Schools and Adolescent Development

Jacquelynne S. Eccles

University of Michigan

Presentation given at
Chinese University of Hong Kong
February 2004
What About Schools and Teachers?

- There is Extensive Work on the Influence of Schools and Teachers on Students’ Academic Achievement and More General Socio-emotional Development

- Much More than I can Discuss Today

- I’ll Focus on Just One Effect – The Decline in Students’ School Motivation as They Move Through School
Changes in Motivation Associated with Transition into Adolescence

- Decline in General Interest in School
- Increase in Extrinsic Motivational Orientation
  - Work for Grades and Tests
- Decrease in Intrinsic Motivational Orientation
  - Work for Enjoyment of Subject and Desire to Learn
- Increase in Test Anxiety and in the Relation of Test Anxiety to School Performance and Intrinsic Motivation
Changes in Motivation Associated with Transition into Adolescence 2

- Decline in Confidence in Some Academic Disciplines
  - Math and Physical Science for Many Students
  - Literacy-Related Subject Areas for Some Students

- Decline in Subjective Task Value attached to Some Academic Disciplines
  - Math and Physical Science for Many Students
  - Literacy-Related Subject Areas for Some Students
Changes in Motivation Associated with Transition into Adolescence 3

- Increase in Endorsement of View that Ability is Stable Entity rather than Incremental Skill (Dweck)

- Increase in Ego-Focused and Performance-Oriented Motivation (Nicholls, Ames, Midgley, Maehr, Elliott)
  - Focus on Doing Better than Others
  - Focus on Avoiding Doing Worse than Other

- Decline in Mastery Motivation
  - Focus on Learning to be Learning
# Change in Mental Health Indicators During Early Adolescence

## General Affective Experience

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Concerns/Anxiety</td>
<td>Increase Grade 6 to 9</td>
</tr>
<tr>
<td>Inner Conflict/Negative Affect</td>
<td>Slight Increase Grades 4 to 9 Increase Greatest for High Stress Youth</td>
</tr>
<tr>
<td>Stress</td>
<td>Increase Grades 7 to 10; Girls&gt;Boys</td>
</tr>
<tr>
<td>Loneliness</td>
<td>Stable Grades 1 to 6; Increases in Adolescence</td>
</tr>
<tr>
<td>Self-Consciousness</td>
<td>Slight Increase Grades 6 and up</td>
</tr>
<tr>
<td>Perceived Anonymity/Victimization</td>
<td>Trend is unclear</td>
</tr>
<tr>
<td>Feelings of Belonging in School</td>
<td>Lowers Middle vs. Elementary Students</td>
</tr>
</tbody>
</table>

## General Self-Perceptions

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Esteem</td>
<td>Trend is unclear; first drops and then increases in High School</td>
</tr>
<tr>
<td>Change in Mental Health Indicators During Early Adolescence</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>

**Depression and Suicide**

<table>
<thead>
<tr>
<th>Depressive Symptomatology</th>
<th>Increases During Early Adolescence; Girls&gt;Boys</th>
</tr>
</thead>
</table>

**Suicide Attempts and Completions**

<table>
<thead>
<tr>
<th>Increases During Adolescence</th>
</tr>
</thead>
</table>

**Problem Behaviors**

<table>
<thead>
<tr>
<th>Overall Problem Behaviors</th>
<th>General Decline with Age in Non-Referred Young Adults; Trend from Externalizing to Internalizing Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delinquency-Truancy-Suspension</td>
<td>Increases Beginning in Early Adolescence; Boys&gt;Girls</td>
</tr>
</tbody>
</table>

| Substance Use/Abuse (e.g. cigarettes, alcohol, marijuana, ect.) | Increases Across Adolescence |
Why?

- Most common explanations focus on the biological changes associated with puberty
- Alternatively we could look to shared social transitions
- For example, let us consider the transition into secondary school
Few studies available to distinguish between these hypotheses

Robert Simmons and Dale Blyth’s work

- Compared adolescents moving through two types of school systems in same city
  - K-8, 9-12 (ages 6-14; 15-18) versus
  - 1-6, 7-9, 10-12 (ages 6-12, 13-15, 16-18)

First compared self esteem changes:
- Found transitional effects for girls only
Self Esteem Data From Simmons & Blyth – Girls Only

School Year

Self Esteem

K-8 Girls
JHS Girls
Simmons’ Explanation for Gender Differences

- At this age, girls are at the height of pubertal development
- Stress theories suggest that dealing with multiple changes is more difficult than dealing with single life changes
- Therefore, the Junior High School Transition should be more stressful for girls than for boys
On the one hand, her self esteem findings are consistent with this interpretation and she has other data showing that the declines in self esteem at this age are directly linked to the number of other life transitions such as geographical moves, marital disruptions, and family deaths. BUT the gender differences in the patterns of change are not consistent ...
NEGATIVE EFFECTS OF K-6, 7-9 STRUCTURE VERSUS K-8 STRUCTURE

1. GIRLS’ SELF-ESTEEM DECLINES
2. GPA DECLINES
3. EXTRACURRICULAR ACTIVITIES DECLINES
4. LEADERSHIP ROLES DECLINE
5. BOYS SENSE OF BEING VICTIMIZED INCREASES
6. FEELINGS OF ANONYMITY INCREASE
Nonetheless

Simmons’ work did point the importance of thinking about school transitions in terms of issues of coping.

Need to consider aspects of the situation and the individual if we are to understand how well people cope with transitions

- Multiple transition harder than single transition
- Psychological and maturational readiness for transition is important
- Psychological strengths and vulnerabilities are important
Eccles and Midgley Stage Environment Approach

- We argued that it is not the transition itself that matters but the nature of that transition.
- Person Environment Fit theories suggest that
  - People are optimally motivated with there is a good fit between the needs of the individual and the opportunities provided by the environments in which they must work, live, and study
  - Bad fits lead to less than optimal motivation and mental health problems
Stage Environment Fit

- Perhaps the motivational changes seen during this age period reflect the fact that we force young people to move from a good fitting elementary school environment to a poor fitting secondary school environment.
Environmental Changes in School Level Characteristics

- Increase in School Size
- Increase in Curricular Departmentalization
- Increase in Formal Bureaucratic Structures
“Personally, I think this new attendance system stinks.”
<table>
<thead>
<tr>
<th>CRSE</th>
<th>LOC</th>
<th>TCHR</th>
<th>TM</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHMTRY</td>
<td>ZRG</td>
<td>GLT</td>
<td>8:??</td>
</tr>
<tr>
<td>SPNSH</td>
<td>PQ22</td>
<td>BRPL</td>
<td></td>
</tr>
<tr>
<td>STDHLL</td>
<td>PLRT</td>
<td>ZGLK</td>
<td></td>
</tr>
<tr>
<td>MTRY</td>
<td>FLND</td>
<td>SNRT</td>
<td></td>
</tr>
<tr>
<td>LNCH</td>
<td>CFTR</td>
<td>HLKL</td>
<td></td>
</tr>
<tr>
<td>BLGY</td>
<td>BLP</td>
<td>THP</td>
<td></td>
</tr>
<tr>
<td>TRGY</td>
<td>VSH</td>
<td>JRP</td>
<td></td>
</tr>
</tbody>
</table>

Basically, Bob didn’t have a clue what courses he was taking or where he was supposed to be.
Building Level and Classroom Level Changes

- These types of building level changes lead to other changes at both the building and classroom level
  - Decrease in Teachers’ Trust of Students
  - Increase in Teachers’ Concern with Control
  - Decrease in Teachers’ Sense of Efficacy
  - Decrease in Opportunity for Close Student-Teacher Relationships to Form
Students at Milfoil High weren’t too fond of the new hall passes.
In Turn

- Decrease in Student Autonomy
- Decrease in Student Participation in Classroom Decision Making
Other Building Level and Classroom Level Changes

- **Focus on Sorting and Testing**
  - More Rigorous Grading Practices Based on Normative Performance

- Increase in Use of Extrinsic Motivational Strategies

- More Whole Class Instruction Techniques

- More Ability Grouping
18 “C” answers in a row! That’s impossible! But I know they’re right! But they can’t be!

What’s going on?! Every answer so far is “C”!

Something is seriously messed up here!

The year the S.A.T. creators decided to mess with students’ minds.
All of which are likely to lead to increases in:

- Students’ Focus on Ability as a Stable Entity
- Students’ Ego- rather than Mastery-focused Motivation
Other Building Level and Classroom Level Changes

- Disruption of Peer Networks


Conclusions

- Research suggests that there are systematic differences in the building level and classroom level environmental characteristics of 6th grades in elementary schools and 7th grades in junior high schools.

- Furthermore, these changes are directly at odds with the developmental needs of early adolescence.
DEVELOPMENTAL CHARACTERISTICS
OF EARLY ADOLESCENTS

- Increased Desire for Autonomy
- Increased Salience of Identity Issues
- Continuing Need for Safe Environment in which to explore Autonomy and Identity
- Increased Peer Orientation
- Increased Importance of Heterosexuality
- Increased Self-Focus and Self-Consciousness
- Increased Cognitive Capacity with Movement toward Formal Operational Thought
- Physical and Hormonal Changes Associated with Pubertal Development
Michigan Study of Adolescent Life Transitions (MSALT)

U of M Affiliated Investigators:

**Waves 1-4**
Jacque Eccles  
Carol Midgley  
Allan Wigfield  
Jan Jacobs  
Connie Flanagan  
Harriet Feldlaufer  
David Reuman  
Doug MacIver  
Dave Klingel  
Doris Yee  
Christy Miller Buchanan

**Waves 5-8**
Jacque Eccles  
Bonnie Barber  
Lisa Colarossi  
Deborah Jozefowicz  
Pam Frome  
Sarah Lord  
Robert Roeser  
Laurie Meschke
OVERVIEW OF DESIGN AND SAMPLE:
Michigan Study of Adolescent Development—MSALT

DESIGN:
On-going Longitudinal Study of One Birth Cohort
Data Collected in Grades 6, 7, 10, 12; and again at Ages 20 and 25
Data Collected from Adolescents, Parents, and School
Survey Forms and Observations

SAMPLE:
Nine School Districts
Approximately 1,200 Adolescents
Approximately 90% White
Approximately 51% Female
Working/Middle Class Background
### MSALT Study Design

<table>
<thead>
<tr>
<th>W1</th>
<th>W2</th>
<th>W3</th>
<th>W4</th>
<th>W5</th>
<th>W6</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th Grade</td>
<td>7th Grade</td>
<td>10th Grade</td>
<td>12th Grade</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Students**
- N = 3135
- N = 1492
- N = 1384

**Districts**
- N = 12
- N = 6
- N = 9

**Classrooms**
- N = 117
- N = 131
- ----
- ----
MSALT Results

- First, I’ll summarize the teacher differences we found between 6th and 7th grade teachers (before and after the junior high school transition)

- Second, I’ll summarize the relation of these changes to changes in the students’ school-related motivation for mathematics
Observed Classroom Environment

- Whole Class
- Coop.
- Compare

- 6th Grade
- 7th Grade
Teacher Rates Student Decision-Making Opportunities

- Making Opportunities
  - 6th Grade
  - 7th Grade

Percent Yes

Where Sit  Classwork  Making Rules  Do Next
Relation of Teacher Sense of Efficacy to Student Expectations for Own Performance in Math

- Created Four Groups of Students Based on Change in Teachers’ Sense of Efficacy as They Moved from 6th to 7th Grade
  - LOW TO LOW = 35%
  - HIGH TO HIGH = 14%
  - HIGH TO LOW = 38%
  - LOW TO HIGH = 13%
Teacher Sense of Efficacy and Students’ Self Expectations

- Found Significant Effects Primarily for Those Students for Whom Their 6th Grade Teachers had the Lowest Performance Expectations
Teacher Sense of Efficacy and Students’ Self Expectations

![Graph showing the comparison between Teacher Sense of Efficacy and Students’ Self Expectations over different periods (Fall 6th, Spring 6th, Fall 7th, Spring 7th) for Low Low and Low High categories. The graph indicates a downward trend for Low Low category and an upward trend for Low High category.]
Teacher Sense of Efficacy and Students’ Self Expectations

- High High
- High Low

**Graph Details:**
- **Y-axis:** Ranges from 40 to 58.
- **X-axis:**
  - Fall 6th
  - Spring 6th
  - Fall 7th
  - Spring 7th
Perceived Teacher Support and Students’ Intrinsic Valuing of Math
Conclusions

- Changes in students’ school-related motivation are directly linked to the nature of the changes the students experience in their classroom environments as they make the junior high school transition.

- The patterns of results are consistent with our Stage – Environment Fit Theory or rather our Stage – Environment Misfit Theory
Individual Differences

- Already Noted That We Only Got the Impact of the School Transition for Students’ Self Expectations for the Low Ability Students

- Are There Other Individual Differences that Might Effect Susceptibility to the Junior High School Transition Effect?
SIMMONS & BLYTH
MOVING INTO ADOLESCENCE

PROTECTION FACTORS

1. CONFIDENCE IN ONE'S LOOKS
2. CONFIDENCE IN ONE'S POPULARITY
3. LOW PRIOR PROBLEM BEHAVIORS
4. BEING MALE
5. AVERAGE OR BETTER PRIOR ACHIEVEMENT
6. LOW NUMBER OF OTHER SIMULTANEOUS TRANSITIONS
This work suggests that there are both risk factors and protective factors:

- **Risk Factors**
  - Low Prior Achievement
  - Test Anxiety
  - Social Anxieties

- **Protective Factors**
  - Confidence in One’s Academic and Social Abilities
Figure 1

THE EFFECT OF STUDENTS' ACADEMIC AND NON-ACADEMIC BELIEFS ON POST-TRANSITION SELF-ESTEEM (WAVE 3)

ACADEMIC
- Confidence in academic ability
- Scared by math
- Nervous during math tests
- Nervous when grades handed out
- Don’t like being called on
- Embarrassed when teacher corrects

NON-ACADEMIC
- Estimate of one's good looks
- Confidence in friend making
- Estimate of one's popularity
- Confidence in sports ability
- Worry will lose friend
- Worry kids not like doing
- Worry not popular
- Wonder what others think of you

VARIANCE EXPLAINED IN POST-TRANSITION SELF-ESTEEM

All of these results were replicated at Wave 4
Other Risk and Protective Factors

- Family Level
  - Support for Autonomy versus Excessive Control
  - Close Relationships versus Hostile Relationships
THE EFFECTS OF PARENTS' AND CHILDREN'S PERCEPTIONS OF FAMILY ENVIRONMENT ON CHILDREN'S WAVE 3 SELF-ESTEEM

PROTECTIVE FACTORS

PARENTS' PERCEPTIONS
- Parents encourage child to give ideas and opinions
  - $b = .061^{**}$
- How often do you take part in family decisions
  - $b = .051^{**}$
- How are decisions made in your family?
  - $b = .064^{**}$
- Listening to my child helps me reach better decisions
  - $b = .047^*$
- How we arrive at decisions
  - $b = .054^*$
- I trust my child to do what I expect without checking up on him/her
  - $b = .056^*$

CHILDREN'S PERCEPTIONS
- How strict are your parents?
  - $b = -.060^{**}$
- I feel my parents treat me more like a little kid
  - $b = -.079^{**}$
- I have a lot of fights with my parents about their rules and decisions for me.
  - $b = -.091^{**}$
- My parents get upset if I disagree with them when their friends are around
  - $b = -.060^{**}$

RISK FACTORS

PARENTS' PERCEPTIONS
- My child often argues about my rules and decisions
  - $b = -.056^*$

VARIANCE EXPLAINED IN POST TRANSITION SELF-ESTEEM (WAVE 3)

Highlighted Items Replicated in Wave 4

Self-Esteem Wave2 Academic Ability Predictor
Table 1
Change in Total Variance Explained in post-transition Self-Esteem

<table>
<thead>
<tr>
<th>STEP</th>
<th>Change R2</th>
<th>Change F</th>
<th>F model</th>
<th>B model</th>
<th>Change R2</th>
<th>Change F</th>
<th>F model</th>
<th>B model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Esteem 2</td>
<td>.257</td>
<td>631.9*** 631.9***</td>
<td>.338***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>.01</td>
<td>25.1*** 332.7***</td>
<td>N.S.</td>
<td></td>
<td>.011</td>
<td>26.7*** 328.4</td>
<td>N.S.</td>
<td></td>
</tr>
<tr>
<td>Ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3: Self-Concepts</td>
<td>.034</td>
<td>18.0*** 112.3***</td>
<td>.042***</td>
<td>N.S.</td>
<td>.025</td>
<td>13.2*** 106.3***</td>
<td>.051***</td>
<td>N.S.</td>
</tr>
<tr>
<td>Appearance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math</td>
<td>.063***</td>
<td>.032*</td>
<td></td>
<td></td>
<td>.041**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4: Worries</td>
<td>.02</td>
<td>9.05*** 66.3**</td>
<td></td>
<td>.059***</td>
<td>.048</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-conscious: social</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-conscious: academic</td>
<td></td>
<td></td>
<td></td>
<td>N.S.</td>
<td>.041*</td>
<td>.053</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Worried: social</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N.S.</td>
<td>N.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Worried: academic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N.S.</td>
<td>N.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nervous: english</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N.S.</td>
<td>N.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nervous: math</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N.S.</td>
<td>N.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5: Family environment</td>
<td>.02</td>
<td>25.6*** 62.4***</td>
<td></td>
<td>.105***</td>
<td>-.078***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent-adolescent mismatch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democratic decision-making</td>
<td>.069**</td>
<td>.099***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 6: Gender</td>
<td>N.S.</td>
<td>N.S.</td>
<td>---</td>
<td>N.S.</td>
<td>.001</td>
<td>4.24* 55.8***</td>
<td>-.027*</td>
<td>N.S.</td>
</tr>
<tr>
<td>Total R2=.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total R2=.33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Column 1 shows variables entered at each step of the multiple regression model.
2. Columns 2 and 3 indicate the changes in R2 and the F value and the significance for each step.
3. Column 4 is the F value for the whole model with each additional step.
4. Column 5 indicates the unstandardized regression coefficient for each variable with all variables in the model.
COPING WITH TRANSITIONS

DIFFICULTY DEPENDS ON

CHARACTERISTICS OF THE TRANSITION

TIMING
DEVELOPMENTAL READINESS
NATURE OF THE NEW SCHOOL ENVIRONMENT
PERSON - ENVIRONMENT FIT
ABRUPTNESS OF THE CHANGE
DISCONTINUOUS VERSUS GRADUAL CHANGE
NORMATIVE VERSUS NON-NORMATIVE

CHARACTERISTICS OF THE INDIVIDUALS
STATUS PRIOR TO SCHOOL TRANSITION
COPING SKILLS
NUMBER OF OTHER STRESSES OR TRANSITIONS

OUTCOME BEING MEASURED
Study 2

- Maryland Adolescent Growth In Context – MADICS

- Look more closely at the impact of classroom characteristics on change in students’ motivation and mental health
Contributors to the Maryland Adolescent Development in Context Study (MADICS)

- Jacquelynne Eccles, PI
- Arnold Sameroff, PI
- W. Todd Bartko
- Elaine Belansky
- Diane Early
- Kari Fraser
- Leslie Gutman
- Yael Harlap
- Katie Jodl
- Ariel Kalil
- Linda Kuhn
- Alice Michael
- Melanie Overby
- Stephen Peck
- Katherine Rosenblum
- Robert Roeser
- Sherri Steele
- Erika Taylor
- Cynthia Winston
- Carol Wong
Sample

Respondent characteristics:
- African-American
- N=625
- Average age = 11 at Wave 1
- Seventh grade at W 1
- 53 % male
- Data being presented today is from waves 1, 3, and 4; Grades 7, 8-9, 11-12

Family background:
- Median Family Income (1993): $50-55,000
- Highest Education: 38% College Degree
- Highest Occupation:
  - 44% Skilled
  - 30% Professional
Longitudinal Mixed Methods

- Face-to-face, in home interviews with youth and their parents which included both close-ended and quite open-ended questions
- Self-administered questionnaires with youth and their parents
- Open-ended phone interviews with youth and their parents
- Repeated intensive interviews with a subset of the youth
## School Achievement, Attendance & Motivation In MADICS

<table>
<thead>
<tr>
<th>Metric</th>
<th>7th Grade</th>
<th>8th Grade</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Point Average</td>
<td>3.67</td>
<td>3.63</td>
<td>(ns)</td>
</tr>
<tr>
<td>Days Absent from School</td>
<td>9.35</td>
<td>10.78</td>
<td></td>
</tr>
<tr>
<td>Academic Competence Beliefs</td>
<td>5.36</td>
<td>5.23</td>
<td></td>
</tr>
<tr>
<td>Academic Importance Beliefs</td>
<td>4.05</td>
<td>3.91</td>
<td></td>
</tr>
<tr>
<td>Academic Utility Beliefs</td>
<td>5.49</td>
<td>5.15</td>
<td></td>
</tr>
</tbody>
</table>
School Problem Behaviors
Seventh and Eighth Grade

- Sent to Principal’s Office
- Cheated on Tests
- Suspended from School
- Skipped Class
- Brought Drugs/Alcohol
- Expelled from School

Percent Mentioning Once in Two Chances

- Seventh Grade
- Eighth Grade
<table>
<thead>
<tr>
<th>INFLUENCES</th>
<th>PSYCHOLOGICAL</th>
<th>OUTCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDIATORS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCHOOL CULTURE</td>
<td>COMPETENCE</td>
<td>STUDENT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MENTAL HEALTH</td>
</tr>
<tr>
<td>CLASSROOM</td>
<td>AUTONOMY</td>
<td>STUDENT</td>
</tr>
<tr>
<td>PRACTICES</td>
<td></td>
<td>ENGAGEMENT</td>
</tr>
<tr>
<td>FIT</td>
<td>BELONGING</td>
<td></td>
</tr>
</tbody>
</table>
Perceived Middle School Psychological Environment: Conceptualization and Measures.

**School Psychological Environment**

- **Support of Competence**
  - Teacher Expectations
  - Academic Goal Structures
- **Support of Autonomy**
  - Curricular Meaningfulness
  - Student Empowerment
- **Quality of Relationships**
  - Discrimination Experiences
  - Teacher Supportiveness
Quality of Relationships:

✓ **Perceived Teacher Supportiveness (1 item)**

When you have a personal or social problem in school, how often can you depend on your teachers to help you out? (1 = almost never, 3 = sometimes, 5 = almost always)

✓ **Perceived Discrimination by Race (5 items) $\alpha = .88$**

At school, how often do you feel that:
- Teachers think you are less smart than you really are because of your race?
- Teachers/Counselors discourage you from taking certain classes because of your race?
- You are disciplined more harshly than other kids because of your race?

✓ **Perceived Discrimination by Gender (5 items) $\alpha = .82$**

At school, how often do you feel that:
- Teachers call on you less often than they call on kids of the opposite sex?
- Teachers/Counselors discourage you from taking certain classes because of your sex?
- You are disciplined more harshly by teachers than kids of the opposite sex?

(1 = never, 3 = a couple of times a month, 5 = every day)
Percentage of Adolescents Reporting Different Phenomenological Risks and Protection Associated with School
Change in Psychological Distress and School Motivation by (Risks-Protections) in School Seventh to Eighth Grade

More Protections <------------------------> More Risks
Change in School Problem Behaviors and GPA by (Risk - Protective) Factors in School
Seventh to Eighth Grade

Change in Relative Status (Standard Units)

More Protections <------------------------> More Risks
Conclusion

- Indicators of both academic achievement-related outcomes and mental health increase as the number of perceived school related protective factors increase and decrease as the number of perceived school-related risk factors increase.

- Now what about individual differences
The End

Thank You

More details and copies can be found at
www.rcgd.isr.umich.edu/garp/