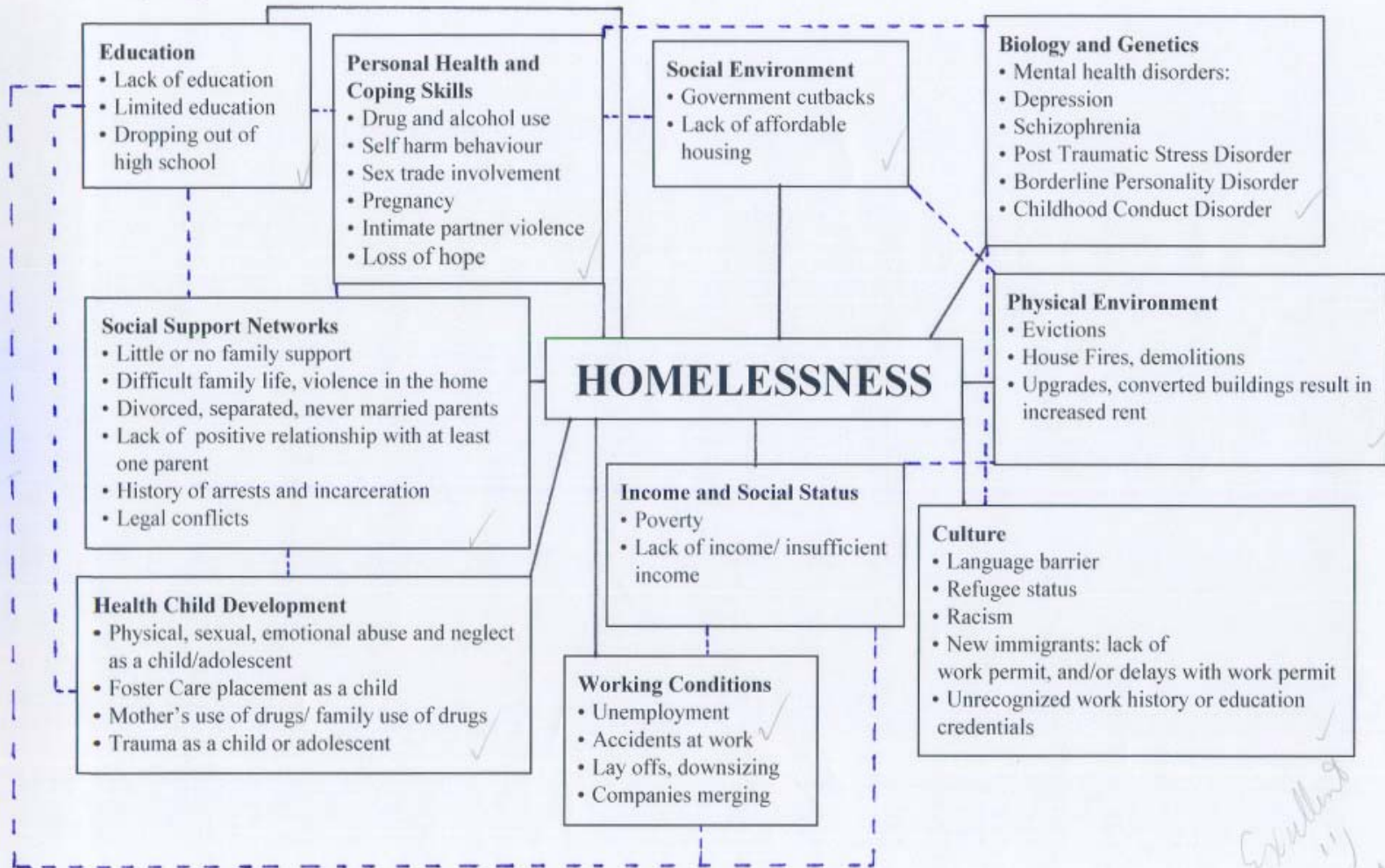
What are the Protective and Risk Factors Among the Determinants of Health that Influence a Female Adolescent's Decision to Smoke?



What determinants of health must be influenced to decrease the risk factors associated with homeless adults?

What determinants of health must be influenced in order to decrease the risk factors associated with homeless adults?

Concept Map



What are the determinants that affect adolescent mothers' ability to adequately parent?

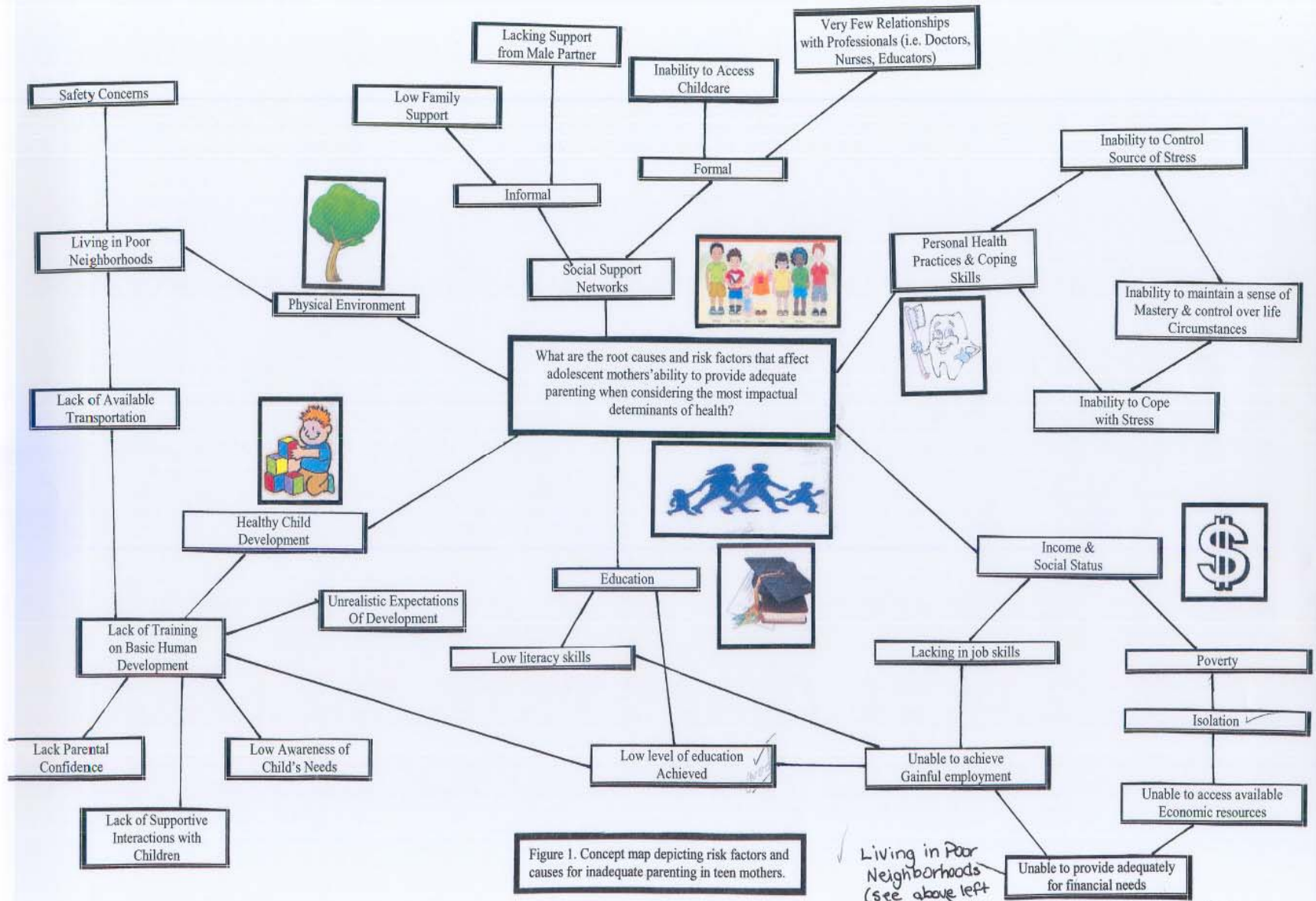


Figure 1. Concept map depicting risk factors and causes for inadequate parenting in teen mothers.

Student evaluations

- Total number of evaluations 79 (64%)
 - Bachelor of Nursing
 - Regular track students 39
 - Accelerated track students 40
(22 mo. after degree program)
 - Ages
 - 18 – 25 48 (60%)
 - 26 – 30 17 (22%)
 - 31 or older 13 (16%)
 - No response 1
-

Student evaluations

What did you learn creating a concept map that you might not have learned otherwise?

- “How many interrelated concepts there can be. A written assignment may not have shown how complex the concepts are.”
 - “I love concept maps. It is so much easier for me to retain the information understand it and apply it.”
 - “I was able to convey a multitude of ideas in one concept map that would have taken me 20 – 30 pages to explain in words.”
 - “I learned that the etiology of the issues/concerns are complex in nature and thus a comprehensive set of strategies are really needed if we want to address the root cause of issues.”
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Did the assignment challenge you to think about the applicability of the PHP or PHPM in nursing practice?

□ N = 79

- Assignment useful - highly useful 70 (88%)
- Minimally or not at all useful 9 (12%)

Positive: "It helped me see how they [models] can actually be applied in real life situations (case studies). I probably would not have thought about their usefulness otherwise."

Negative: "It was hard to see all the interrelatedness of some factors because it was hard to fit everything together and sometimes frustrating."

Do you think concept maps could be used in your preferred area of nursing practice?

□ N 79

- Applicable or highly applicable 72 (91%)
- Minimally or not at all 7 (9%)

Positive: "I think community theory applies to everything. You might always consider the Primary Health Care principles with all patients. It allows the nurse to see how the patient got into the situation that we will care for them in."

Negative: "I don't really see why I'd need to know concept maps."

Instructor Evaluation of Maps

- ❑ Demonstrated students understood and could apply the core principles of community health nursing
 - ❑ Students showed meaningful linkages and drew conclusions that led to topics such as social justice and equity (without instructor suggestion)
 - ❑ Assignments demonstrated critical thinking as students examined ideas and assumptions
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Instructor Evaluation

- ❑ “English as an additional language” students demonstrated greatest positive change in course grade.
 - ❑ Other nursing professors requested copies of some student concept maps for their instructional use.
 - ❑ Quicker to mark than written papers!
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Suggestions for future concept map assignments in community health:

- ❑ More guidelines for summary content
 - ❑ Planned tutorials rather than individual appointments with students who need assistance in understanding the assignment
 - ❑ Possibility for multiple part assignment.
 - Development of a question
 - Concept map
 - Paper
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Possibilities for research:

- Our questions were echoed by Nesbit & Adesope (2006) meta-analysis:
 - The impact to learning outcomes beyond conventional achievement tests and more immediate free recall
 - In relation to assessing students with second languages or those identified as having reading and/or language difficulties
 - Effectiveness in small group or whole classroom teaching situations.
 - Does age/previous education of students impact usefulness as a learning/evaluation tool.
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Summary

- Core concepts of community health models
 - Intersectoral approach
 - Analytical and critical thinking skills
 - Innovative techniques for strategic planning
 - Student evaluation positive
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Reference List

- ❑ All, A. C., & Havens, R. L. (1997). Cognitive/concept mapping: A teaching strategy for nursing. *Journal of Advanced Nursing*, 25, 1210 – 1219.
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 - ❑ Taylor, J. & Wros, P. (2007). Concept mapping: A nursing model for care planning. *Journal of Nursing Education*, 46(5), 211-216.
 - ❑ Wheeler, L. A., & Collins, S. K. R. (2003). The influence of concept mapping on critical thinking in baccalaureate nursing students. *Journal of Professional Nursing*. 19(6), 339-346.
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