Ability Self Concepts, Expectancies for Success, Subjective Task Values, and Achievement-Related Choices

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Key Note Address

Self Conference

Berlin, July 2004

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Goals for Talk

- Explain the Eccles et al. Expectancy-Value Model of Task Involvement as a Model of the Link between Self and Activity Choice
- Relate the Model to Gendered Achievement-Related Choices
- Summarize Findings Related to Predicting Involvement in Achievement-Related Activities In and Out of School
- Discuss Psychological and Social Influences on the Ontogeny of Ability and Task-Related Self Beliefs

Overview

- I began my research work focused on a specific question:

- WHY ARE FEMALES LESS LIKELY TO GO INTO MATH AND PHYSICAL SCIENCE THAN MALES?

Overview 2

- I became increasingly aware, however, that this question is a subset of a much more general question:

- WHY DOES ANYONE DO ANYTHING?

- Developed a theoretical model to guide my research

Figure 1. General Expectancy Value Model of Achievement Choices

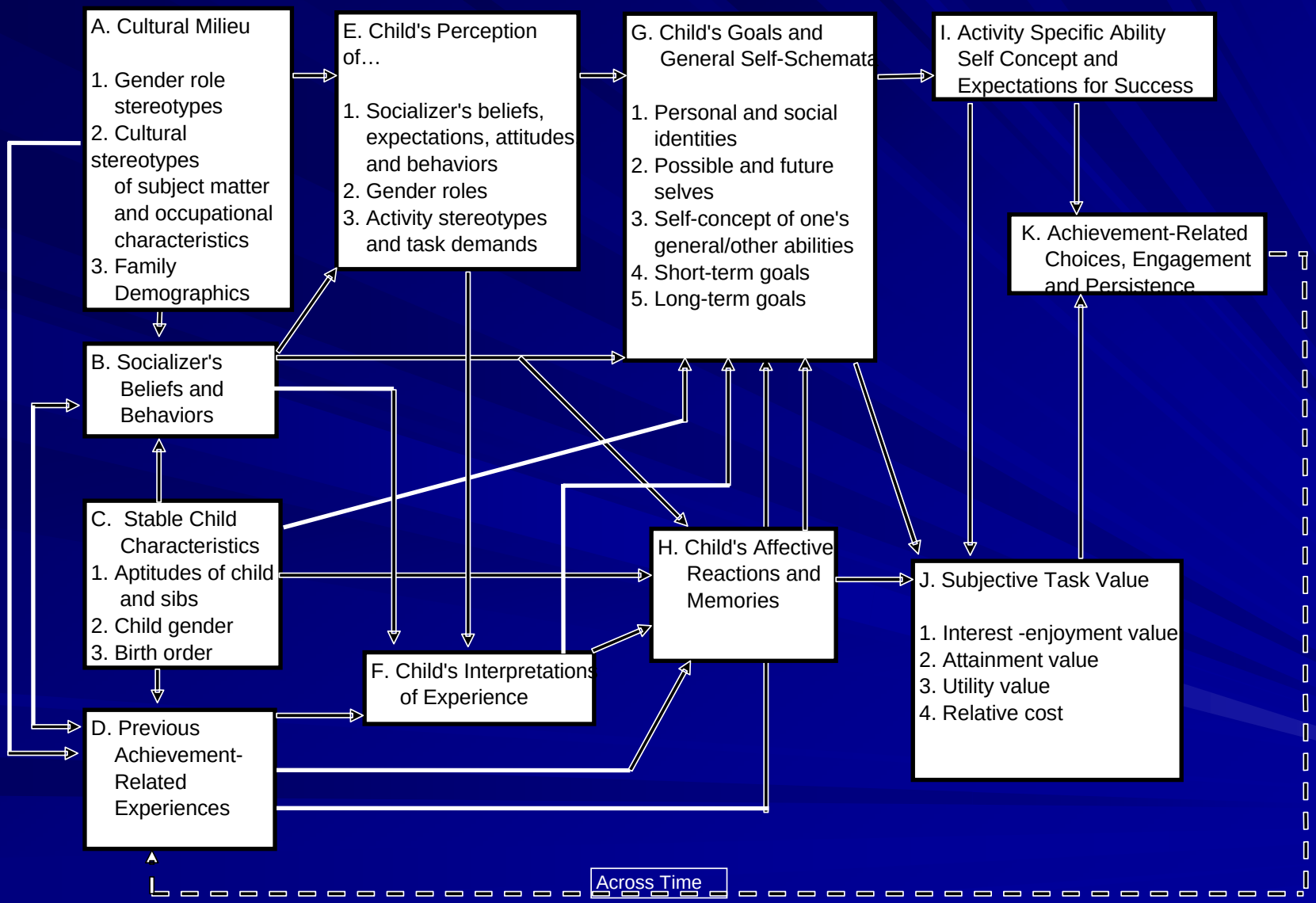
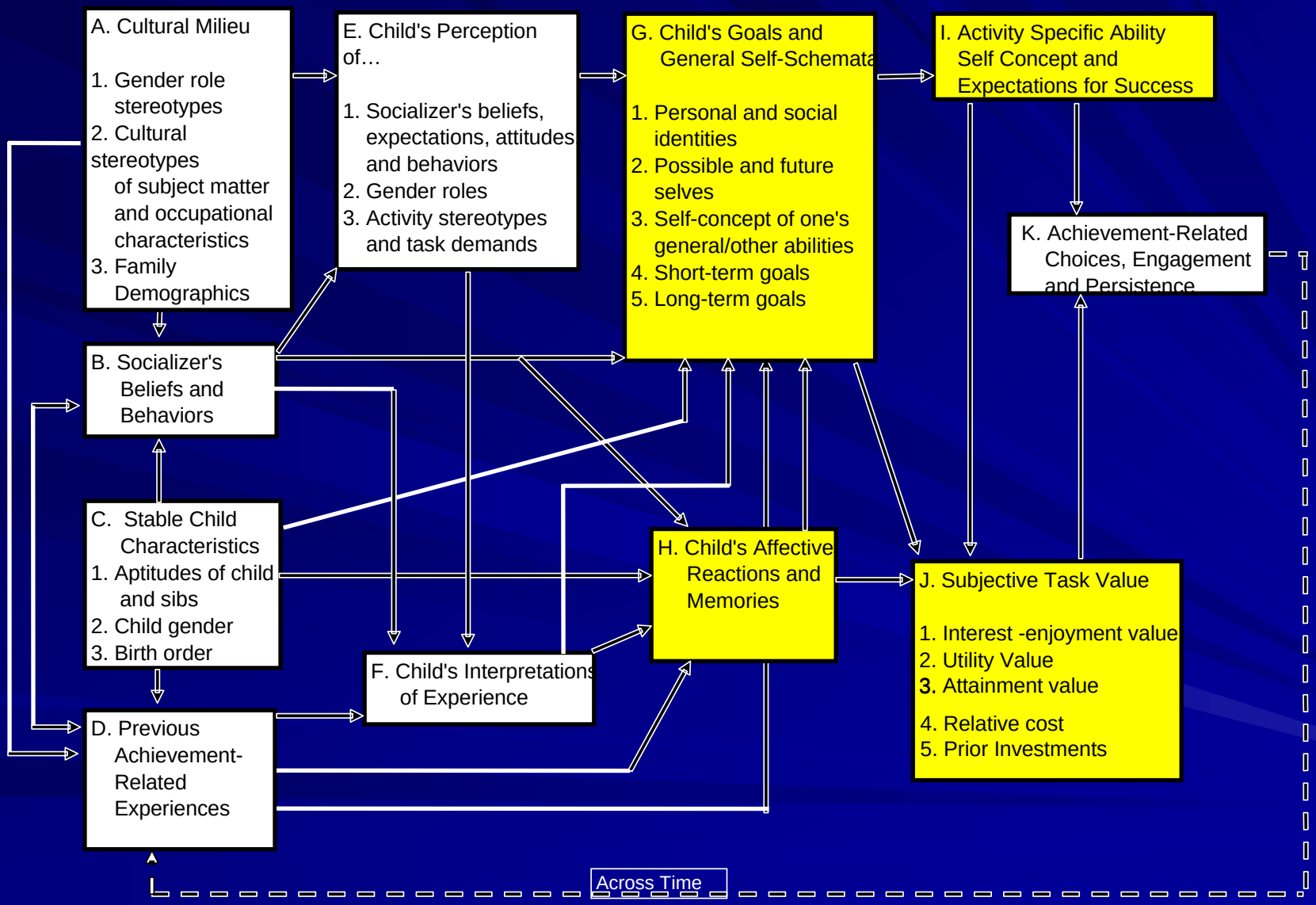


Figure 1. General Expectancy Value Model of Achievement Choices: Yellow Boxes = Proximal Self-Relevant Beliefs



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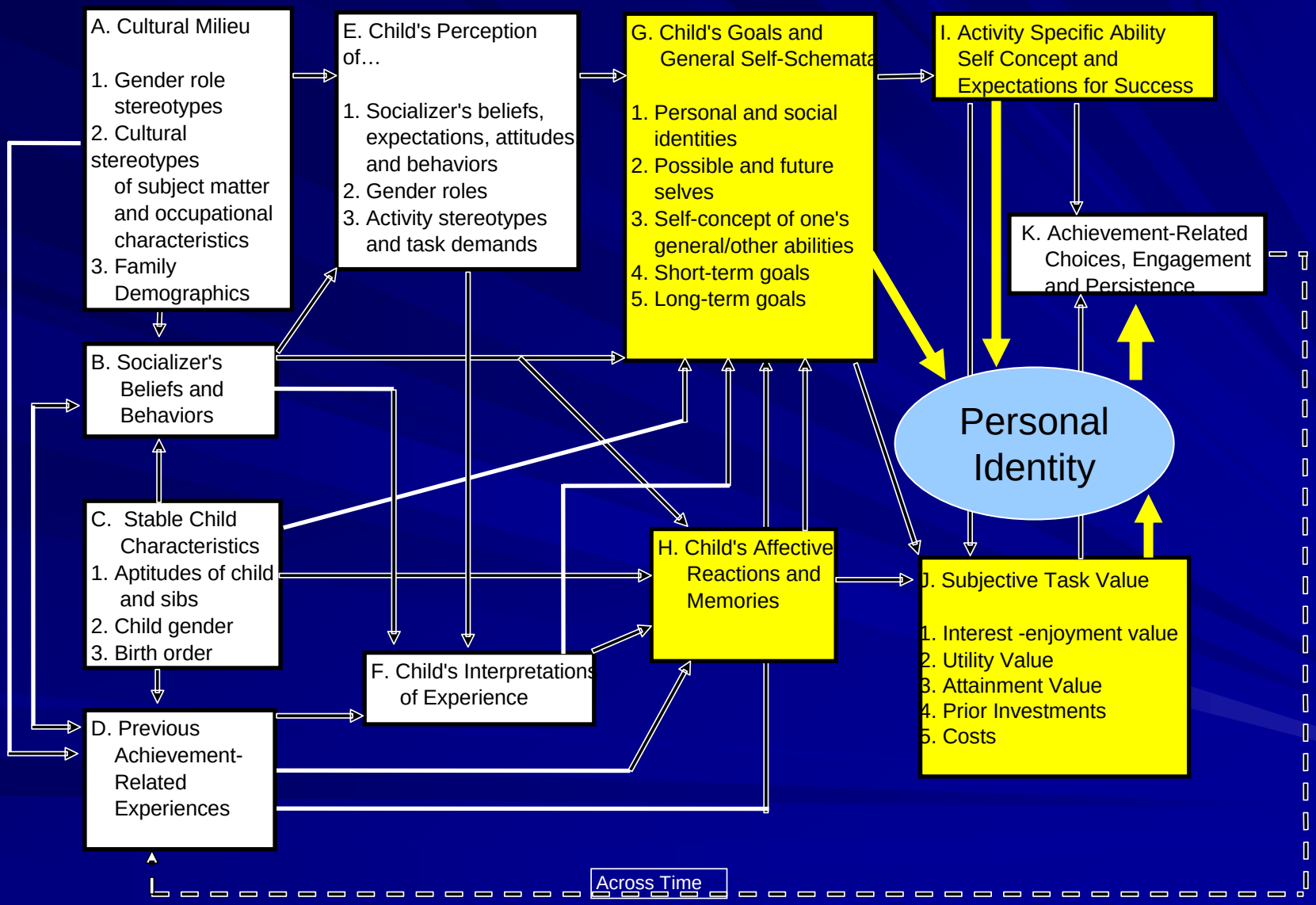

I have now used this model to look at individual differences and gender differences in participation both in math-related educational and occupational choices and in sport participation.

Three Basic Questions Inherent in this Model

- Can I succeed at the task?

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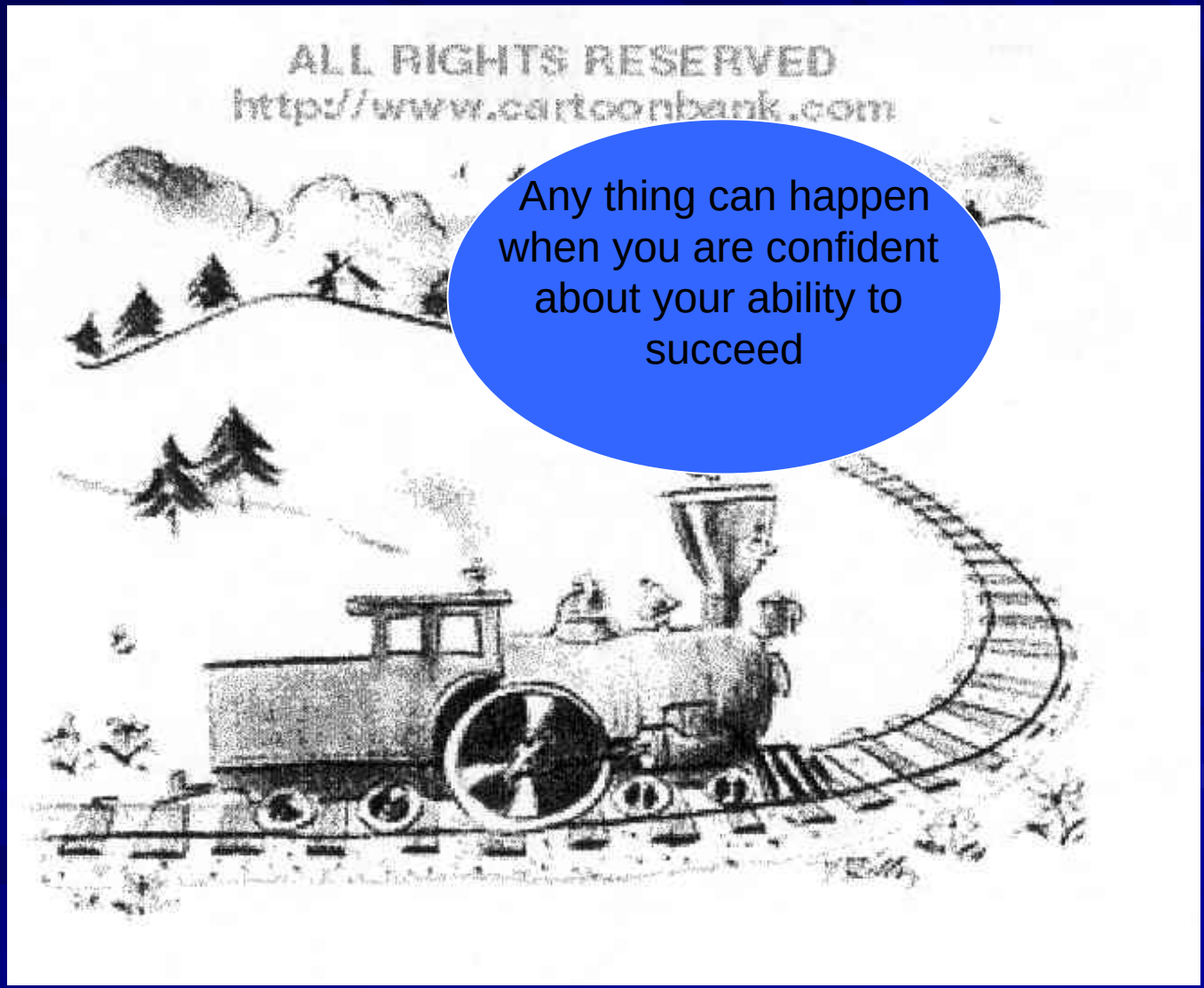
- Can I succeed at the task?
- Do I want to do the task?

Three Basic Questions Inherent in this Model

- Can I succeed at the task?
- Do I want to do the task?
- Why do I want to do the task?

Can I Succeed at the Task?

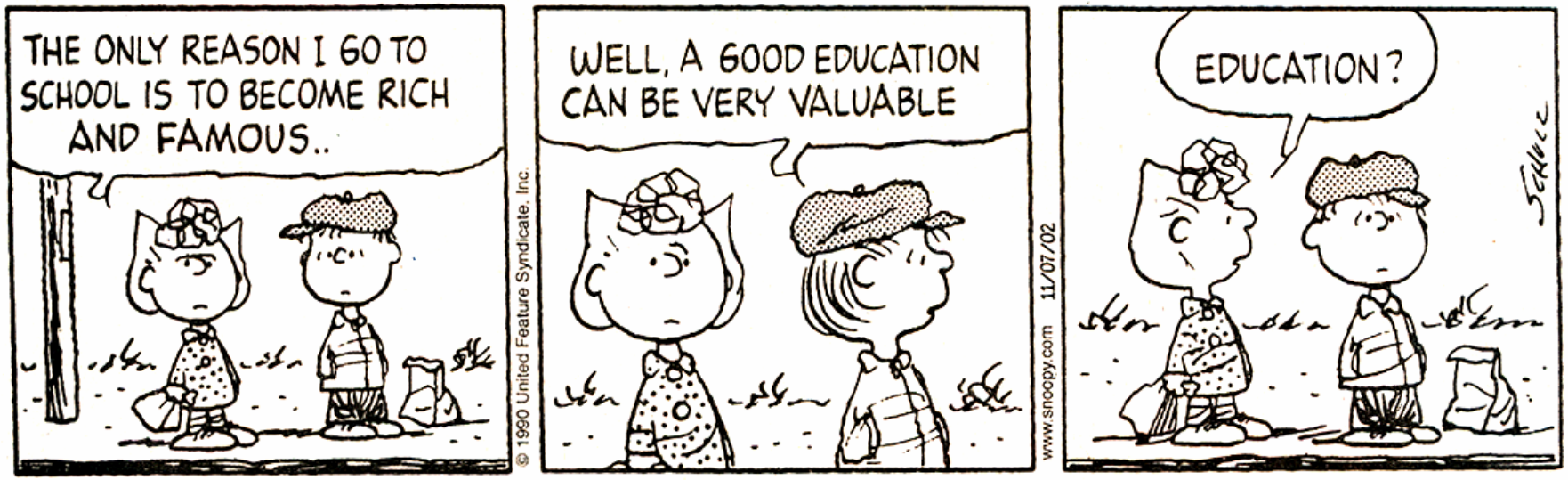
- **Expectations for success**
  - Sense of personal efficacy


ALL RIGHTS RESERVED
http://www.cartoonbank.com
Any thing can happen when you are confident about your ability to succeed

Can I Succeed at the Task?

- **Expectations for success**
  - Sense of personal efficacy
  - Related to one's ability self perceptions and one's perceptions of the difficulty of the task
  - Also related to students', teacher's, and parents' beliefs about intelligences and motivation

Do I Want to Do It and Why?


PEANUTS
THE ONLY REASON I GO TO SCHOOL IS TO BECOME RICH AND FAMOUS..
WELL, A GOOD EDUCATION CAN BE VERY VALUABLE
EDUCATION?
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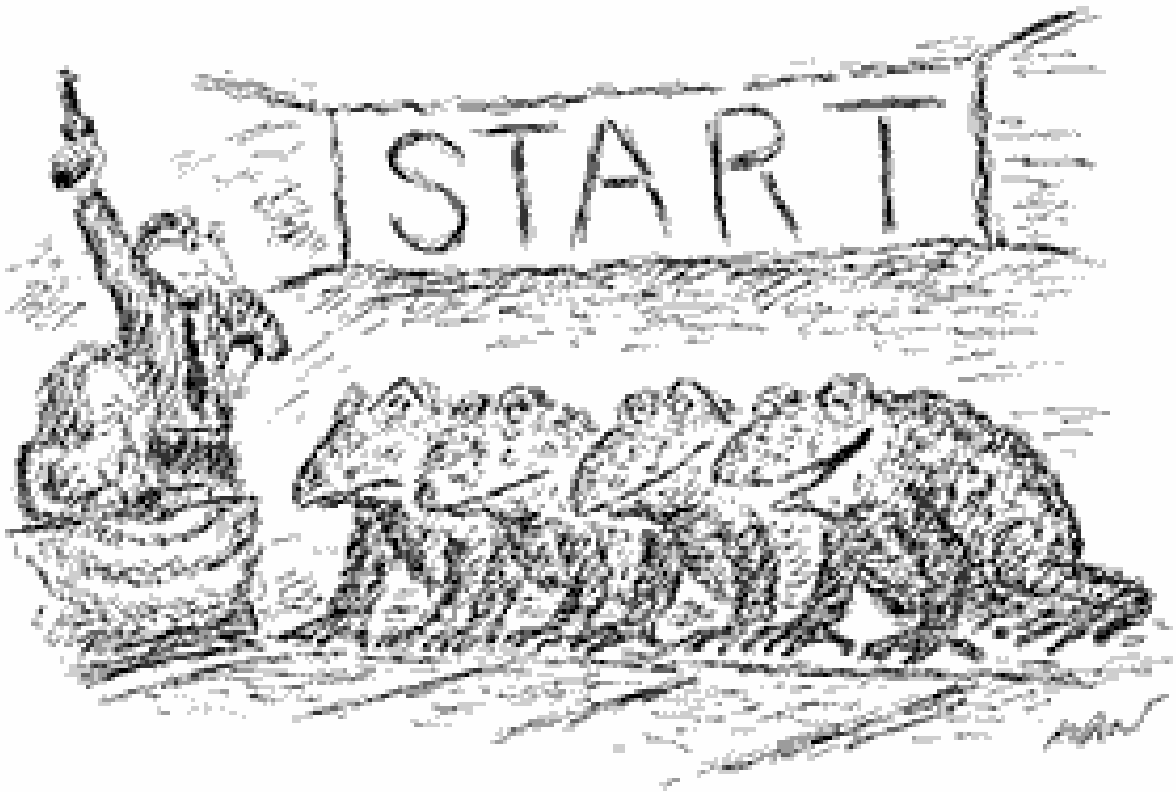
www.snoopy.com 11/07/02

COMPONENTS OF SUBJECTIVE TASK VALUE:

INTRINSIC VALUE

- ENJOYMENT AND/OR
- ANTICIPATED ENJOYMENT OF THE ACTIVITY



"I'm psyched!"

UTILITY VALUE:
THE BELIEF THAT

- ENGAGING IN TASK WILL FURTHER NON-SPORT OR ACADEMIC ACHIEVEMENT RELATED PERSONAL GOALS – SUCH AS SOCIAL SUPPORT AND FRIENDSHIP, INCOME, OR MEETING OTHER SHORT OR LONG RANGE GOALS

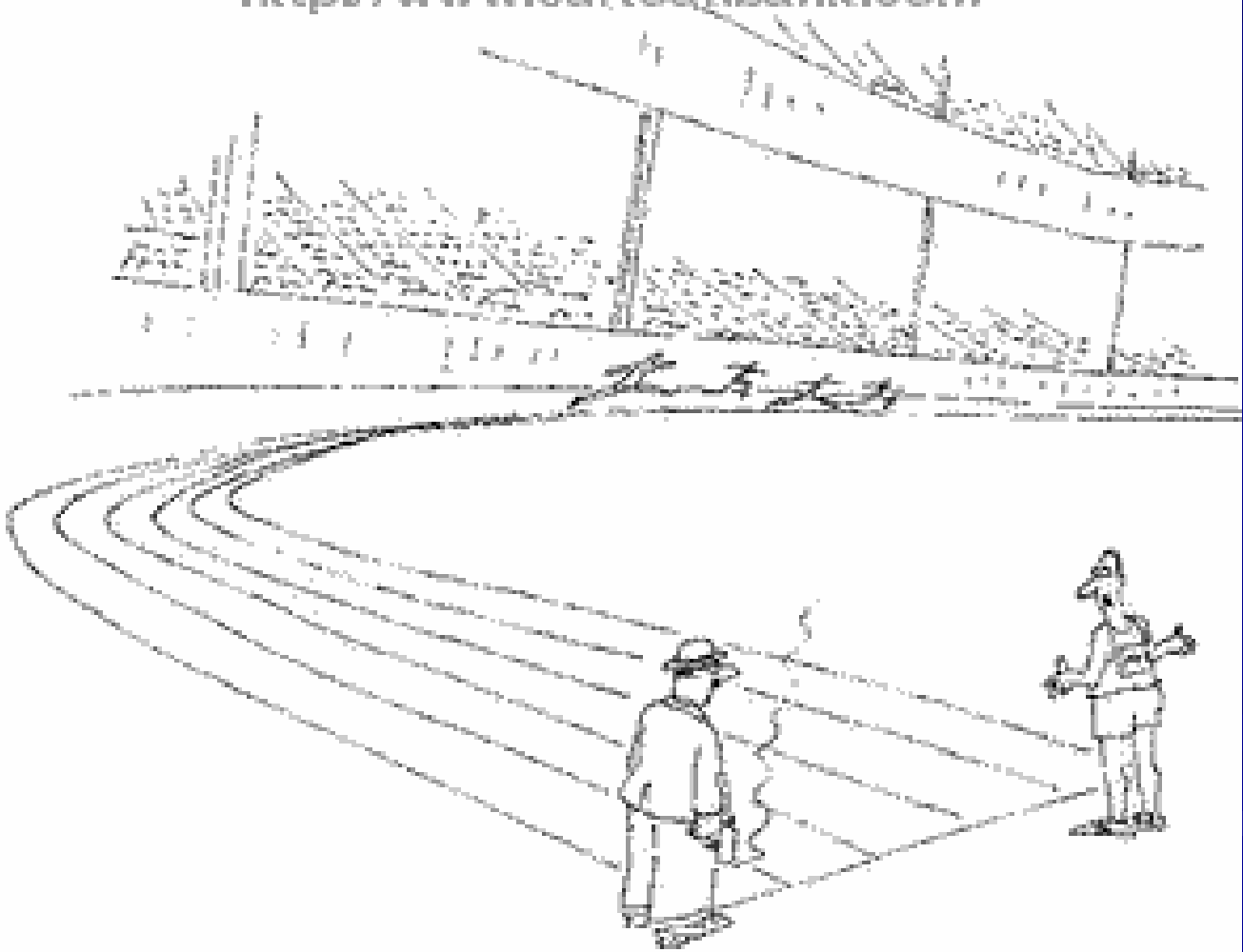
"Just remember, son, it doesn't matter whether you win or lose—unless you want Daddy's love."

- ATTAINMENT VALUE: Extent to which engaging in the activity confirms an important component on one's self-schema, or increases the likelihood of either obtaining a desired future self or avoiding an undesired future self, or fulfilling one's basic needs.
  - Individuals seek to confirm their possession of characteristics central to their self-schema or hoped for personal and social identities, as well as to fulfill their fundamental needs.
  - Various tasks provide differential opportunities for these goals.
  - Individuals will place more value on those tasks that provide the opportunities meet these goals and less value on those tasks that either disconfirm their identities or prevent them from fulfilling their basic needs.
  - Individuals will be more likely to choice those activities that have high attainment value.

"O.K., you be the doctor, and I'll be the Secretary of Health and Human Services."

"I don't have to be smart, because someday I'll just hire lots of smart people to work for me."

- Amy’s Story



"Hey, look, I'm sorry, but I just don't believe in competition between athletes."

Relation to Attainment Value to Self Determination Theory

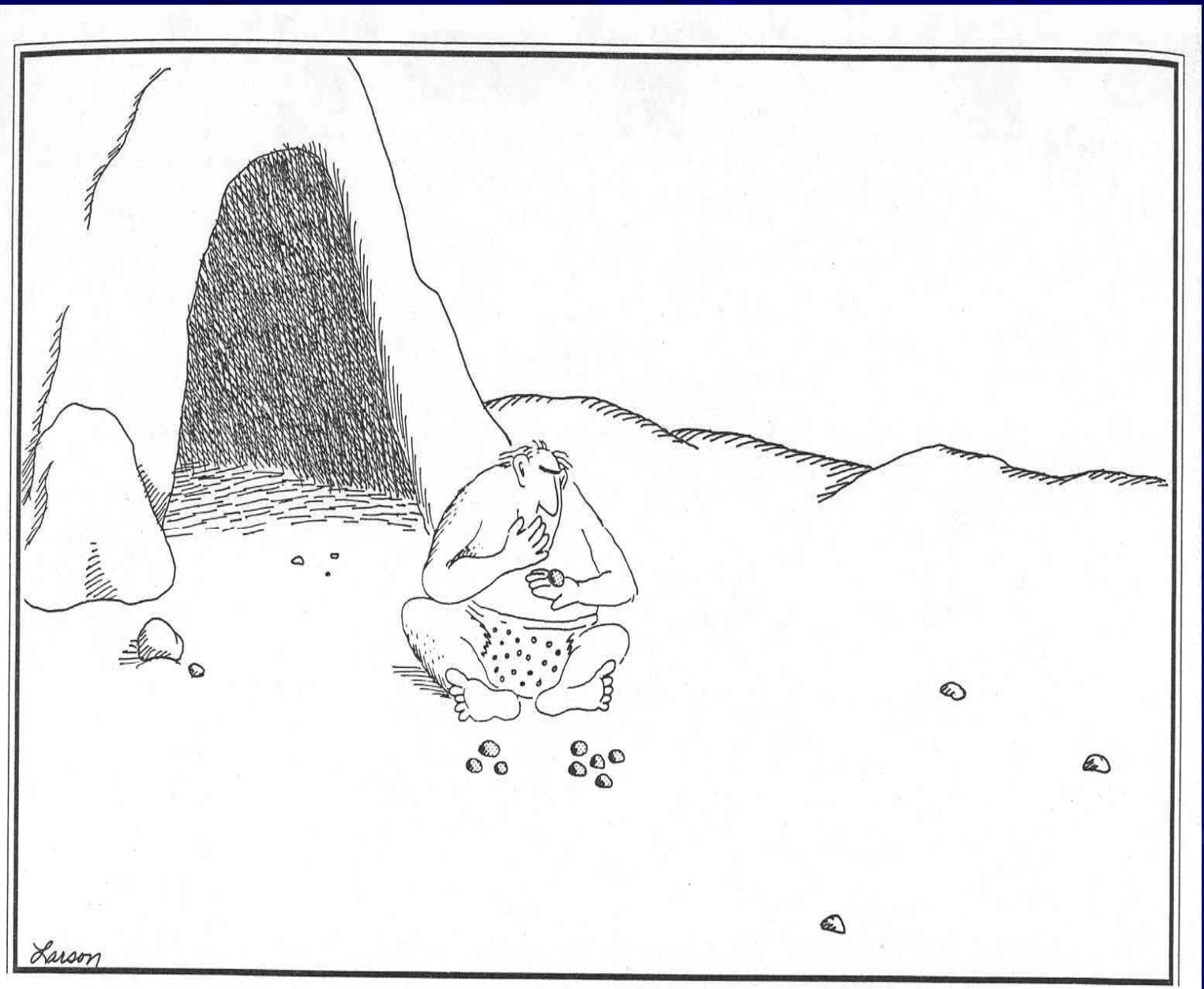
- Deci and Ryan assume that we have basic needs and
- That we will be most motivated and will fare best in settings that provide opportunities for us to fulfill these needs
- For us, this is an example of the dynamics associated with ATTAINMENT VALUE and Person-Environment Fit

Subjective Task Value: Investment

- Time and energy already committed to acquiring skills

Subjective Task Value: Cost

- Psychological Costs
  - Fear of Success
  - Fear of Failure
  - Anxiety



Early stages of math anxiety

Subjective Task Value: Cost

- Psychological Costs
  - Fear of Success
  - Fear of Failure
  - Anxiety
  - Concern about How Others Will Respond to either Success or Failure

PSYCHOLOGICAL COST: ANXIETY RELATED TO OTHERS

"If you can get his parents to go ballistic, he can't hit a thing."

Subjective Task Value: Cost

- Psychological Costs
  - Fear of Success
  - Fear of Failure
  - Anxiety
  - Concern about How Others Will Respond to either Success or Failure
  - Stereotype Threat

Subjective Task Value: Cost

- Psychological Costs
  - Fear of Success
  - Fear of Failure
  - Anxiety
  - Concern about How Others Will Respond to either Success or Failure
  - Stereotype Threat
- Financial Costs
- Lost Opportunities to Fulfill Other Goals or to do Other Activities or be Other Selves


MOST LIKELY TO SUCCEED
I'd love to come over and hang out, but now that we're competing in a global economy I can't.

Key Features of Model

1. Focuses on Choice not on Deficits

2. Points Out Importance of Studying the Origins of Individuals' Perception of the Range of Possible Options

3. Focuses on the Fact that Choices are made from a Wide Range of Positive Options

- How Does This Relate To Gender?

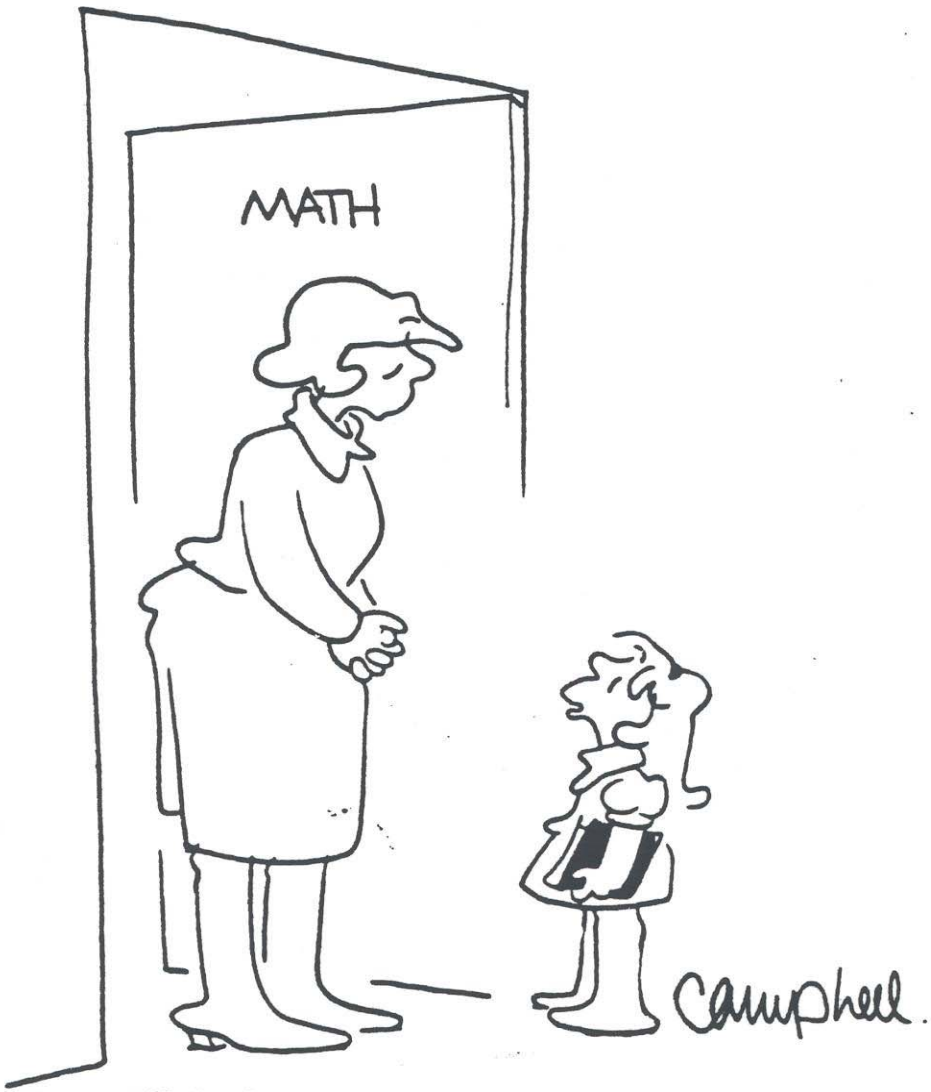
Gender and Ability Self Concepts and Personal Expectations

- Cultural Stereotypes about Which Gender is Supposed to be Good at Which Skills
- Extensive Socialization Pressures to Make Sure These Stereotypes are Fulfilled

Gender and Subjective Task Value

- Cultural Stereotypes about Which Gender is Supposed to Engage in Which Types of Activities
- Extensive Socialization Pressures to Make Sure These Stereotypes are Fulfilled

"Jason, I'd like to let you play, but soccer is a girls' game."



"Hello. I'm a beautiful little blond girl, and I'm here to defy the stereotype."

- What does Our Research Show about the Validity of This Model for Predicting Participation in Math and Sport Related Activities?

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
- Mina Vida
- Robert Roeser
- Laurie Meschke
- Margaret Stone

MSALT Sample General Characteristics

- School based sample drawn from 9 school districts in the small city communities surrounding Detroit.
- Predominantly working and middle class families
- Approximately 50% of sample of youth went on to some form of tertiary education
- Downsizing of automobile industry caused major economic problems while the youth were in secondary school

SPECIFICS OF MSALT SAMPLE AND DESIGN

SAMPLE: Approximately 1,200 Adolescents

90% White and 51% Female

DESIGN: On-going Longitudinal Study of One Birth Cohort

Data Collected from Adolescents, Parents, and School

Survey Forms and Observations

Michigan Study of Adolescent/Adult Life Transitions: MSALT

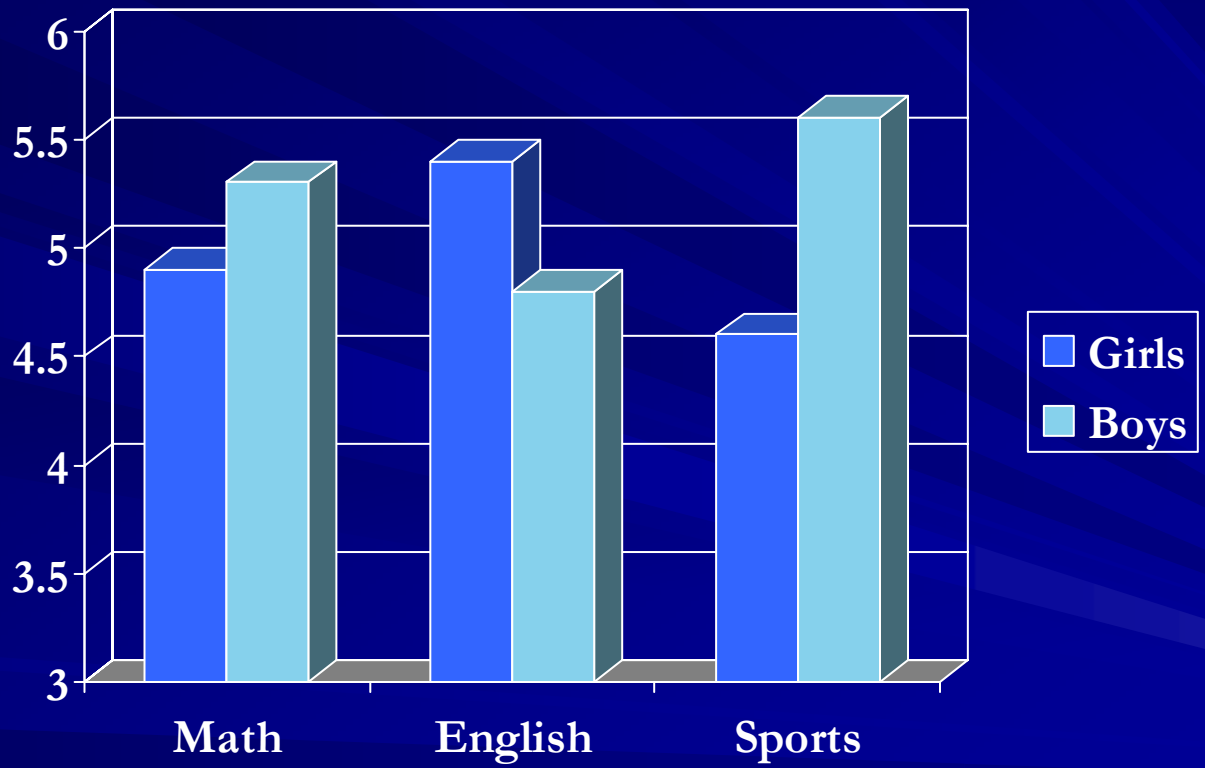
YEAR	**Fall 1983**	**Spring 1984**	**Fall 1984**	**Spring 1985**	**1988**	**1990**	**1992**	**1996**	**2000**
GRADE	6th	6th	7th	7th	10th	12th	2 years after H.S.	6 years after H.S.	9 years after H.S.
WAVE	1	2	3	4	5	6	7	8	9
YOUTH SURVEY	●	●	●	●	●	●	●	●	●
PARENTS SURVEY	●	●	●	●	●	●			●
TEACHER QUESTION NAIRE	●	●	●	●					
RECORD DATA	●	●	●	●	●	●			
FACE TO FACE INTERVIEW							●		
PHONE INTERVIEW								●	●
PARENTING SURVEY								●	●

Two Basic Questions

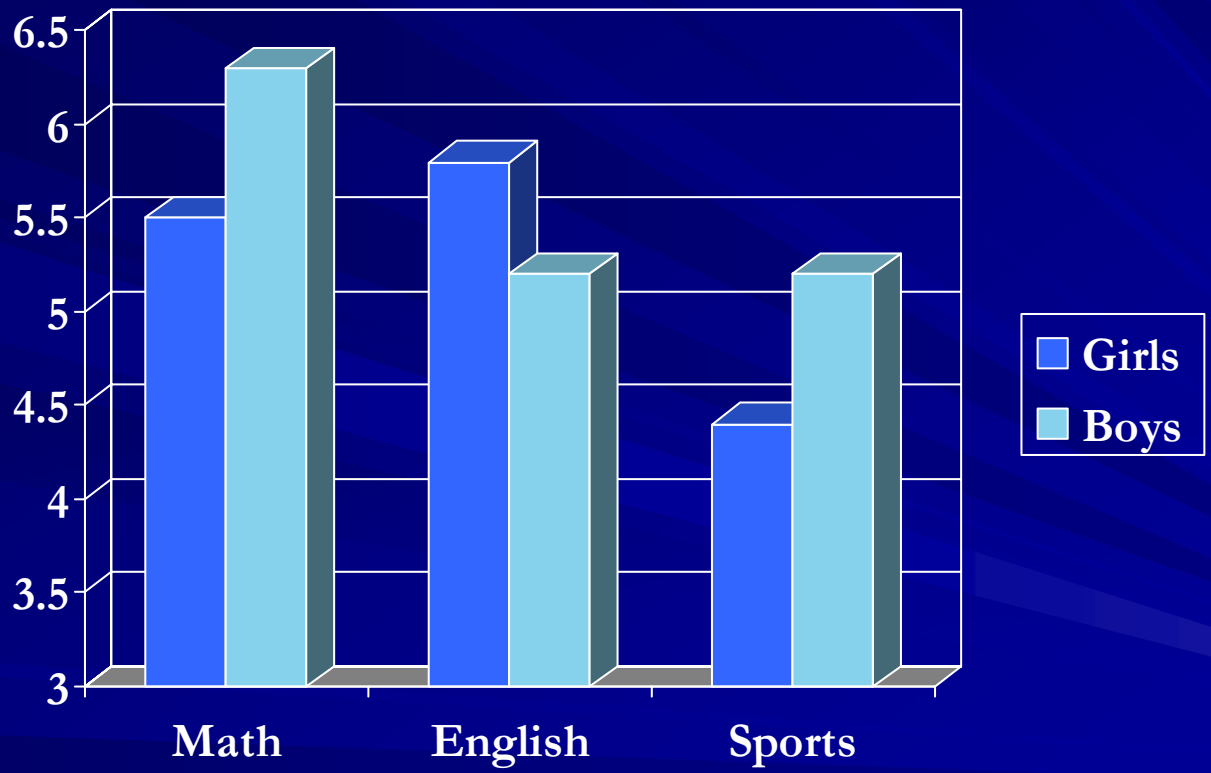
ARE THERE GENDER DIFFERENCES ON THE SPORT AND ACADEMIC SUBJECT MATTER SELF-RELATED BELIEFS?

DO THE GENDER DIFFERENCES IN THESE SELF-RELATED BELIEFS MEDIATE THE GENDER DIFFERENCES IN SPORT AND SCHOOL SUBJECT INVOVLEMENT?

Gender Differences in Ability Self Concepts – 7th Grade

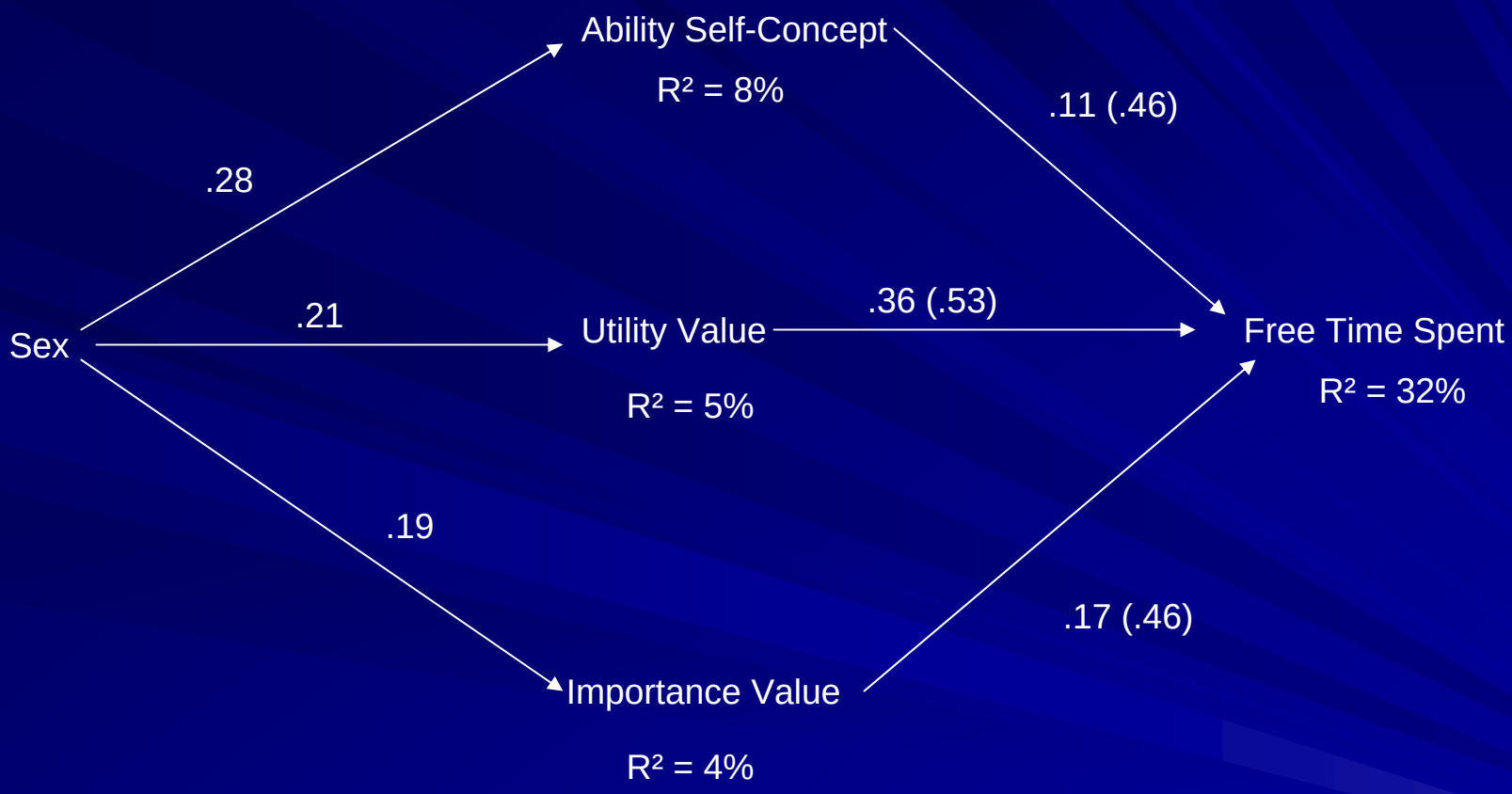


Gender Differences in Subjective Task Value – 7th Grade



Do These Self and Task Beliefs Predict Achievement-Related Choices as Predicted by the Eccles et al. Model?

YES



Sport Participation in 7th Grade

Correlation: Sex – Time Spent = .14

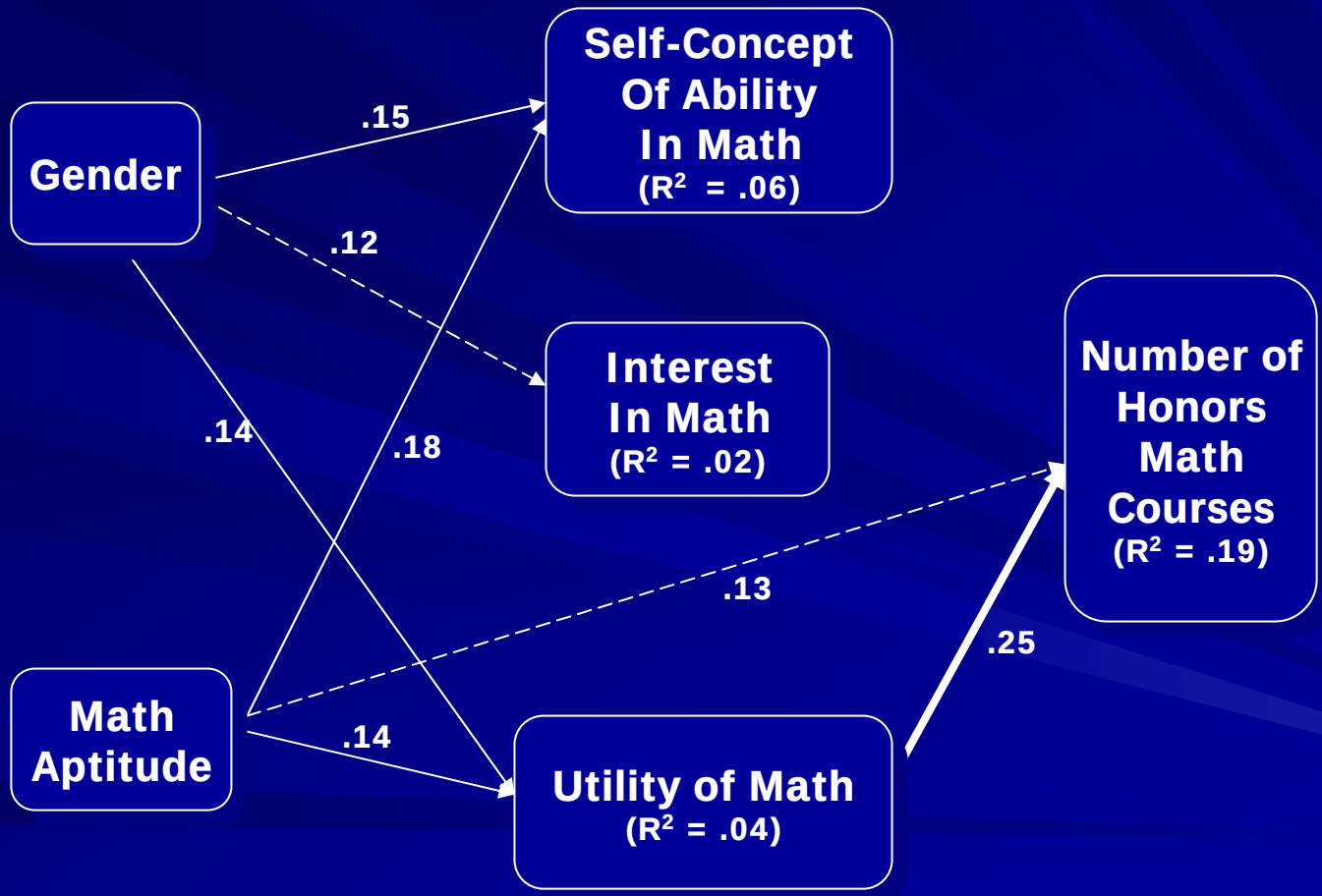
Partial Correlation: Sex – Time Spent = .002

(controlling mediating variables)

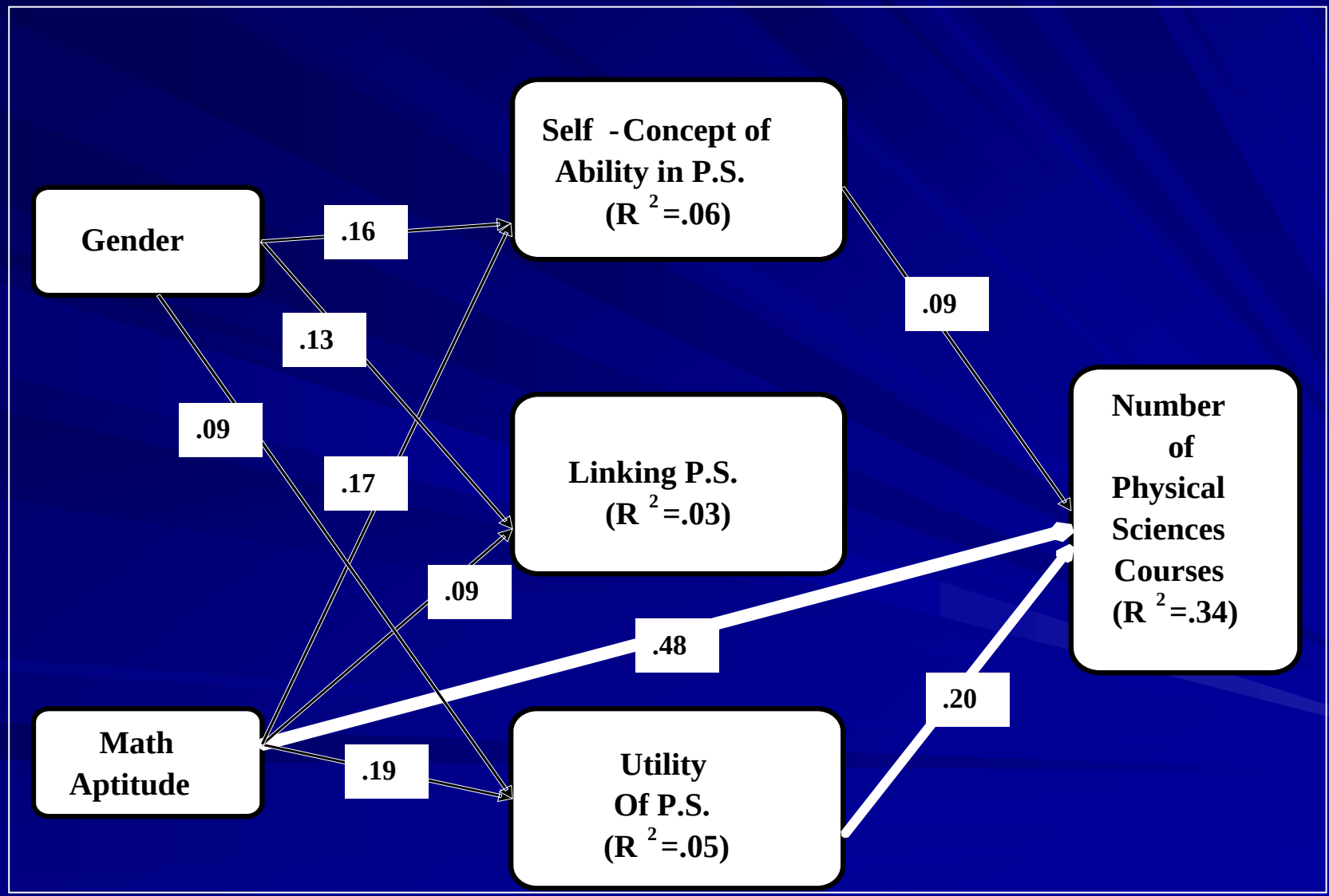
What about later?

- High School Females in USA are less likely than their Male Peers to enroll in Advanced Mathematics and Physical Science Courses
- WHY?

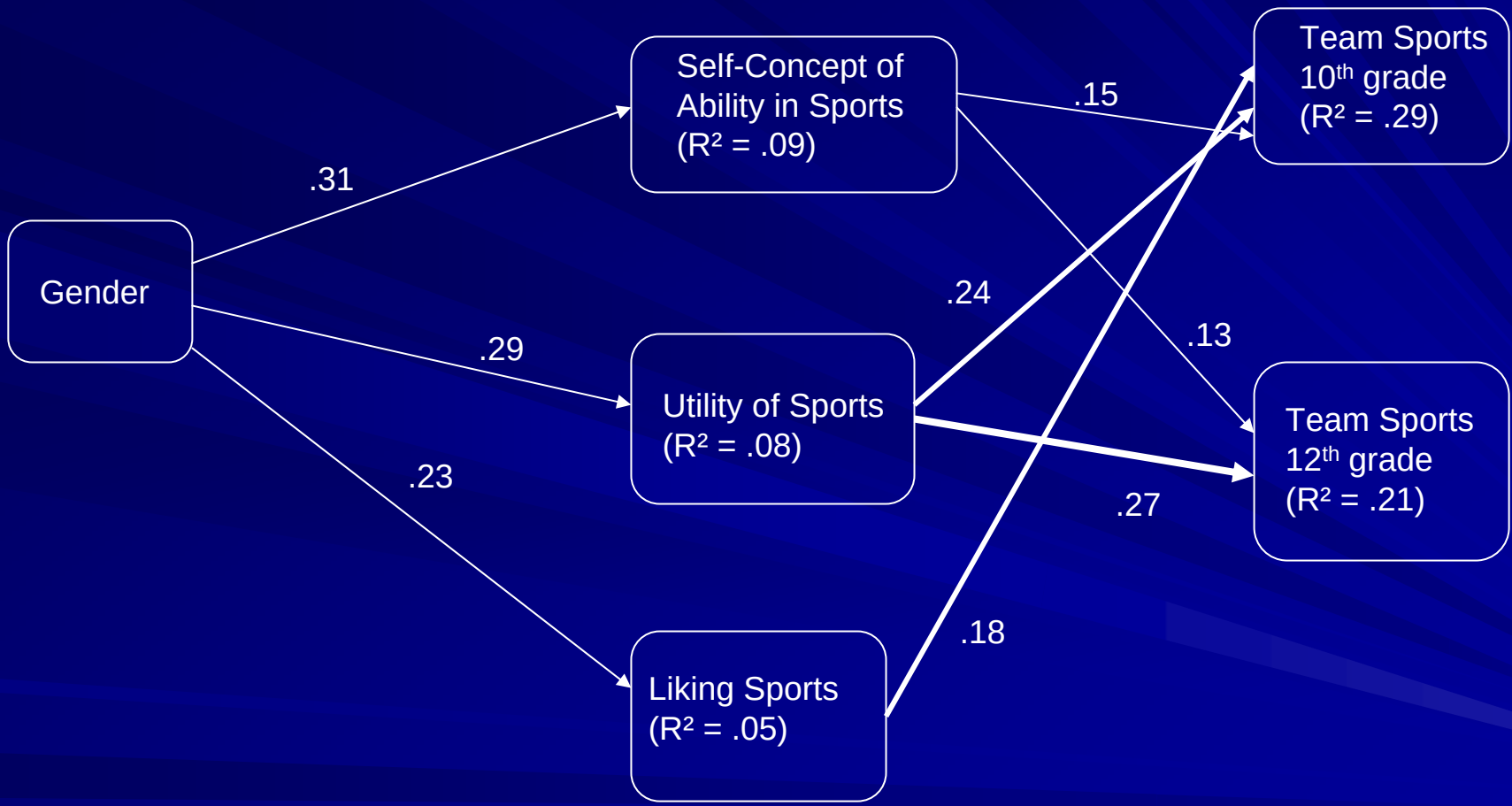
Predicting # of Honors Math Classes from 10th Grade Self-Related Beliefs



Predicting # of Physics Classes with 10th Grade Self-Related Beliefs



Predicting Team Sports in the High School Years Using Tenth Grade Ability and Subjective Task Beliefs



Conclusions

- Gender Differences Are Significant for Both Ability Self Concepts and Subjective Task Values in the Gender-Stereotypic Direction
- These Differences Do Mediate Gender Differences in Sport and School Subject Involvement in Secondary School
- These Beliefs Also Explain Significant Amounts of the Individual Differences in High School Sport and School Subject Participation

What about Longer Term Outcomes?

- College Major
- Actual Occupational Choices as a Young Adult

Collaborators

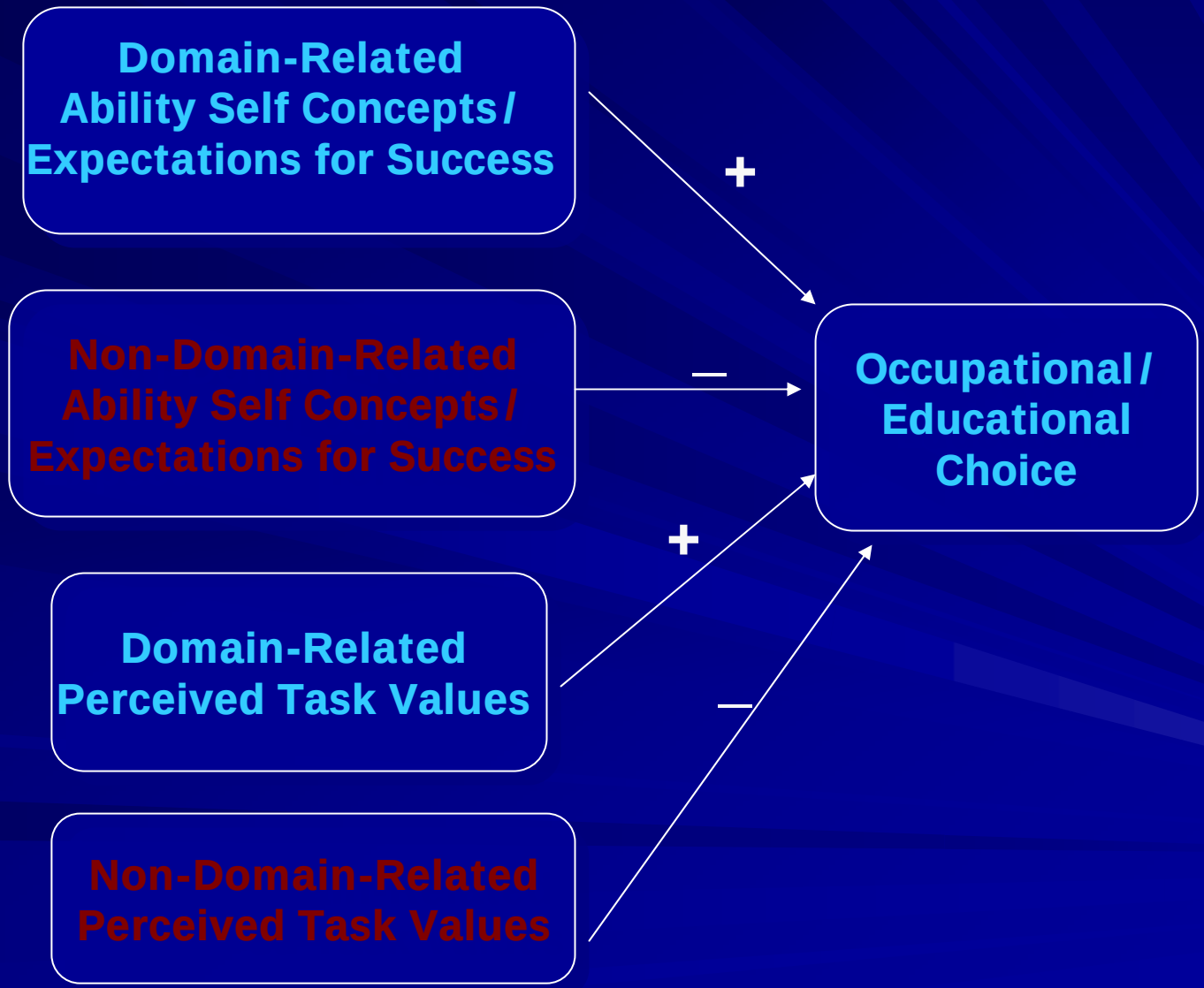
- Bonnie Barber
- Mina Vida

Participation in M/S/E careers

- In 1997, women represented
  * 23% of all scientists and engineers
  * 63% of psychologists
  * 42% of biologists
  * 10% of physicists/astronomers
  * 9% of engineers

Source: National Science Foundation, 2000

Basic Expectancy Value Choice Model



Michigan Study of Adolescent/Adult Life Transitions: MSALT

							Time 1	**Time 2**	**Time 3**
YEAR	**Fall 1983**	**Spring 1984**	**Fall 1984**	**SPRING 1985**	**1988**	**1990**	**1992**	**1996**	**2000**
GRADE	6th	6th	7th	7th	10th	12th	2 years after H.S.	6 years after H.S.	9 years after H.S.
WAVE	1	2	3	4	5	6	7	8	9
YOUTH SURVEY	●	●	●	●	●	●	●	●	●
PARENTS SURVEY	●	●	●	●	●	●			●
TEACHER QUESTIONNAIRE	●	●	●	●					
RECORD DATA	●	●	●	●	●	●			
FACE TO FACE INTERVIEW							●+		

Specific Sample Characteristics for Analyses Reported Today

- Those who participated at Wave 8 (age 25)
  - Female N = 791 Male N = 575
- Those who completed a college degree by Wave 8
  - Female N = 515 Male N = 377

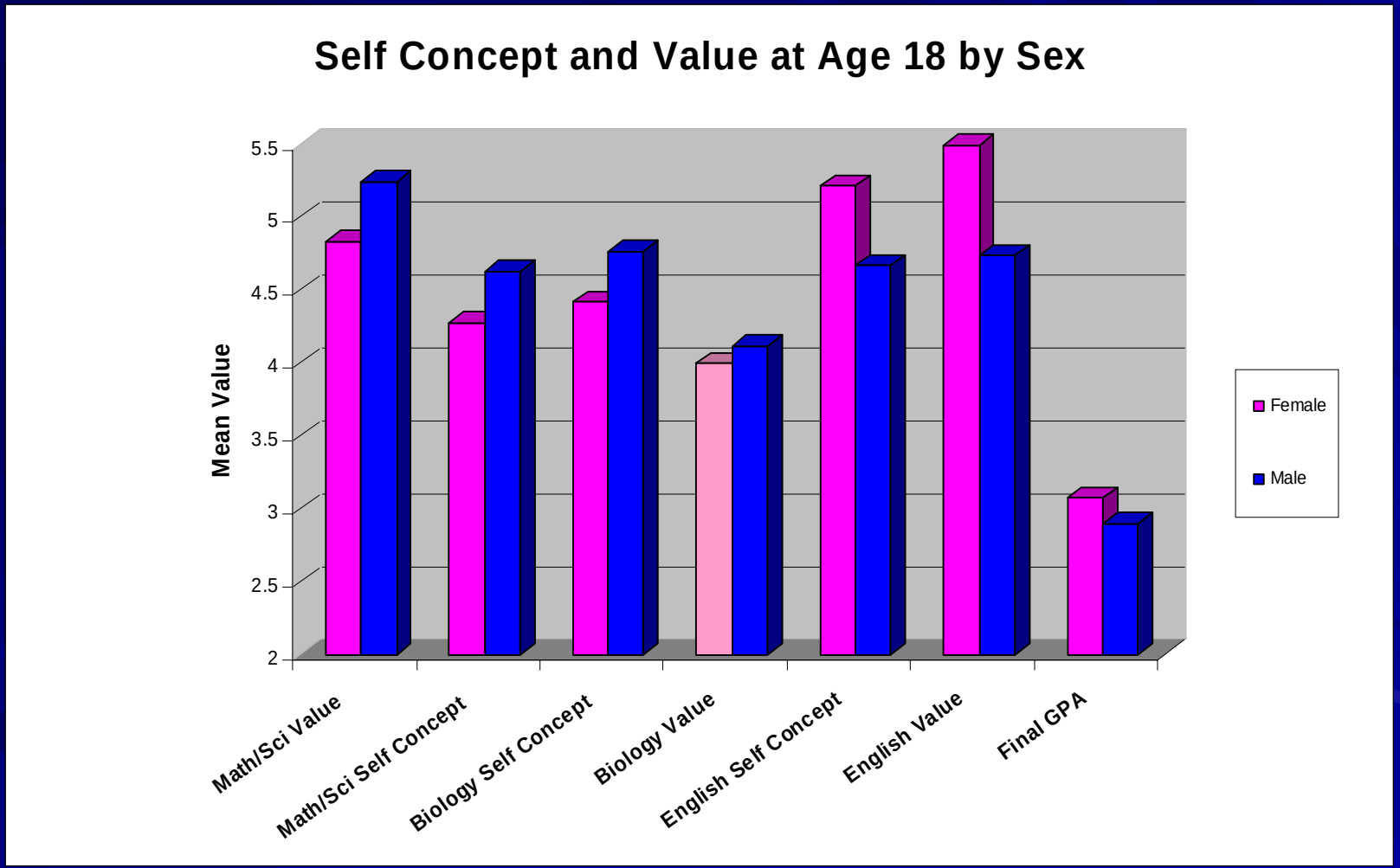
First Set of Analyses : Within Sex Discriminant Function Analyses

- Use 12th grade Domain Specific Ability SCs and Values to predict College Major at age 25

Time 1 Measures

- Math/Physical Science Self-Concept of Ability
- Math/PS Value and Usefulness
- Biology Self-Concept of Ability
- Biology Value and Usefulness
- English Self-Concept of Ability
- English Value and Usefulness
- High School Grade Point Average

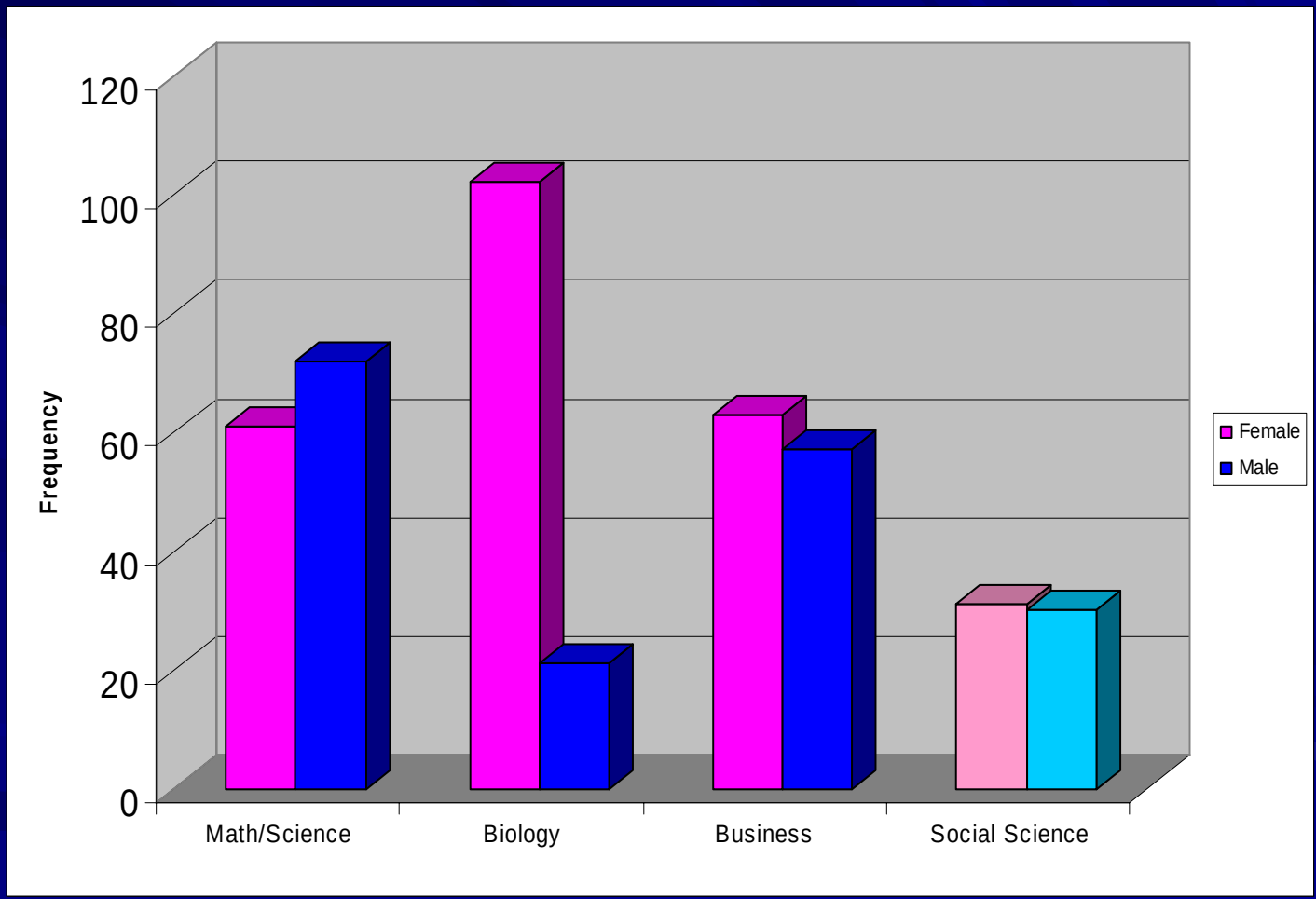
Sex Differences in Domain Specific Self Concepts and Values



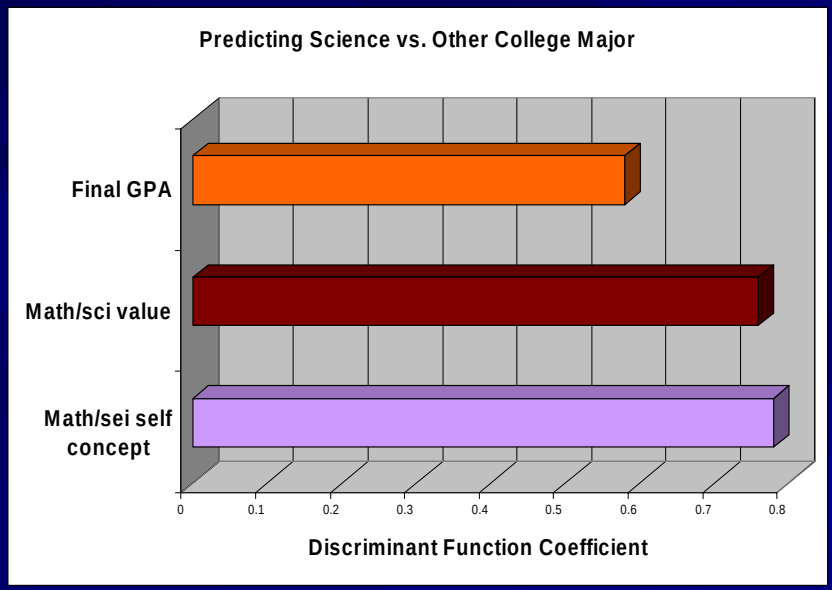
Time 3 (Age 25) Measures

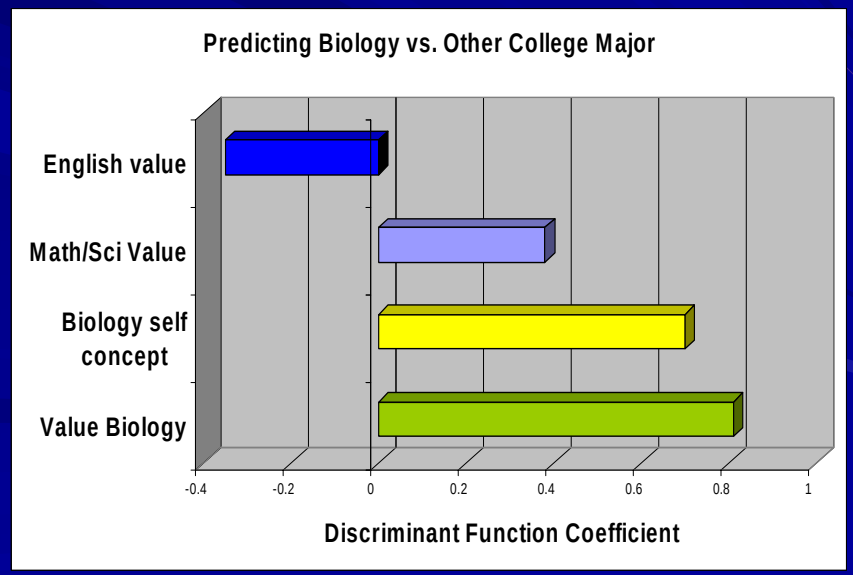
- Final College Major
- Occupation at Age 25: Coded into Global Categories based on Census Classification Criteria

Sex Differences in College Majors

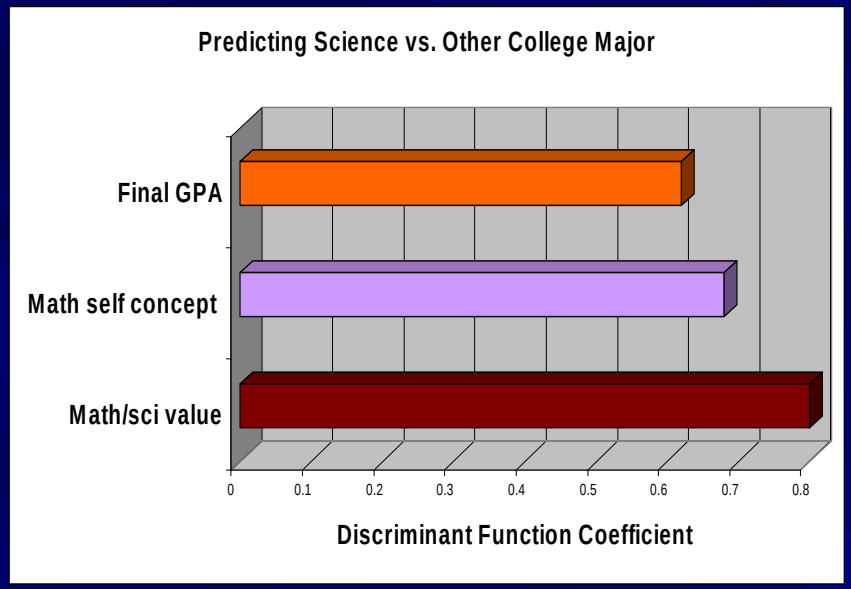


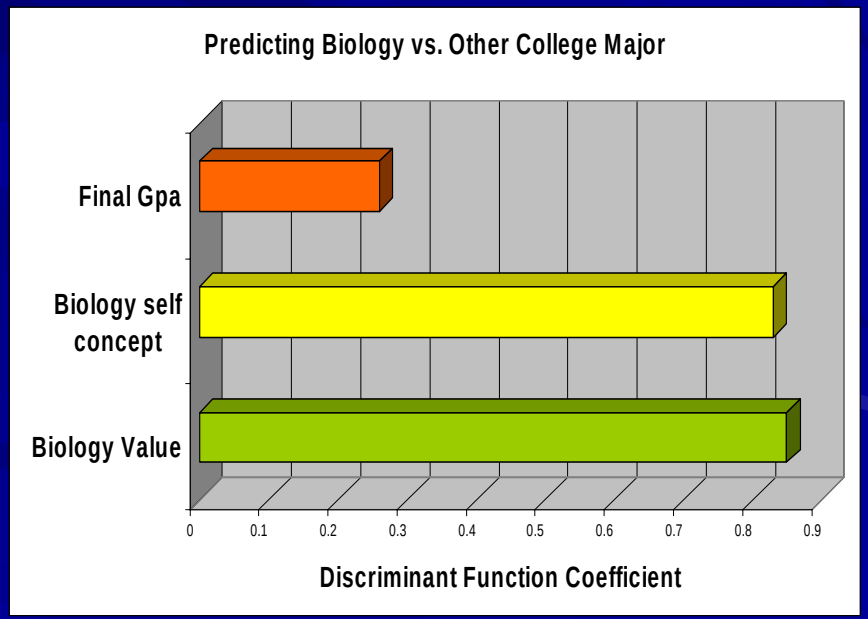
Predicting Women's Math/Engineering/Physical Science (M/E/PS) and Biological Science College Major from Domain Specific SCs and Values at 18





Predicting **Men's** M/E/PS and Biological Science College Major from Domain Specific SCs and Values at 18

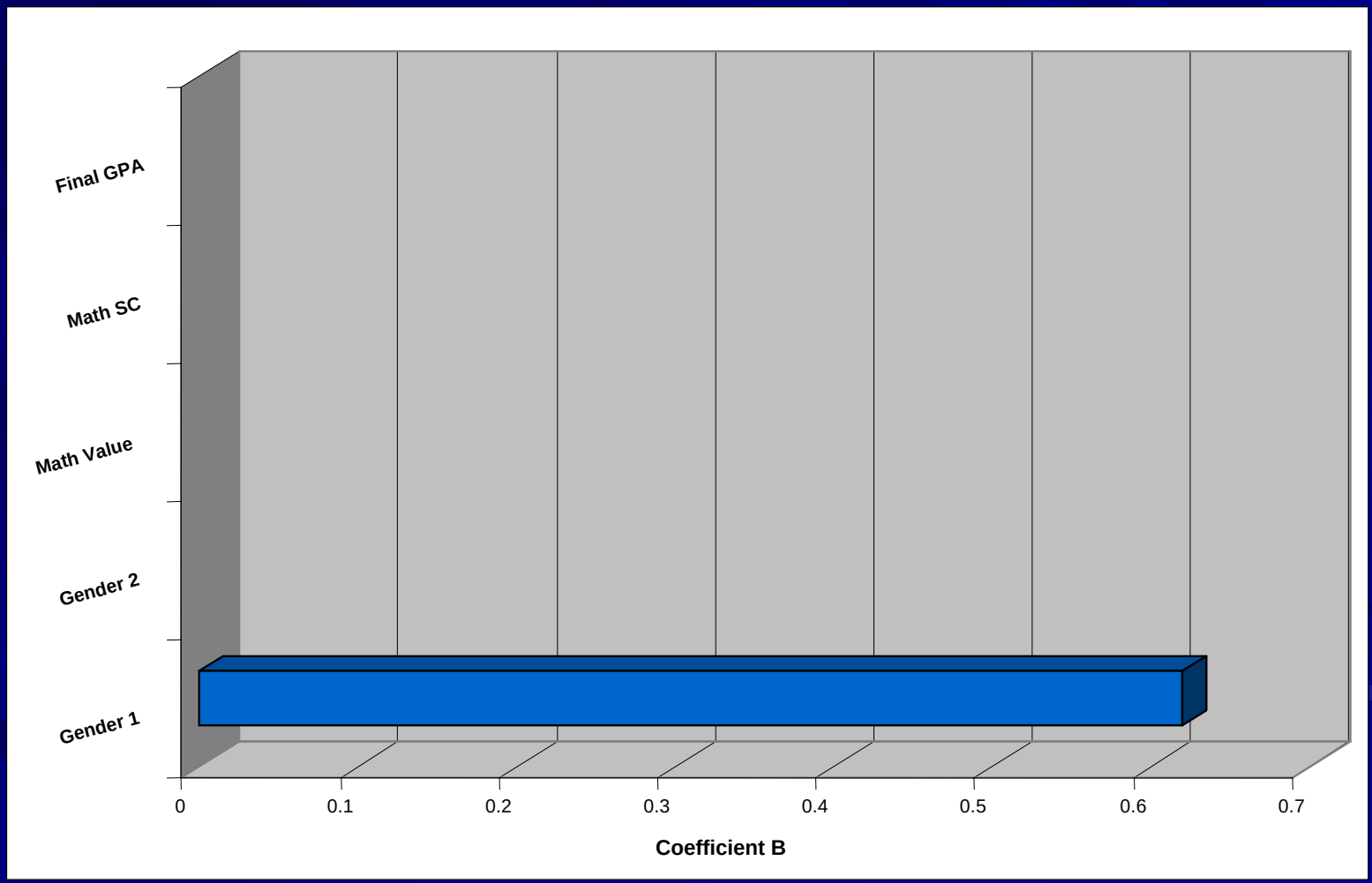




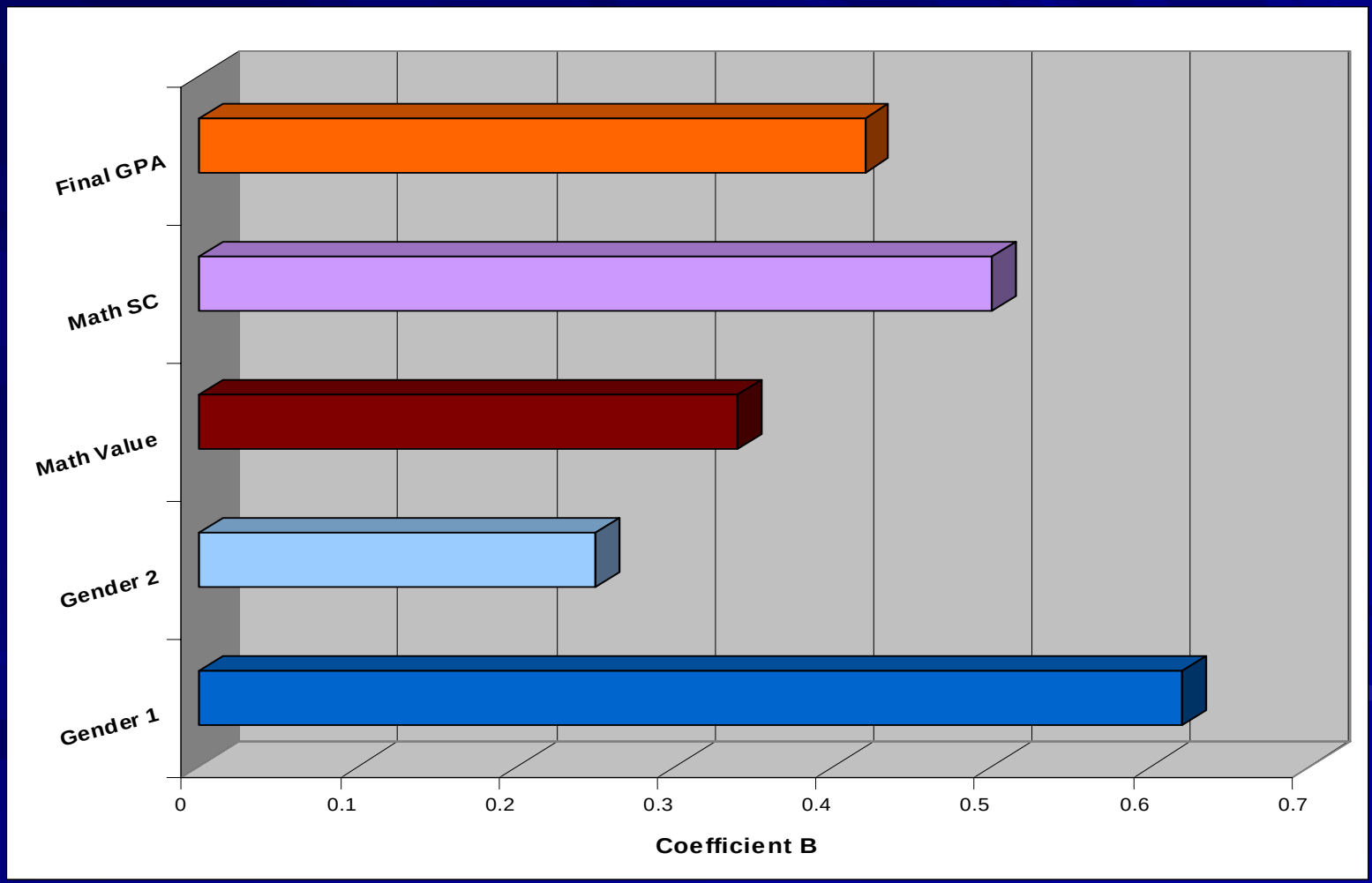
Mediation of Sex Differences

- Used logistic regression to assess the extent to which the Time 1 predictors explained the sex difference in majoring in Math/Engineering/Physical Science
- Step 1: Sex only
- Step 2: Sex plus all of Time 1 predictors

Time 1 Predictors of Science College Major



Time 1 Predictors of Science College Major



Next Set of Analyses : Within Sex Discriminant Function Analyses

- Use age 20 General Ability SCs and Occupational Values to predict College Major at age 25

Time 2 (20 Years Old) Measures: Ability-Related Measures

- Math/Science General Ability Self Concept
  - Efficacy for jobs requiring math/science
- Intellectual Ability Self Concept
  - Relative ability in logical and analytical thinking
- High School Grade Point Average

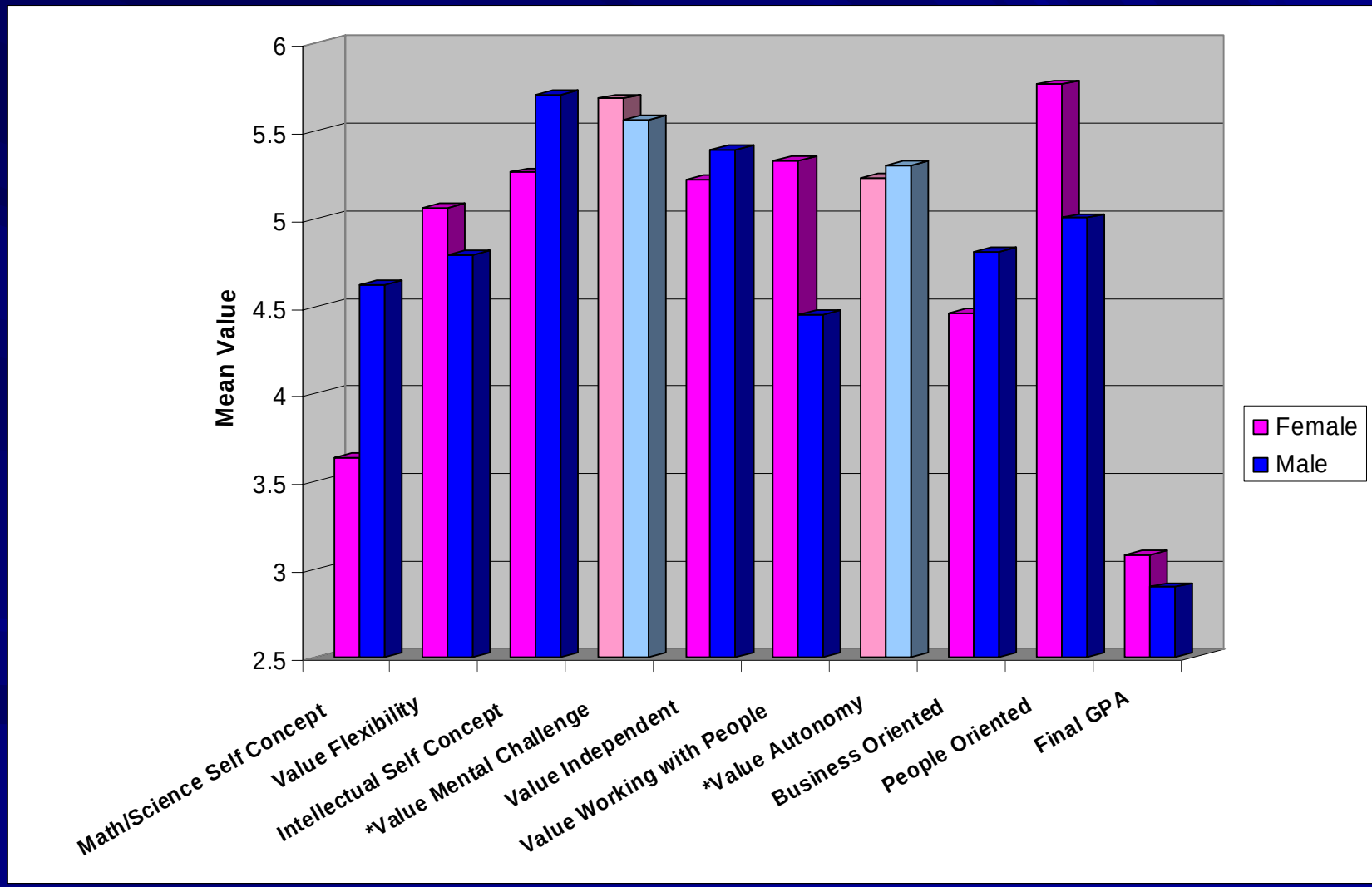
Time 2 (Age 20) Measures: Occupational Values

- Job Flexibility
  - Does not require being away from family
- Mental Challenge
  - Opportunity to be creative and learn new things
- Working with People
  - Working with others
- Autonomy
  - Own Boss

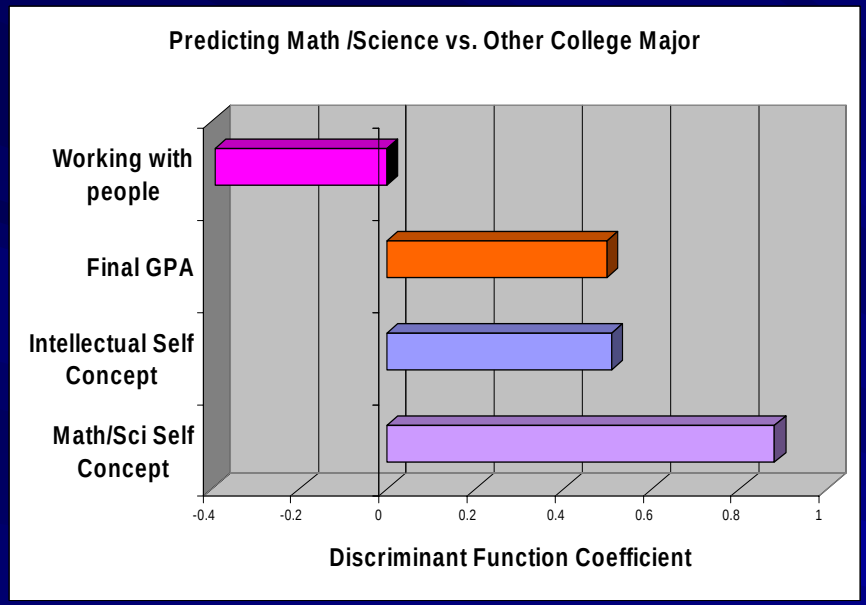
Time 2 (Age 20) Measures: Comfort with Job Characteristics

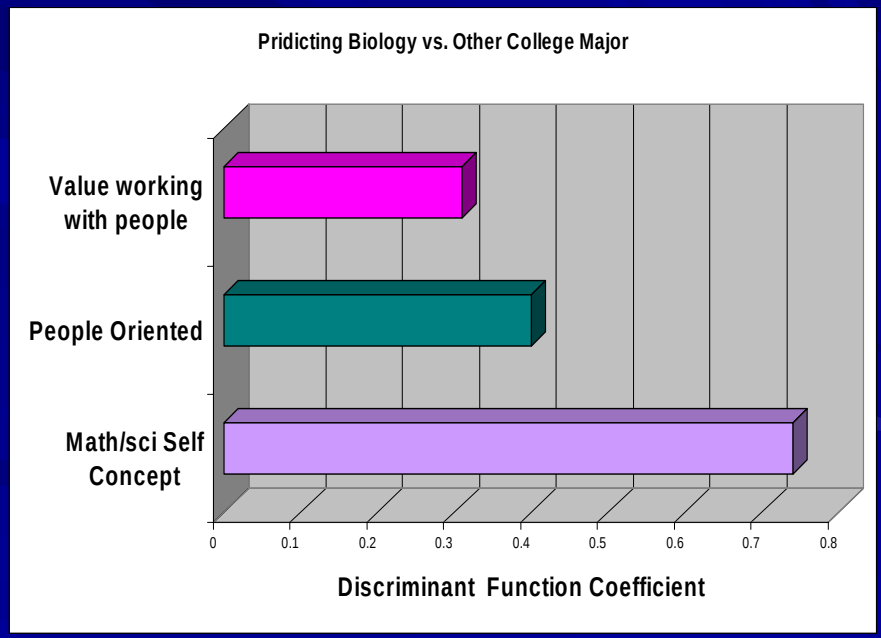
- Business Orientation: Comfort with tasks associated with being a supervisor
- People Orientation: Comfort working with people and children

Sex Differences in General Self Concepts and Values

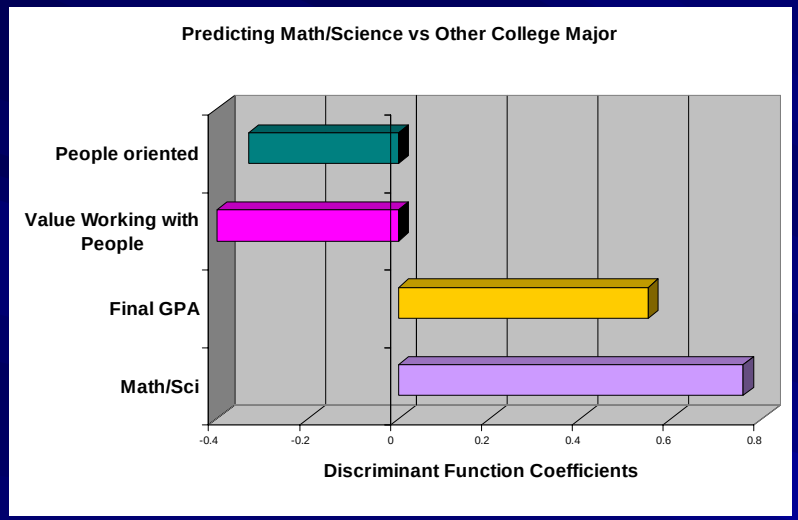


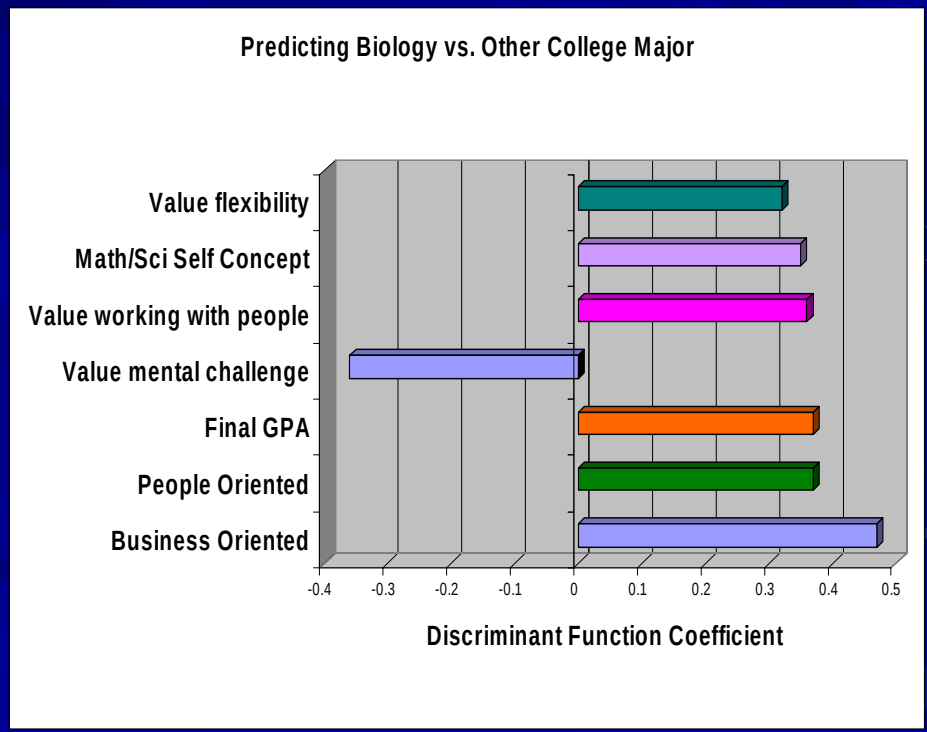
Predicting **Women's** M/E/PS and Biological Science College Major from General Self-Concepts and Values at 20





Predicting **Men's** M/E/PS and Biological Science College Major from General Self-Concepts and Values at 20





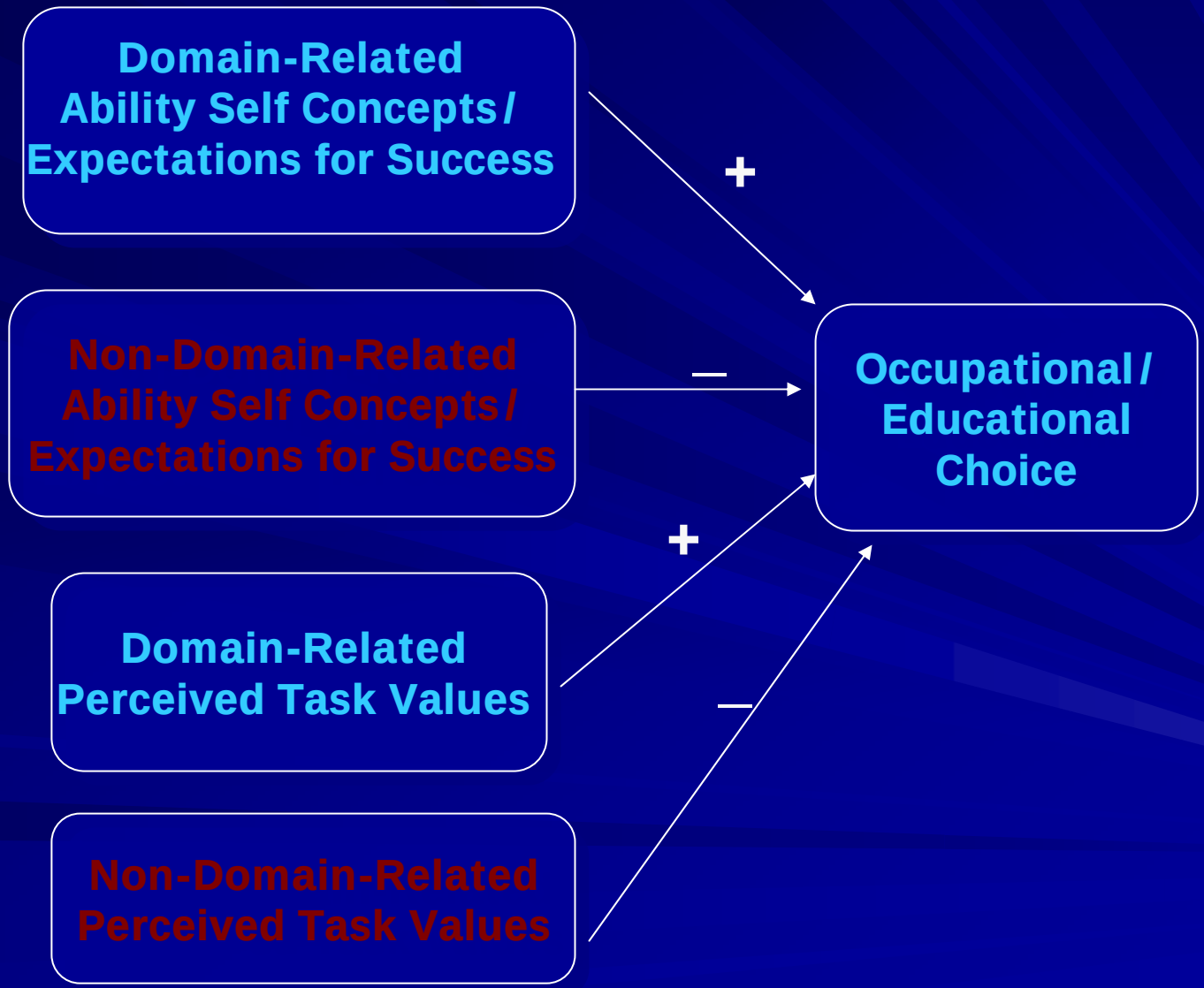
Conclusions 1:

- Strong support for the predictive power of constructs linked to the Expectancy Value Model.
  - Domain Specific SCs and Values push both women and men towards the related majors
  - Some evidence that more general values can also push people away from M/S/PS majors and towards Biology-Related majors
- Sex differences in selection of M/E/PS college major are accounted for by Expectancy Value Model

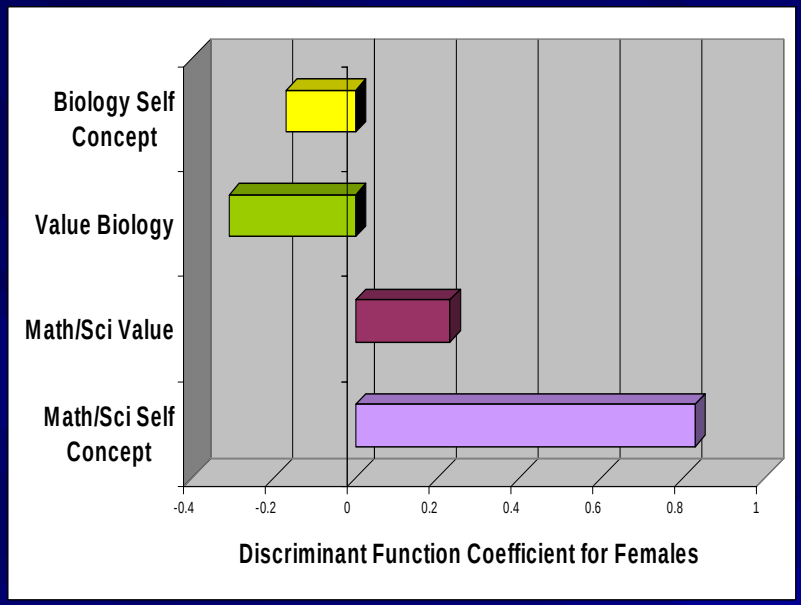
Next Step

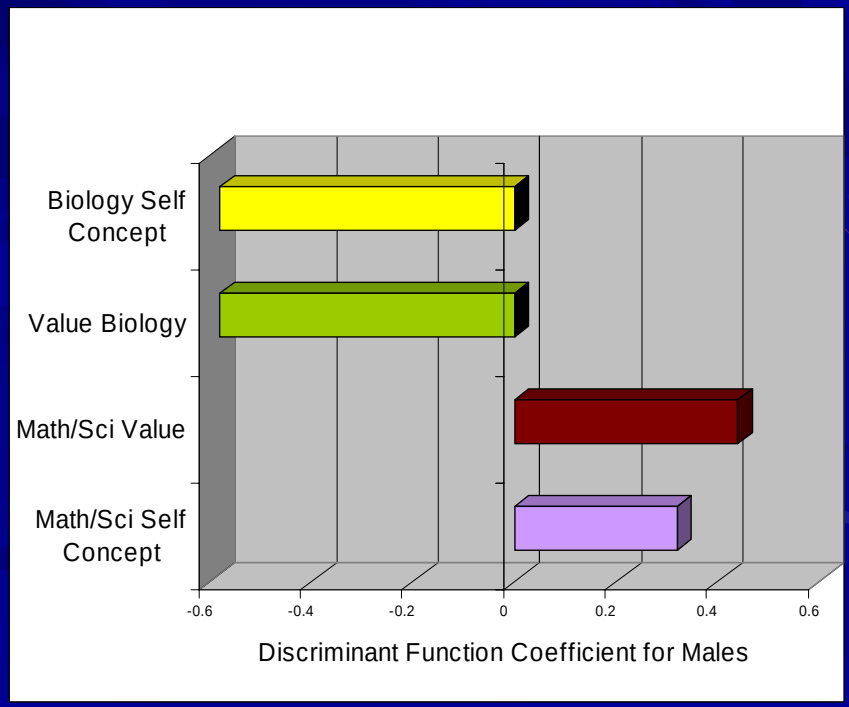
- Do Within Sex Discriminant Function Analysis comparing Choice of a Math/Science Major with the Choice of a Biological Science Major

Basic Expectancy Value Model

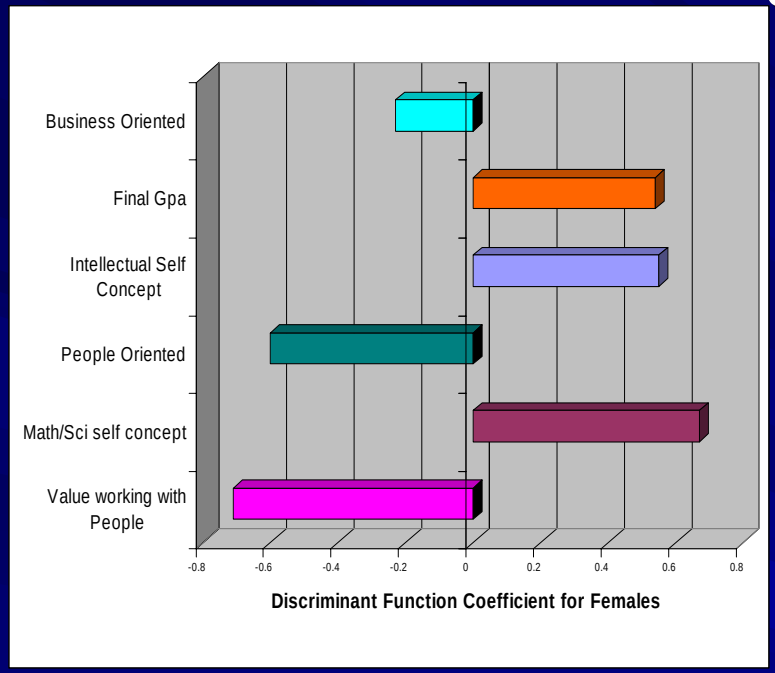


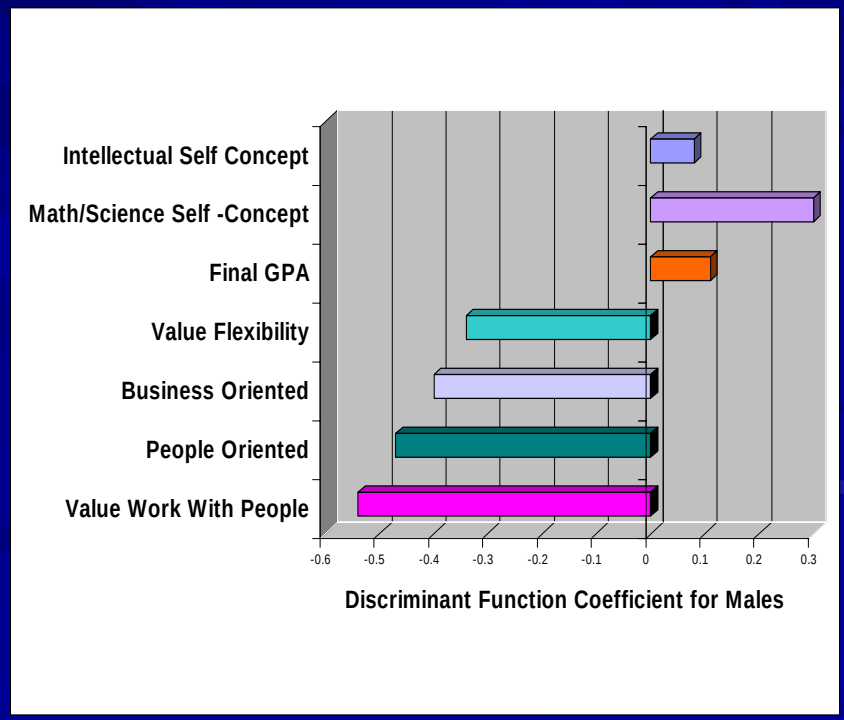
Predicting M/E/PS vs. Biology Major From Domain Specific SCs and Values at 18





Predicting M/E/PS vs. Biology Major From General Self-Concepts and Values at 20





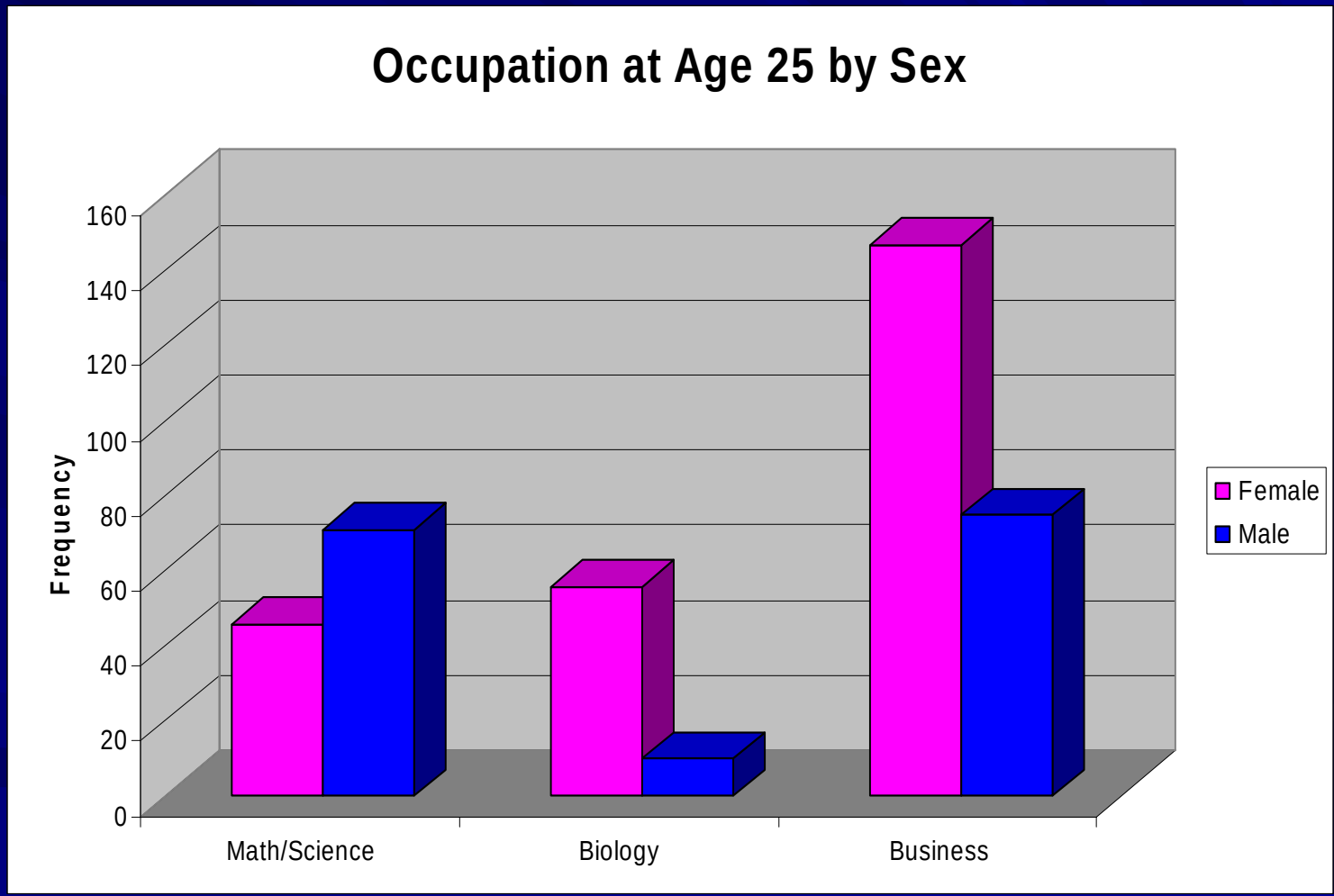
Conclusions 2

- Even stronger support for both the push and pull aspects of the Eccles et al. Expectancy Value Model
- Strong evidence that valuing having a job that allows one to work with and for people pushes individuals away from M/E/PS majors and pulls them toward the Biological Sciences

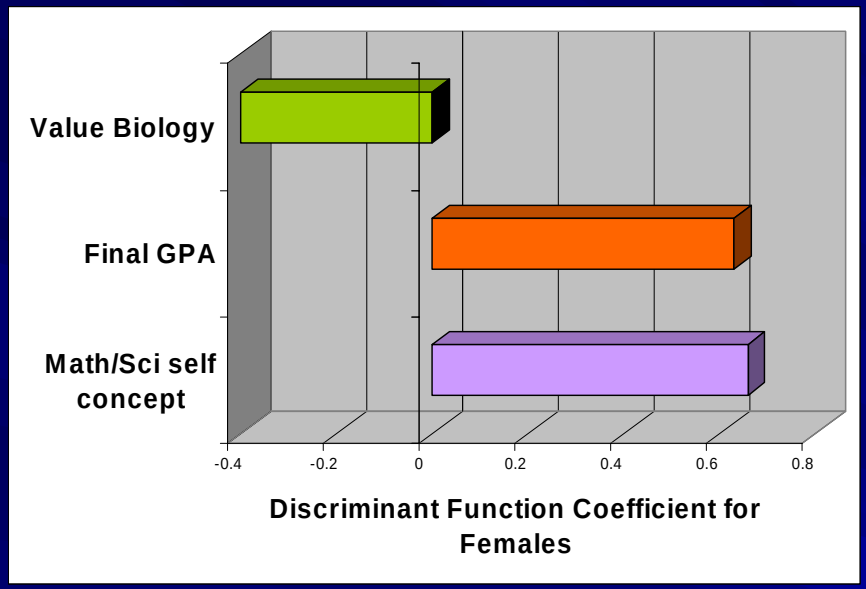
Next set of analyses

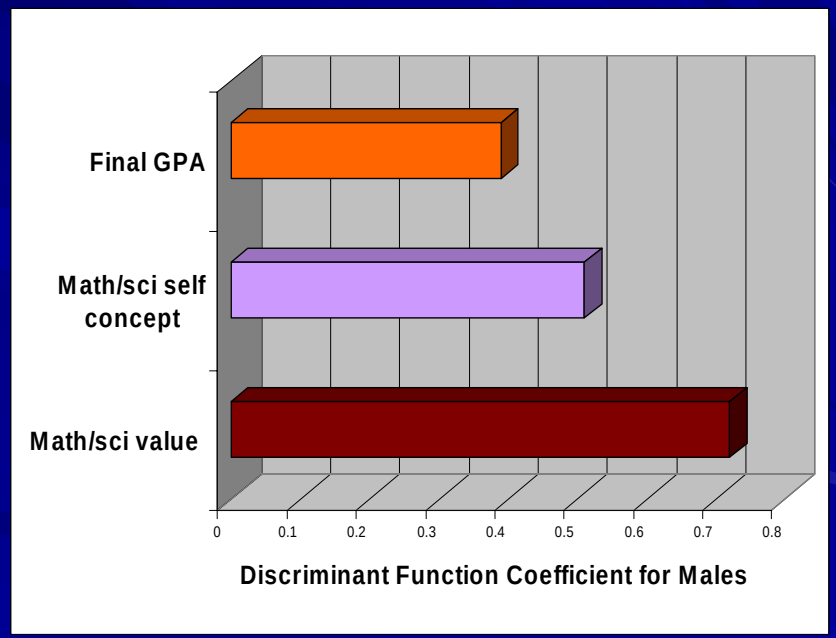
- Now lets shift to the second set of analyses: those linking self concepts and values from ages 18 and 20 to actual occupations at age 25

Sex Differences in Occupations

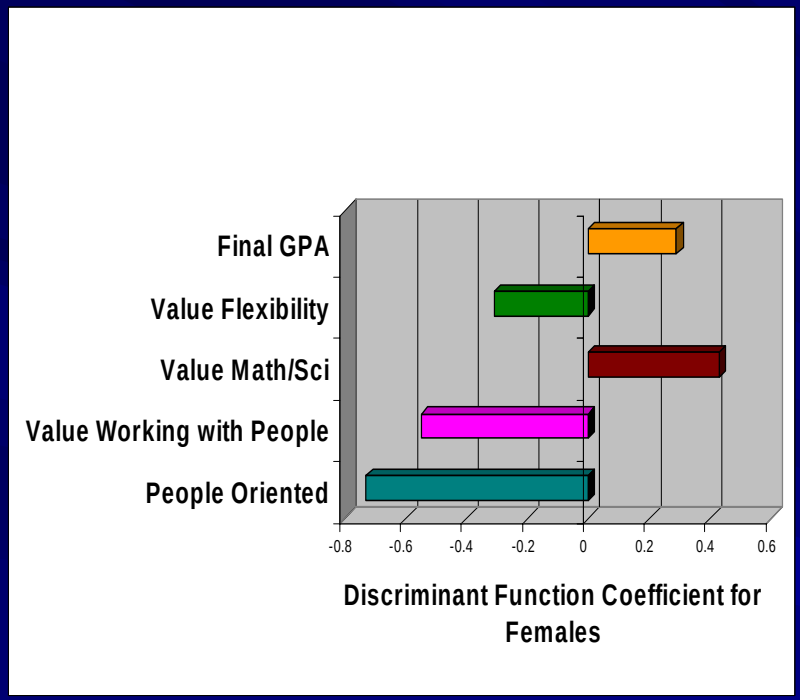


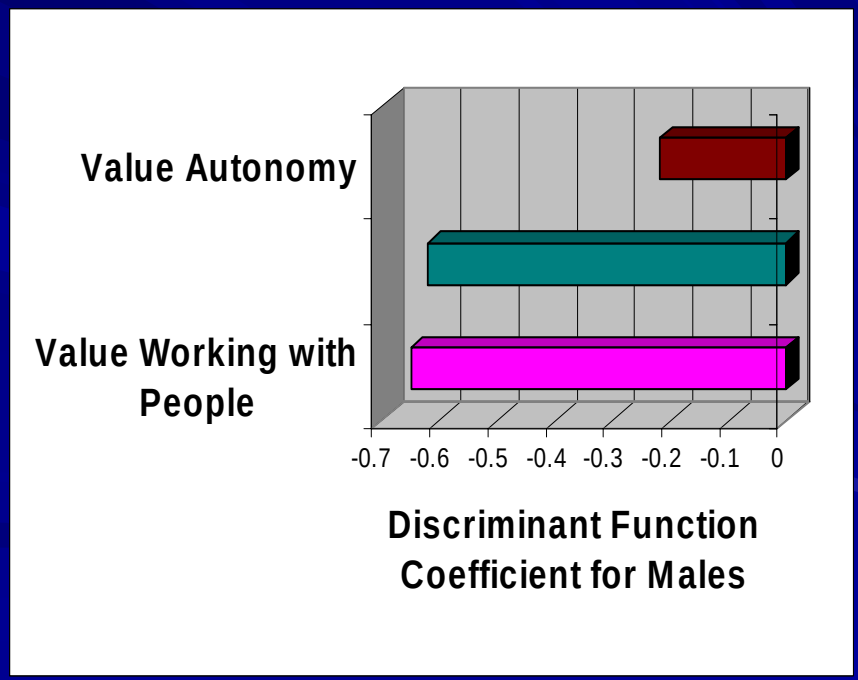
Predicting M/E/PS vs Biology Occupations at 25 from Self Concepts and Values at 18





Predicting M/E/PS vs Biology Occupation at 25 from General Self Concepts and Values at 20





Conclusions 3

- Expectancy Value Model provides a good explanatory framework for understanding both individual differences and sex differences in educational and occupational choices

Part 3

- Where do these individual differences come from?

- Psychological Influences
  - Performance Feedback
    - Objective and Social Comparative
    - Within Person Comparisons
  - Social Influences

Objective and Social Comparative Performance Feedback

- Several theories suggest that performance feedback should influence both ability self concepts and subjective task values.

- Several theories suggest that performance feedback should influence both ability self concepts and subjective task values.

Our findings support this prediction within several skill domains:

Mathematics

Physics

Language Arts

Sports

Instrumental Music

- Several theories suggest that performance feedback should influence both ability self concepts and subjective task values.

Our findings support this prediction within several skill domains

BUT

Effects are stronger for ability self concepts than for subjective task value components

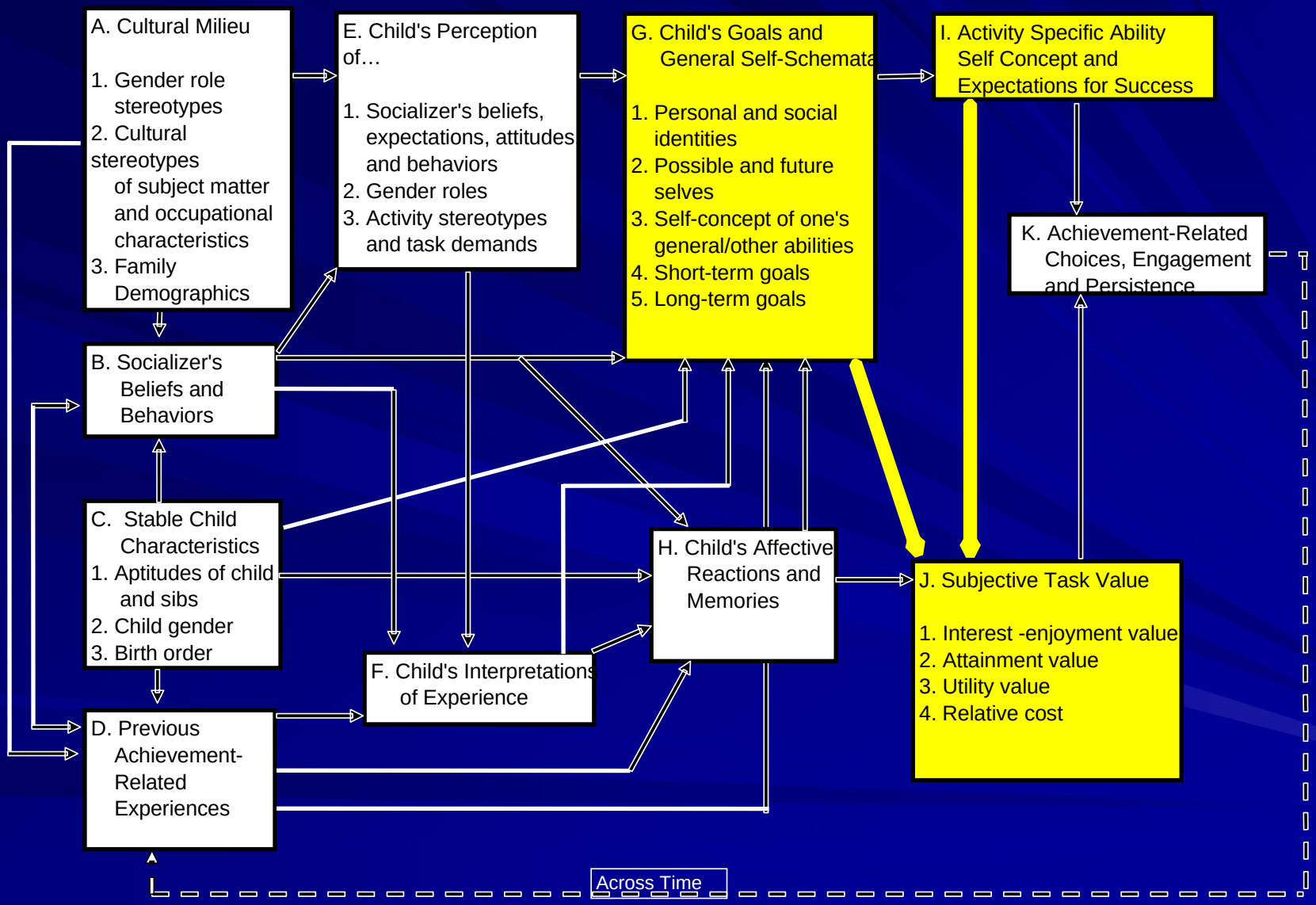
AND

We are seeing both cultural and historical differences in the strength and patterns of these associations

What about the relation between ability self concepts and subjective task value within a domain?

- The predictions here are less clear.

Figure 1. General Expectancy Value Model of Achievement Choices



Jacobs et al. 2002

- Using HLM demonstrated that the developmental decline in STVs for both math and sports is mediated in part by the decline in the domain specific Ability Self Concepts

BUT

- If STV influences performance by directing engagement and effort invested.
  - THEN
- STV should indirectly influence Ability Self Concepts and Expectations for Success

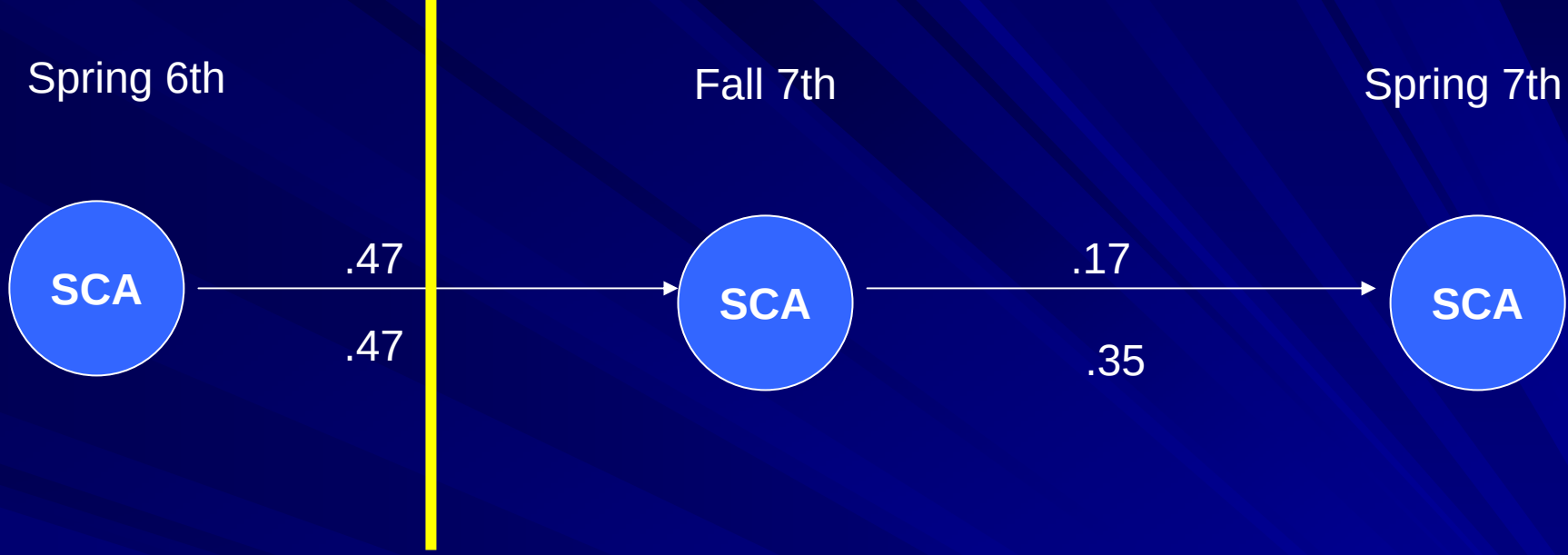
AND

- Self serving biases in perception should lead one to rate one's abilities higher in those domains that one highly values.

SO

- We have been looking at longitudinal relations among performance, STV and Ability Self Concepts within a domain

- Major Collaborators:
  - Kwang Suk Yoon
  - Allan Wigfield
- Focus now just on the predictors of individual differences in Ability Self Concepts and STV
- But analyses were done using SEM on all relations, so what I am showing you controls for all other stability and predicted longitudinal interrelations among the constructs

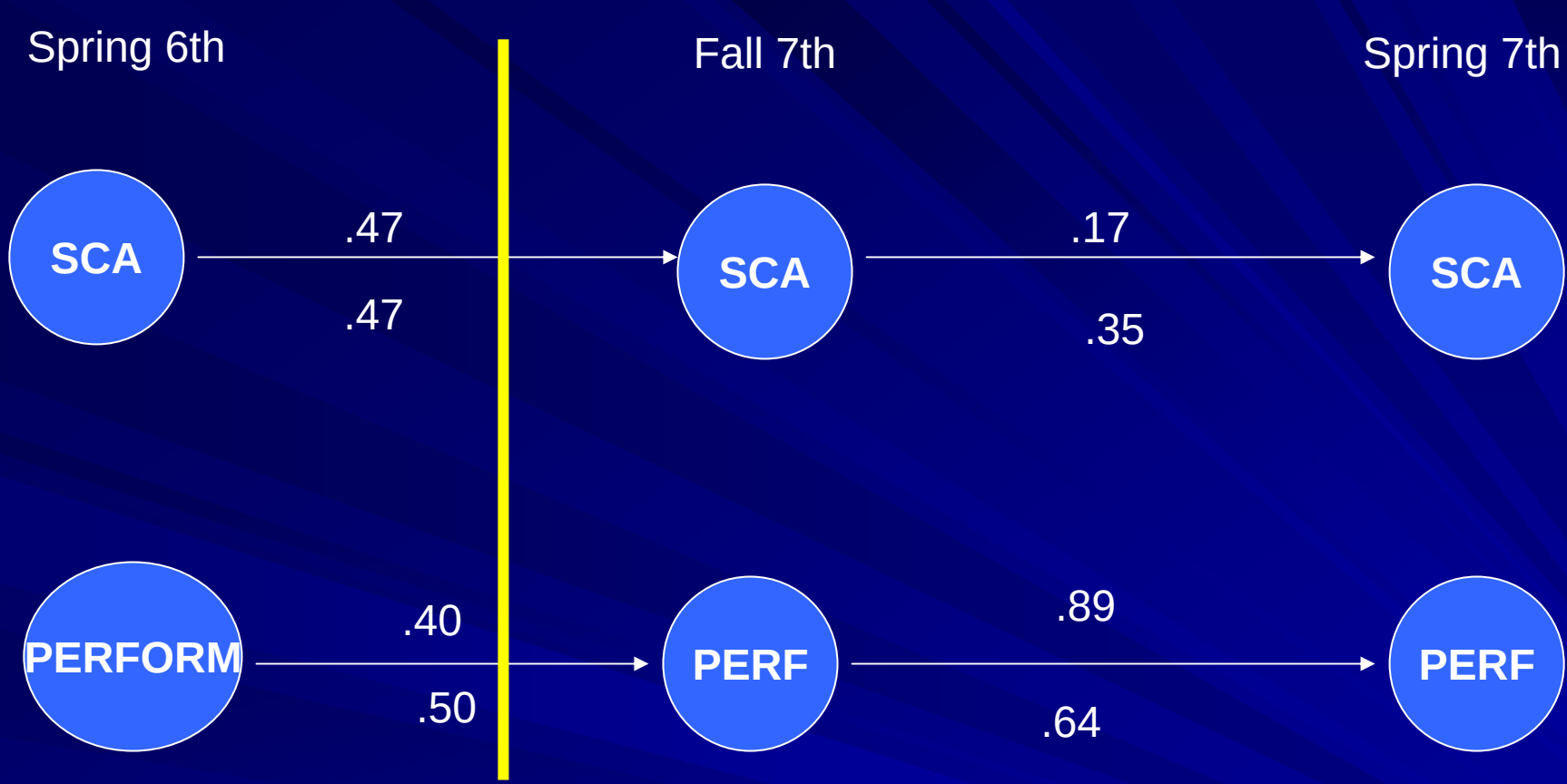


In Mathematics, Ability Self Concepts are not particularly stable after the Junior High School Transition as the students move through the 7th grade.

In contrast, actual performance is much more stable during 7th grade.

MSALT - Math

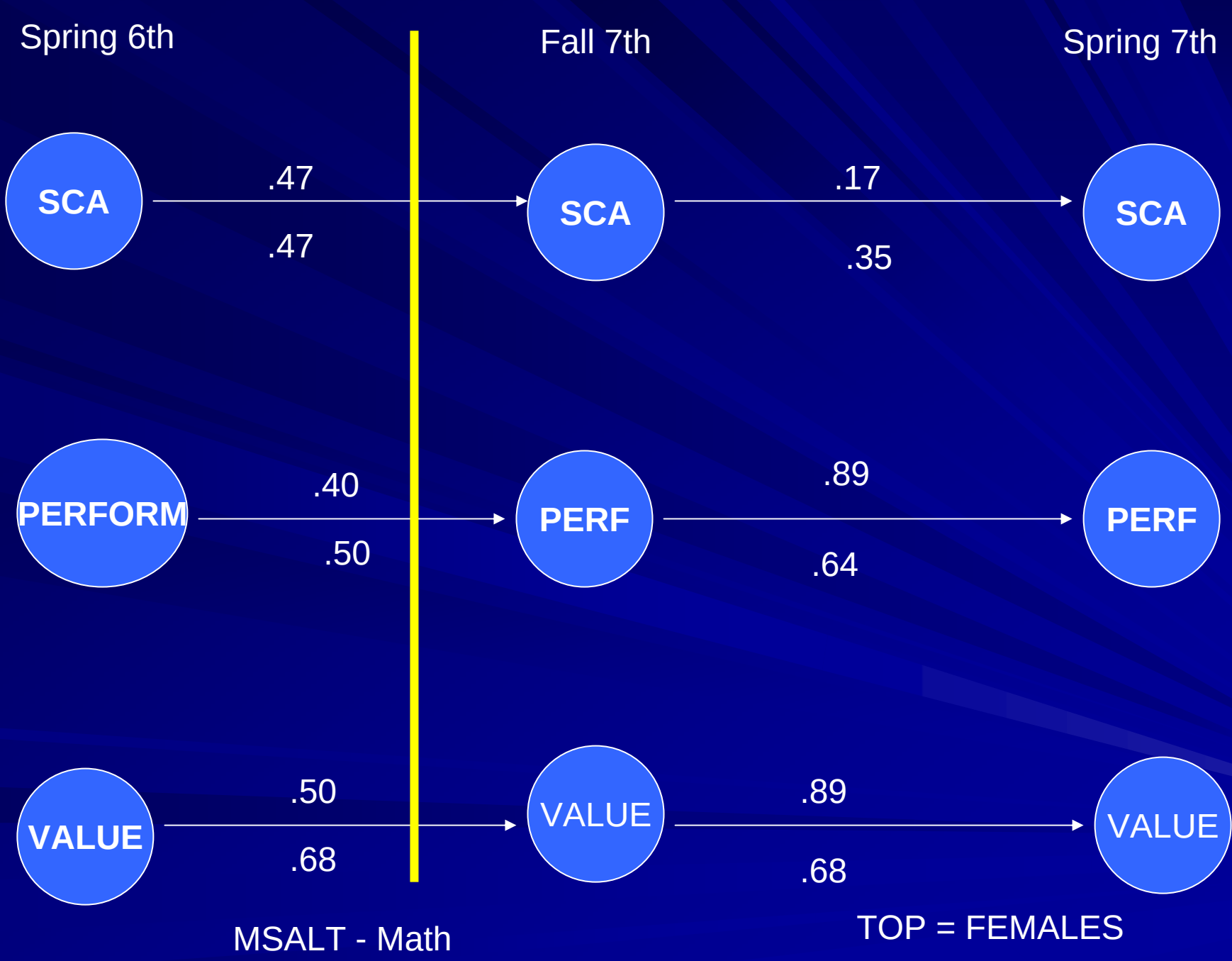
TOP = FEMALES



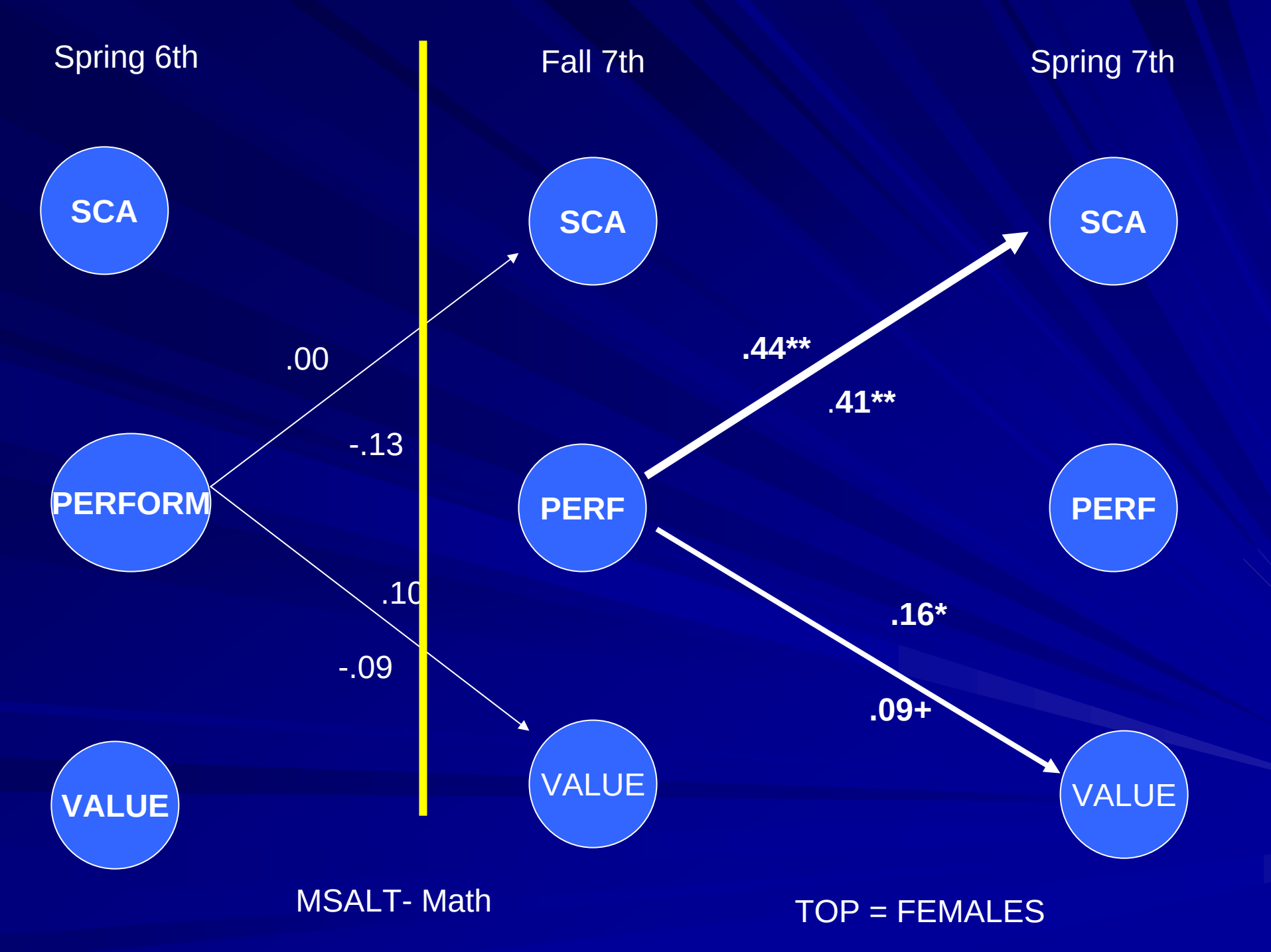
This is also true for Subjective Task Value.

MSALT - Math

TOP = FEMALES

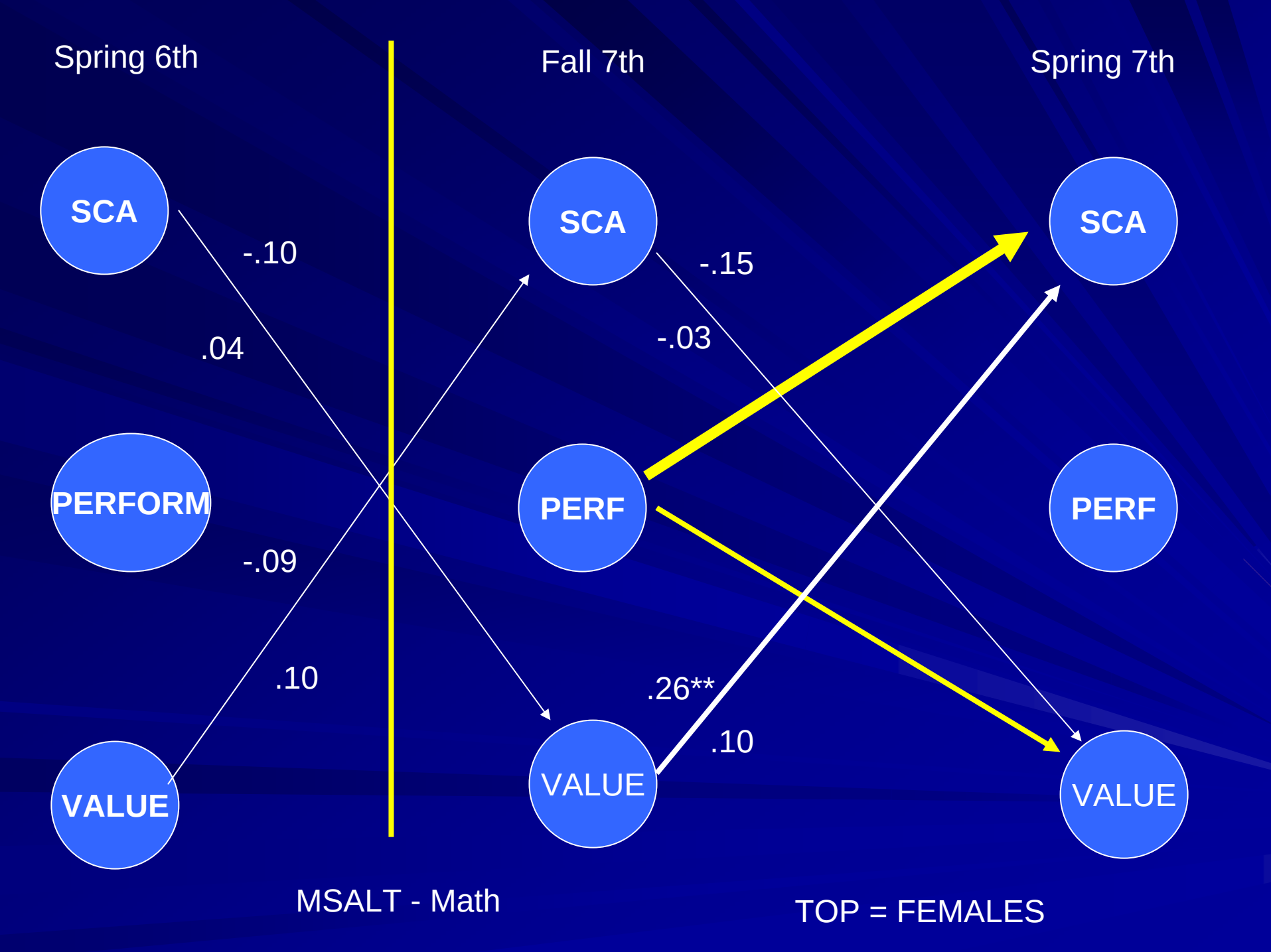

Spring 6th
Fall 7th
Spring 7th
SCA
.47
.47
SCA
.17
.35
SCA
PERFORM
.40
.50
PERF
.89
.64
PERF
VALUE
.50
.68
VALUE
.89
.68
VALUE
MSALT - Math
TOP = FEMALES

- What about the interrelations, controlling for the across time stabilities?
  - Please keep in mind the variation in across time stabilities across these three constructs with math ability self concept having the lowest across time stability


Spring 6th
Fall 7th
Spring 7th
SCA
SCA
SCA
PERFORM
PERF
PERF
VALUE
VALUE
VALUE
.00
-.13
.10
-.09
.44**
.41**
.16*
.09+
MSALT- Math
TOP = FEMALES

What about the relation between ability self concepts and subjective task value within a domain?

- The predictions here are less clear.
- Seems likely the relation will reciprocal in nature.


Spring 6th
Fall 7th
Spring 7th
SCA
PERFORM
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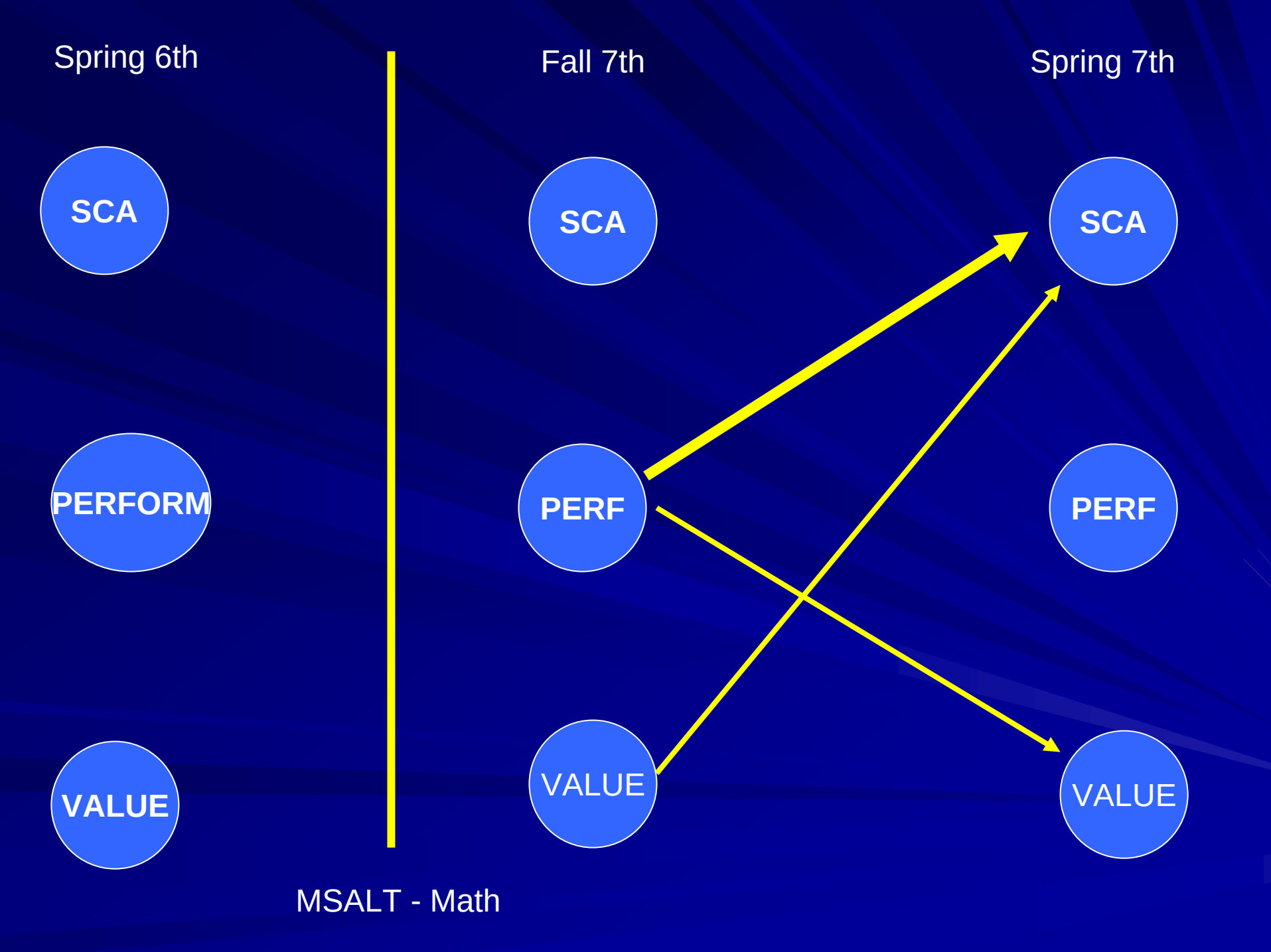
-.15
-.03
.26**
.10
MSALT - Math
TOP = FEMALES


Spring 6th
Fall 7th
Spring 7th
SCA
PERFORM
VALUE
SCA
PERF
VALUE
SCA
PERF
VALUE
MSALT - Math

Conclusions

- Across our own work, we have strong evidence of performance predicting change in both ability self concepts and subjective task value
- We have evidence that the relations between ability self concepts and subjective task value are bi-directional
- We are just beginning to use our data to model developmental changes in relative strengths of these bi-directional effects

Big Fish – Small Pond

- We also looked at changes in both ability self perceptions and subjective task value as these students moved from heterogeneously grouped math classrooms into homogeneously ability grouped classrooms.

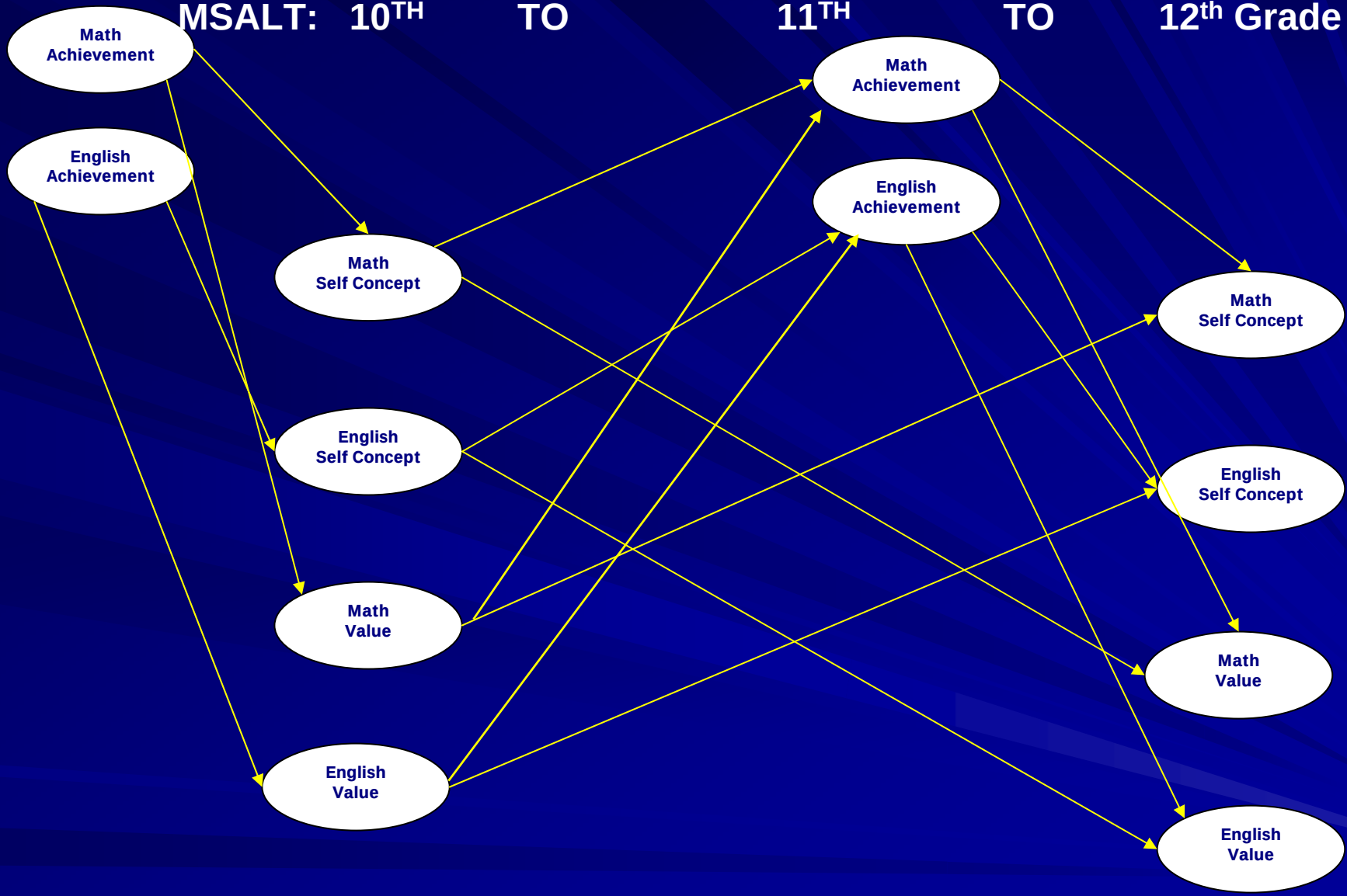
Big Fish – Small Pond

- As both Marsh and social comparison theory would predict:
  - Both math ability and STV components declined for the highest performing students as they moved into the high ability classes
  - In contrast, both math ability and STV increased for the lowest performing students as they moved into low ability classes.

What About Within Person Comparisons? ala Marsh's I-E Theory

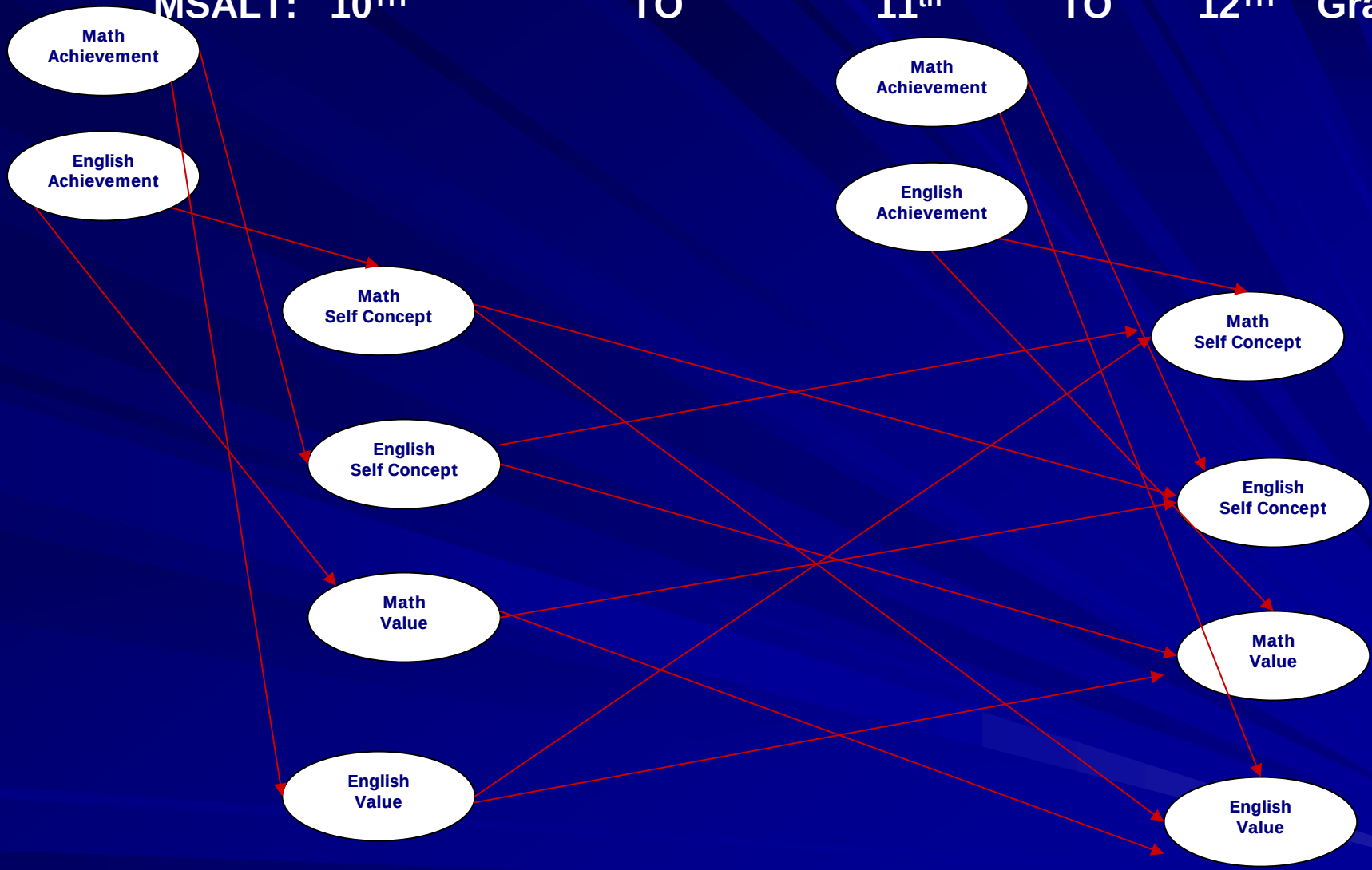
- Main Collaborators
  - Jessica Garnett
  - Kai Cortina
- See More Details at their Paper session right after this talk

MSALT: 10TH TO 11TH TO 12th Grade



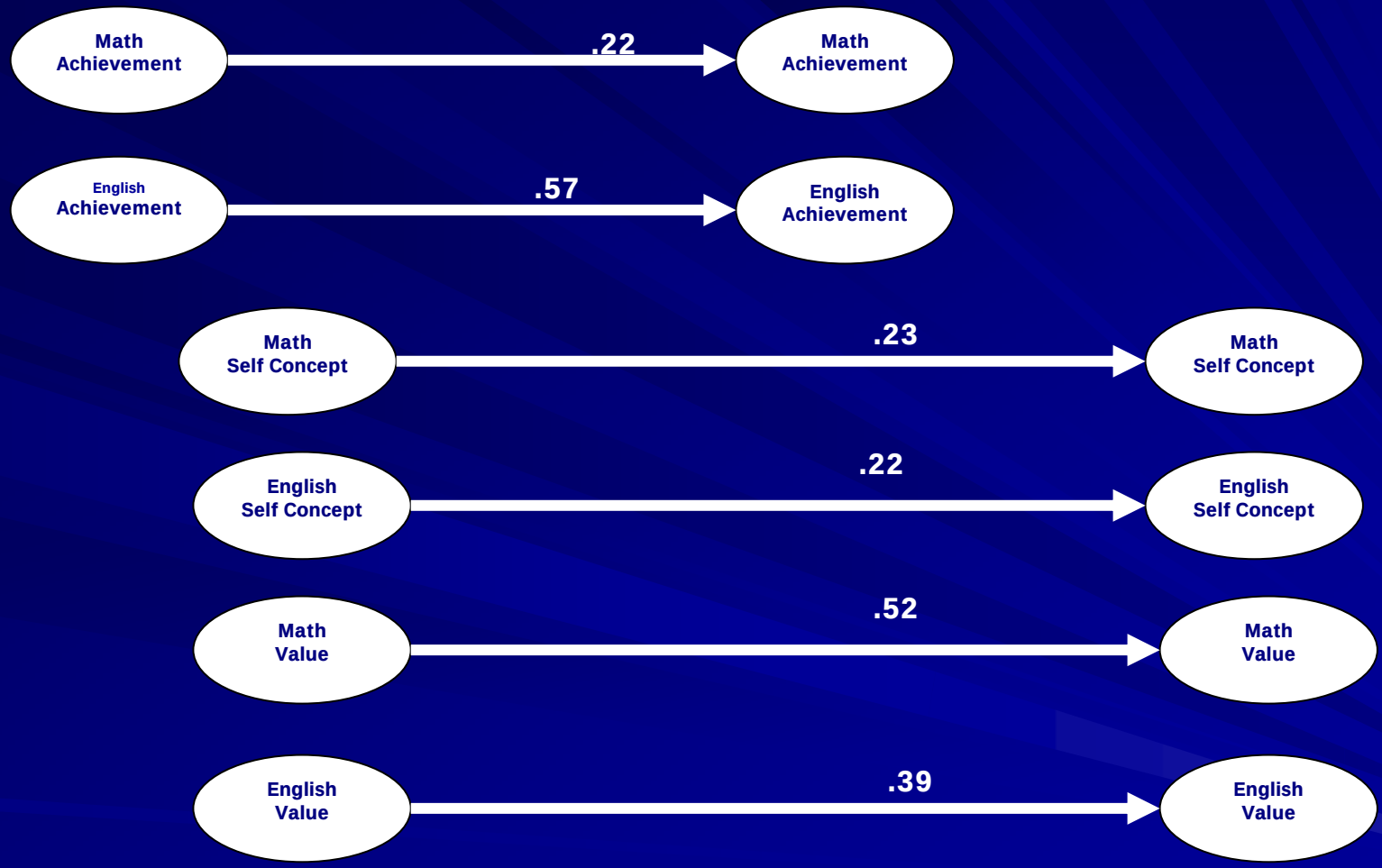
Predicted Positive Associations
Stability lines not shown for ease of presentation

MSALT: 10TH TO 11th TO 12TH Grade



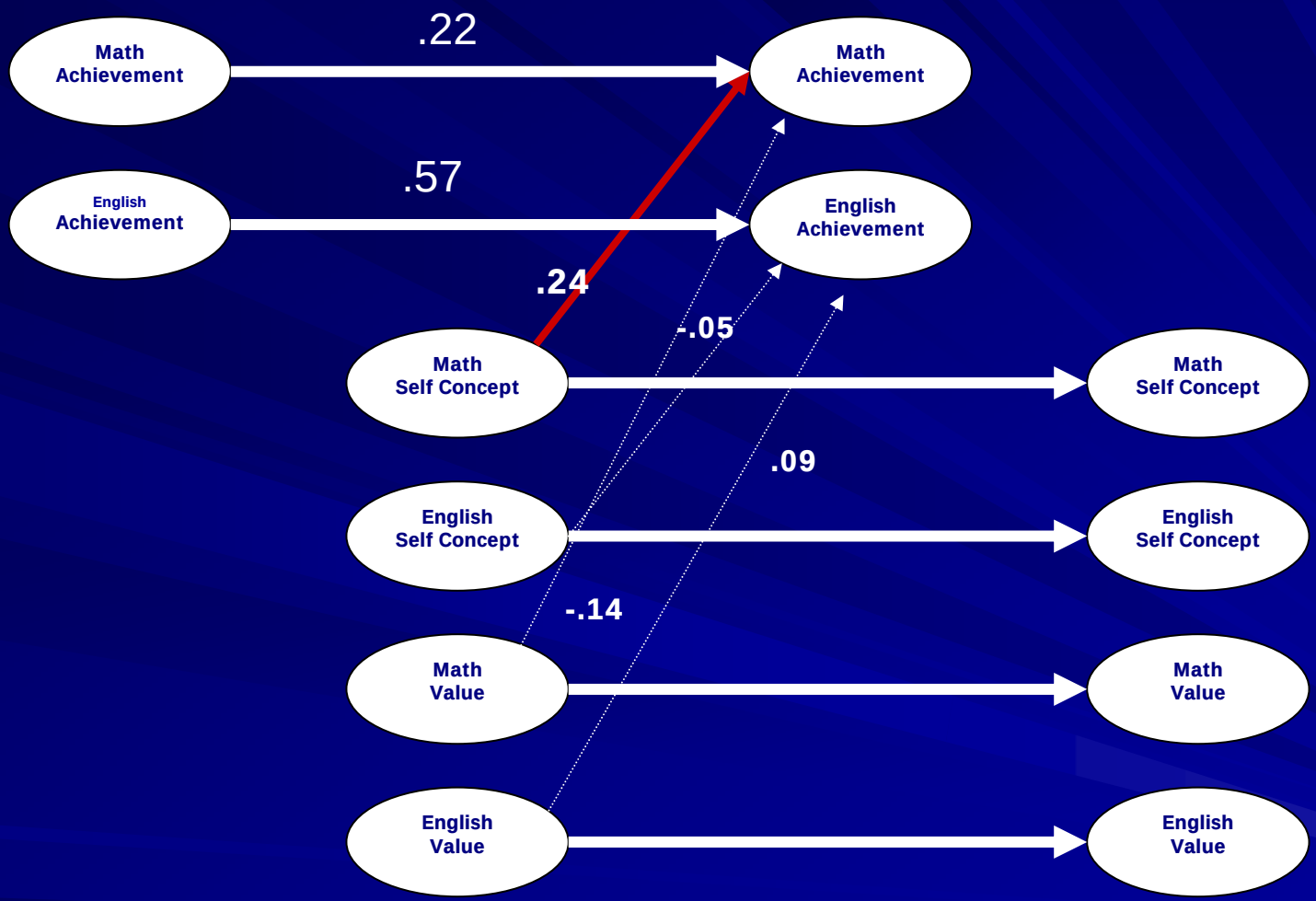
Predicted Negative Associations
Stability lines not shown for ease of presentation

MSALT 10Th TO 11th TO 12TH GRADE



RMSEA: 0.063
Chi-sq.=342.4 (p= 0.0)
df=124
NFI = .96

MSALT 10TH TO 11th TO 12TH GRADE



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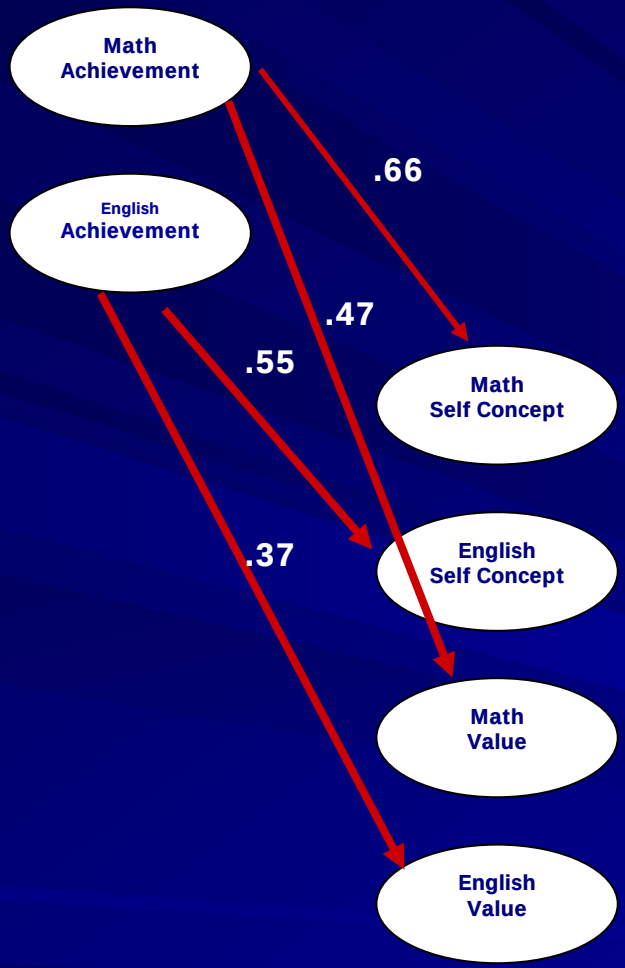
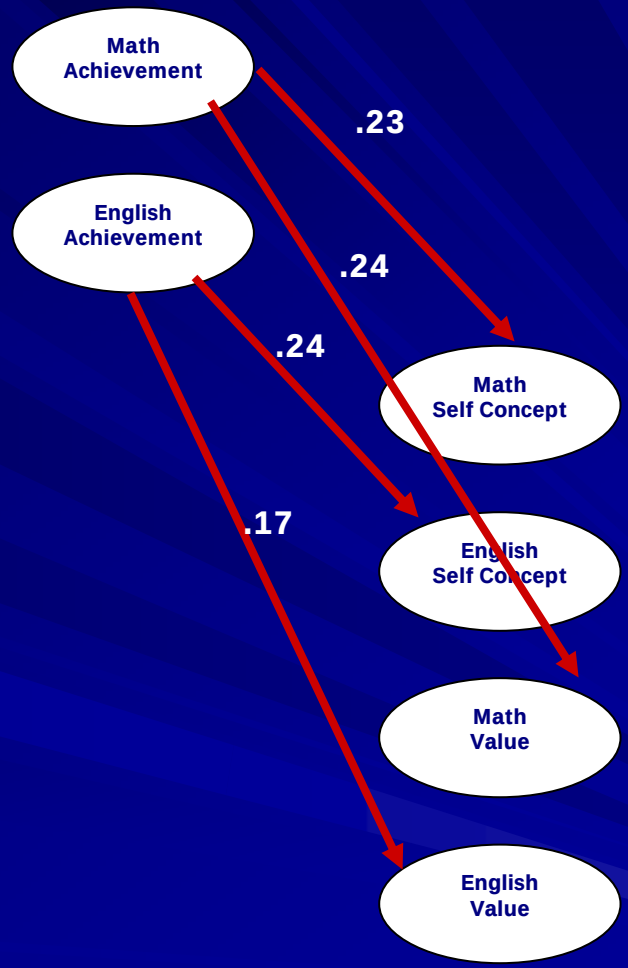
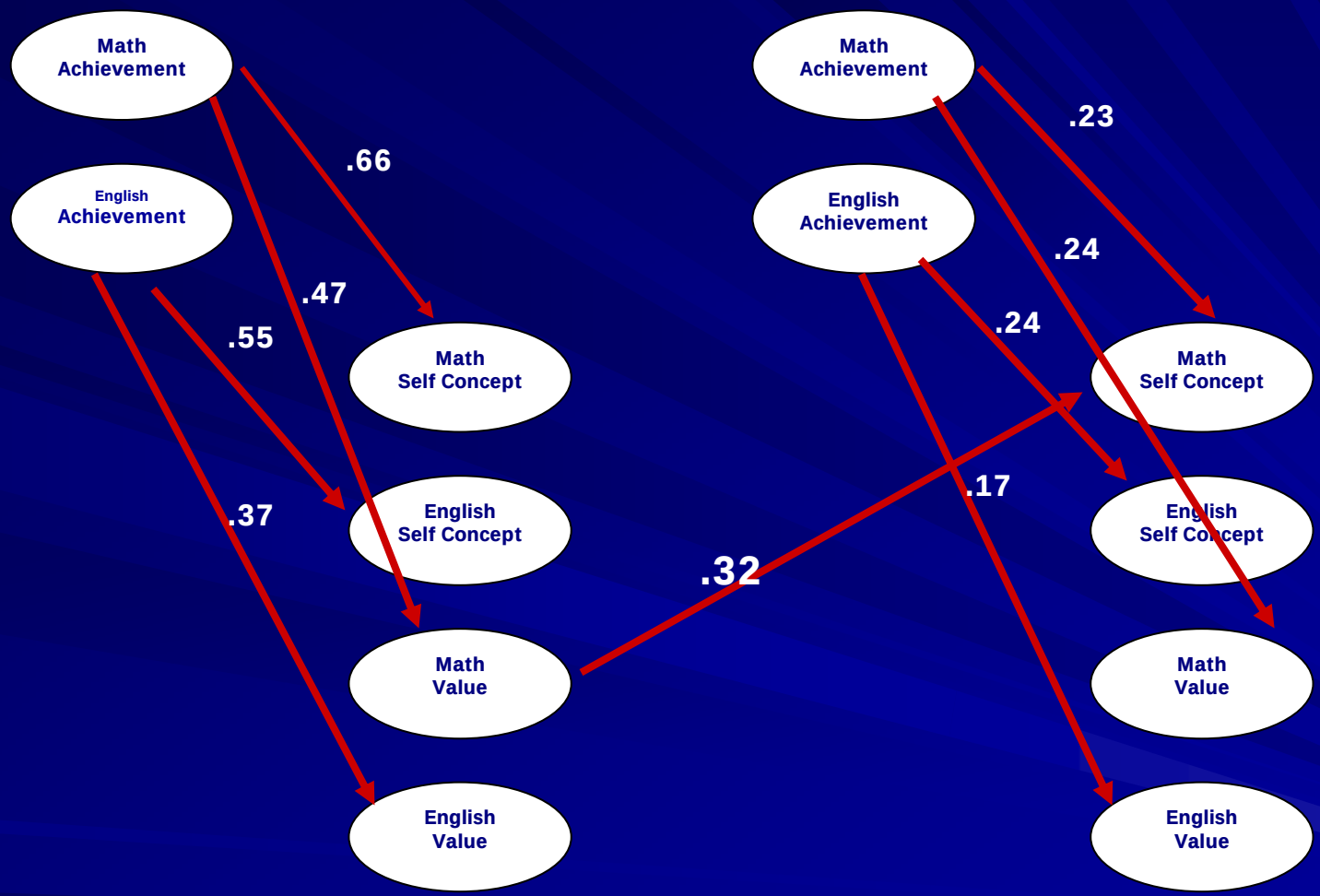




Cross time stabilities not shown

MSALT 10TH TO 11th TO 12TH GRADE



Cross time stabilities not shown

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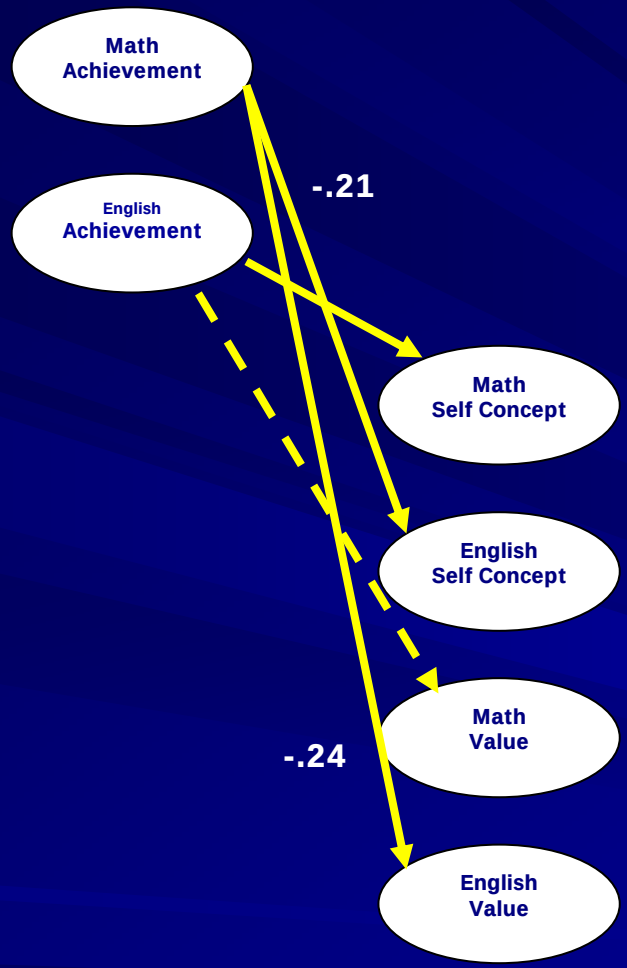

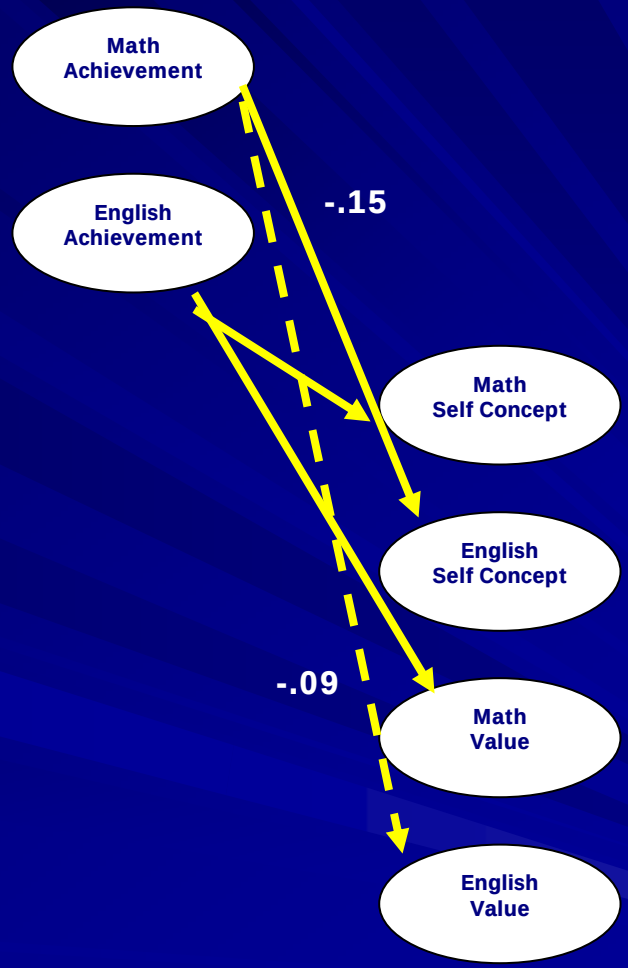

Cross time stabilities not shown

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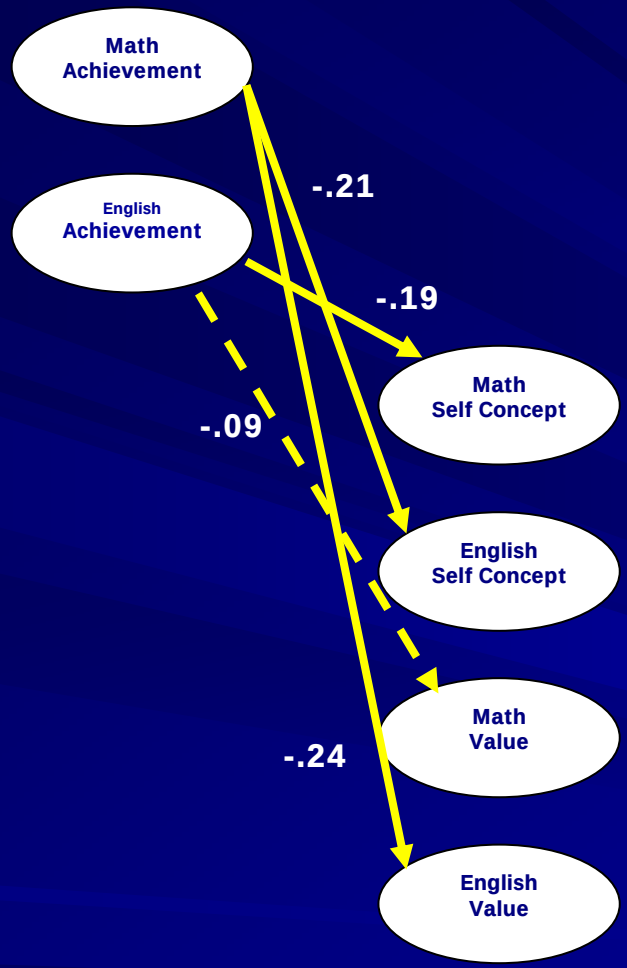
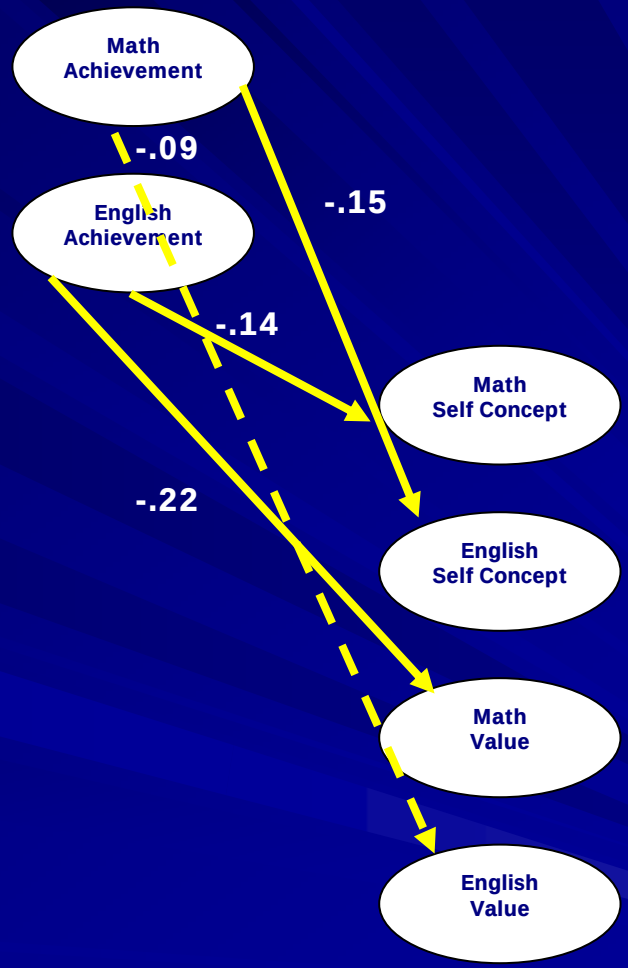
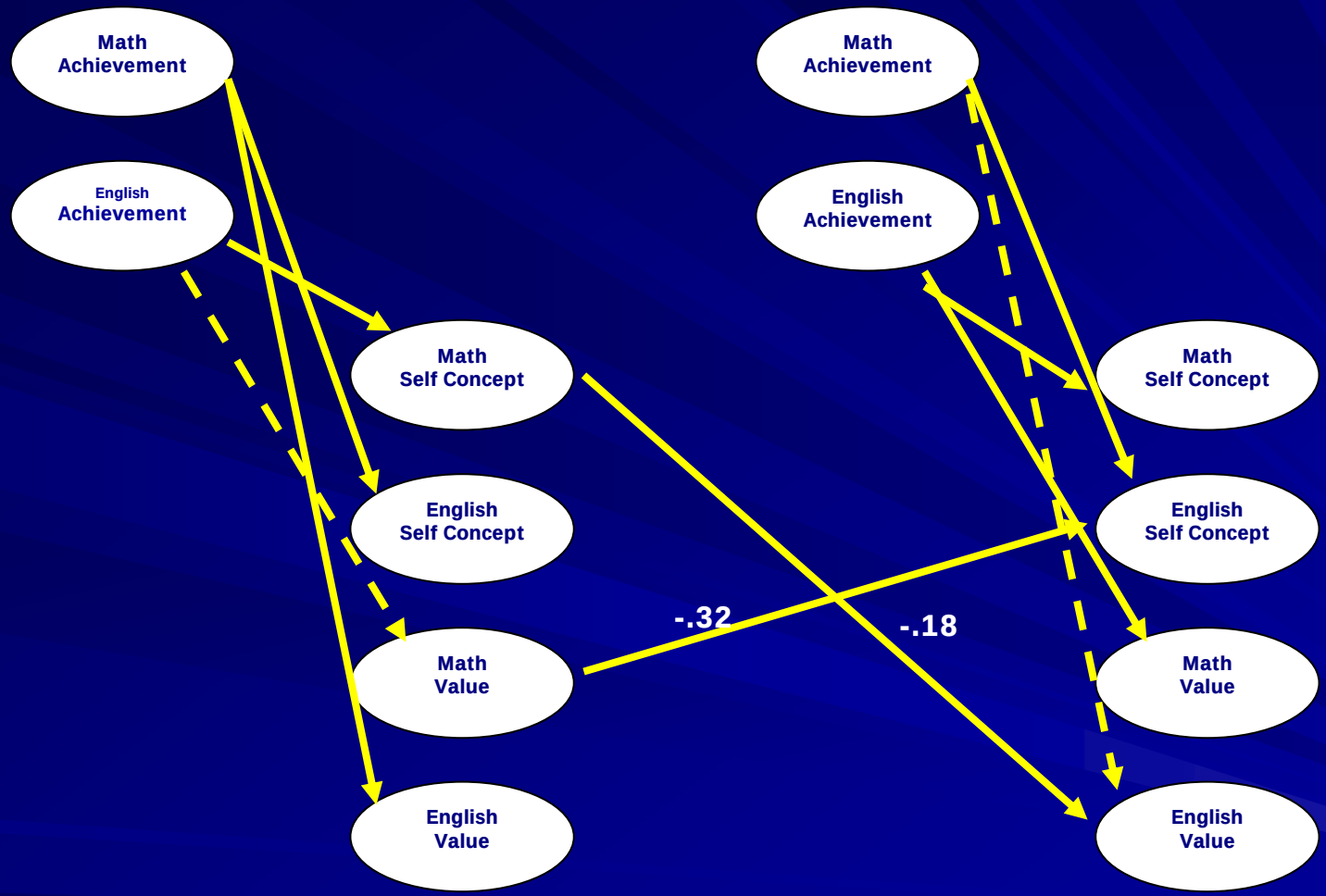




Cross time stabilities not shown

MSALT 10TH TO 11th TO 12TH GRADE



Cross time stabilities not shown

Conclusions

- As predicted,
  - We find positive relations from within domain performance to within domain ability self concepts and STV, both within close and longer time frames.
  - We find positive relations over long periods of time from math values to math ability self concepts

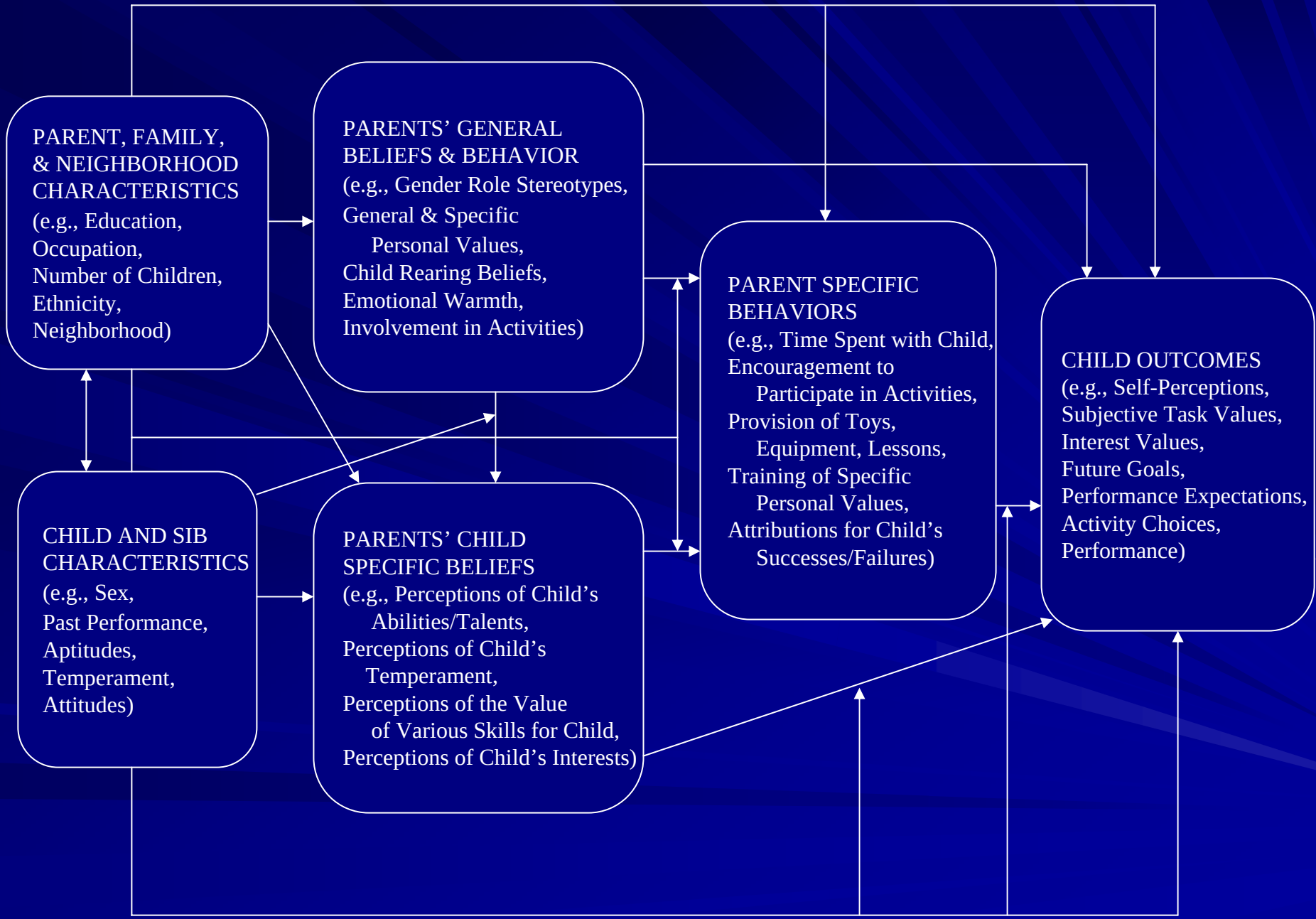
Conclusions

- As predicted,
  - We find negative relations across domains from performance to both ability self concepts and STV, both within close and longer time frames.
  - We find negative long term relations from the math ability to English STV and from math value to English ability self concept.

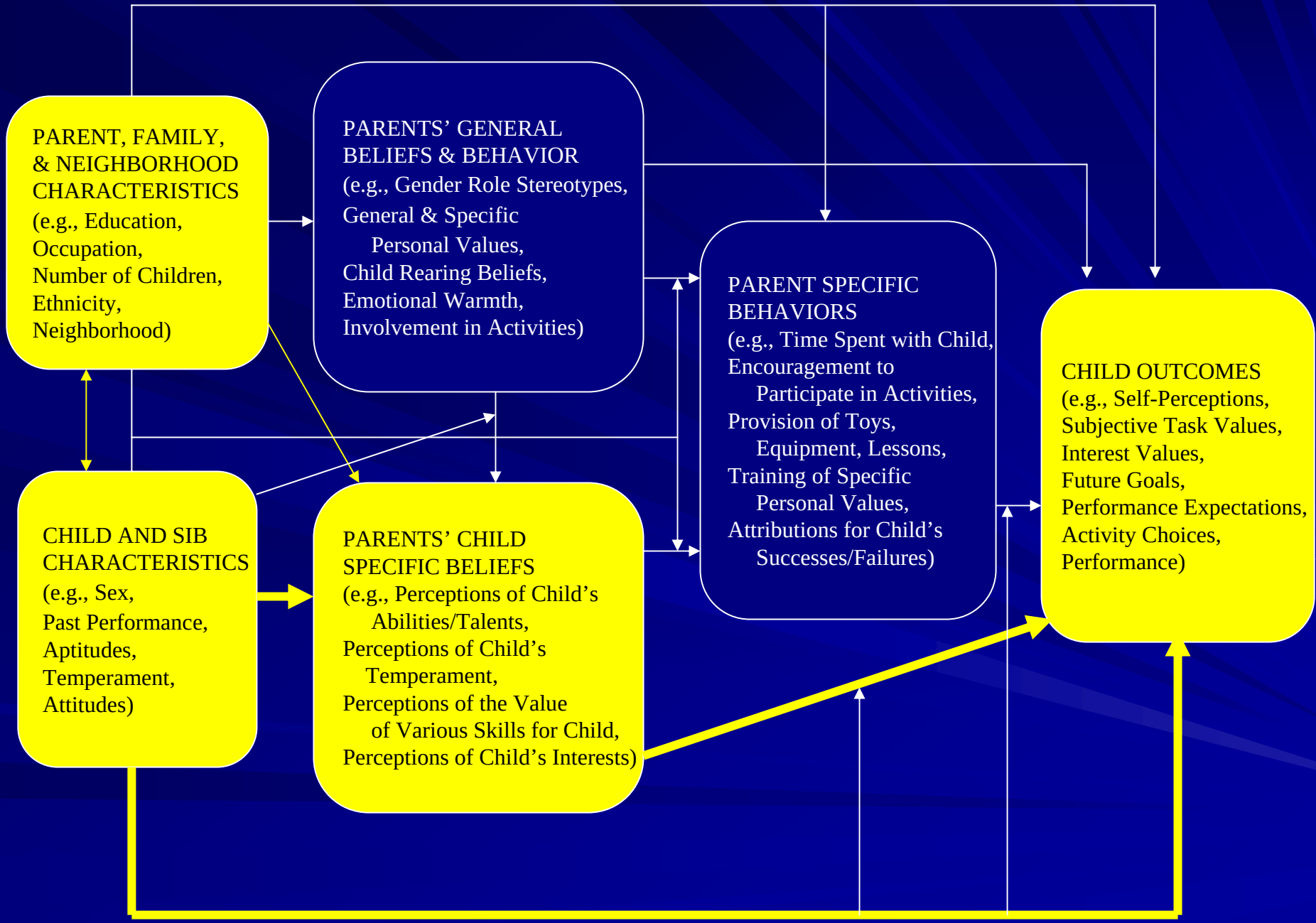
What About Other Social Influences

- I am going to focus just on parents today.

Eccles' Parent Socialization Model



Eccles' Parent Socialization Model



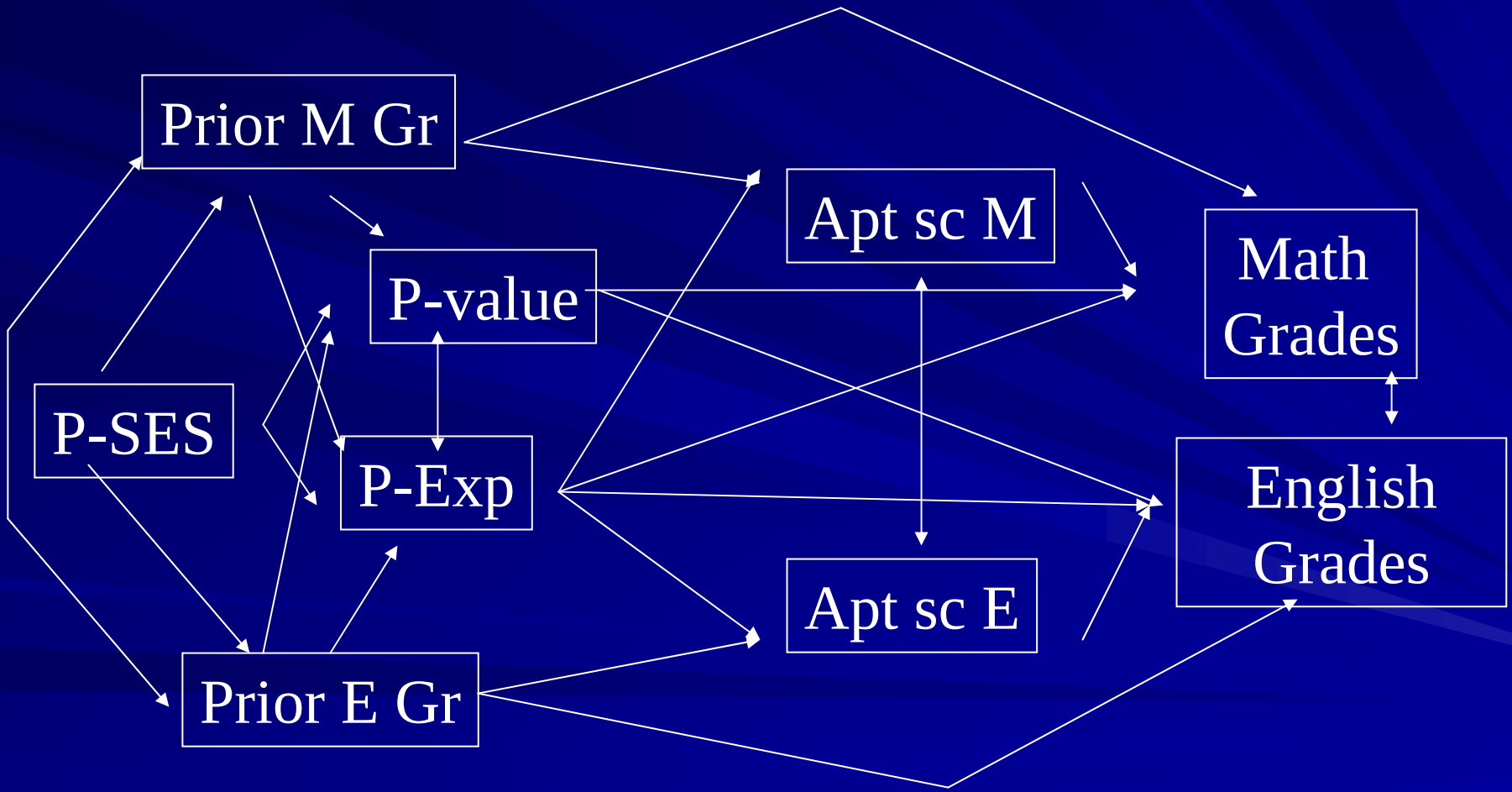
New SEM Analyses

Main Collaroborator
Markus P. Neuenschwander
University of Bern, Switzerland

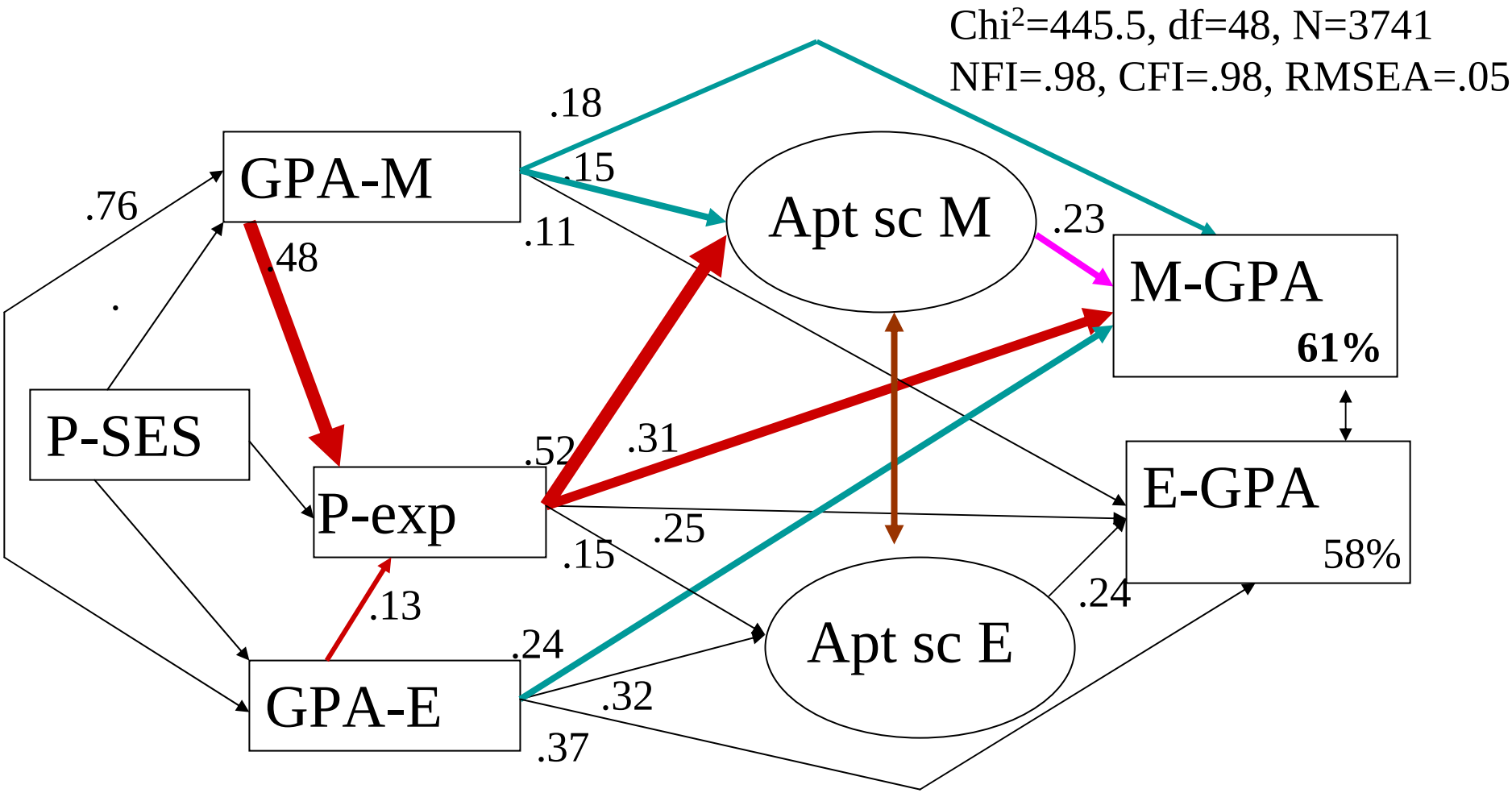
MSALT: Parent and Adolescent Sample

- 1st wave: early 6th grade
- 2nd wave: late 6th grade
- Transition to junior high.
- 3rd wave: early 7th grade
- 4th wave: late 7th grade

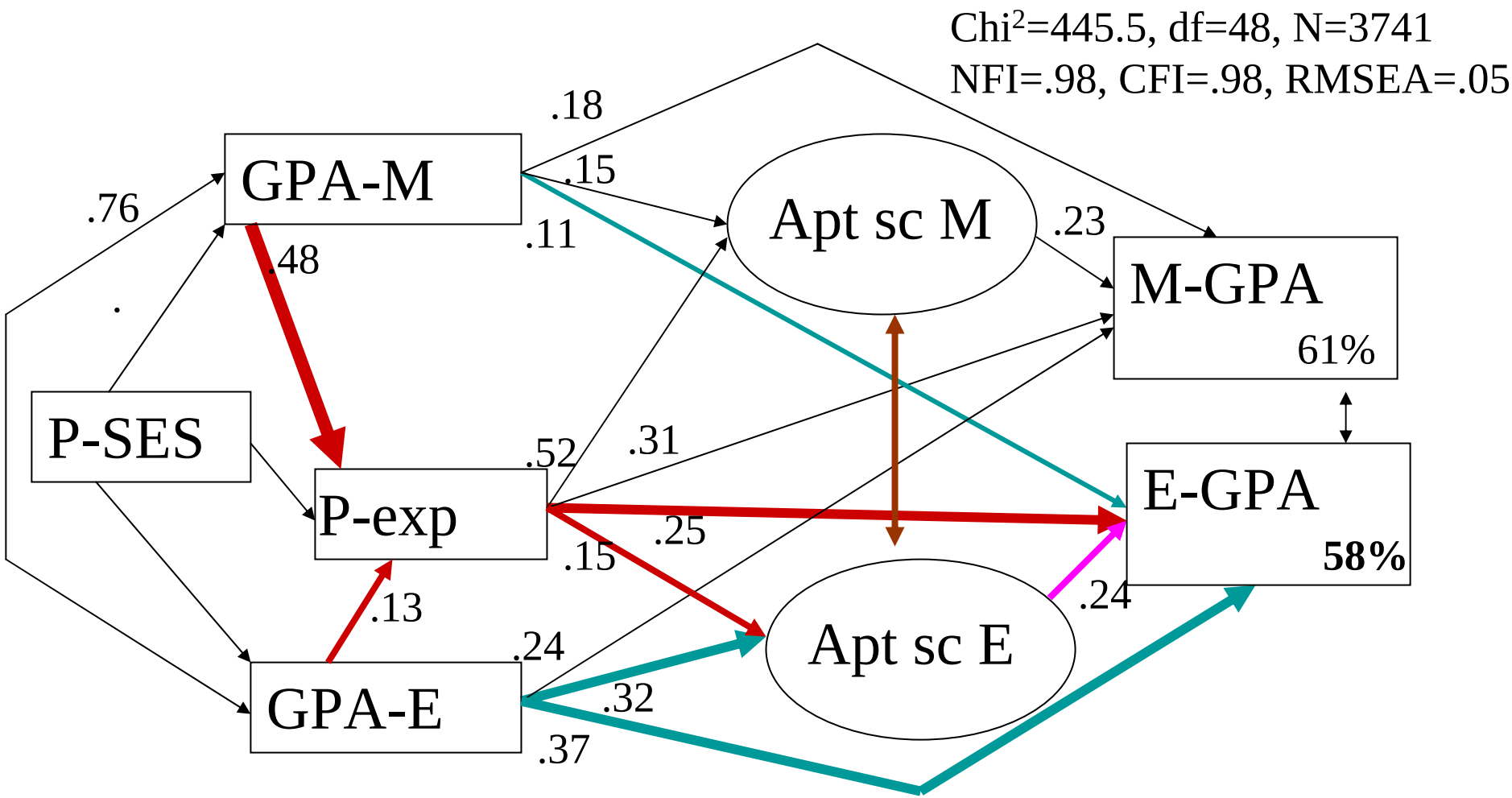
Model of Parental Influence



MSALT: Grade 6 Only



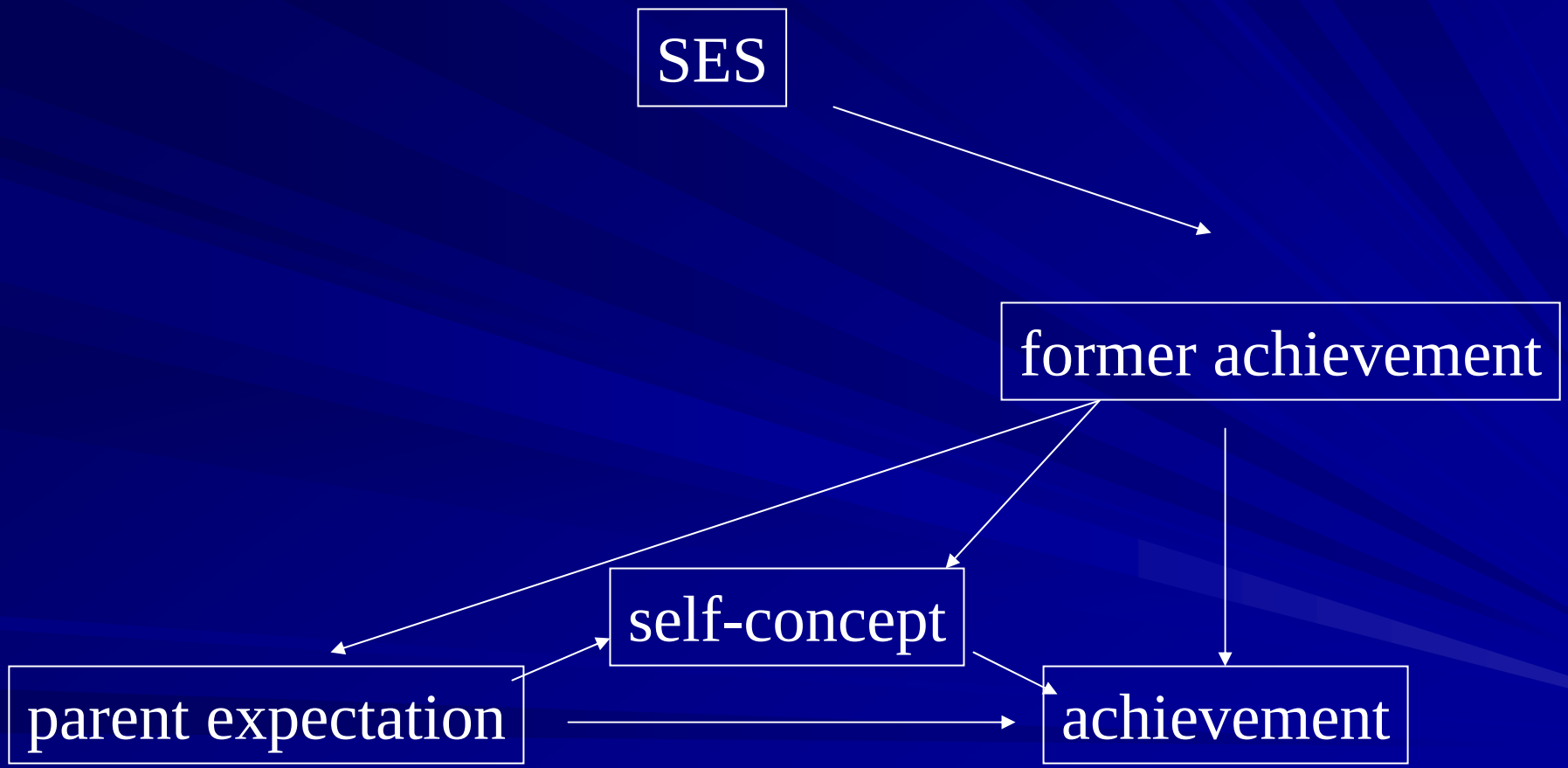
MSALT: Grade 6 Only



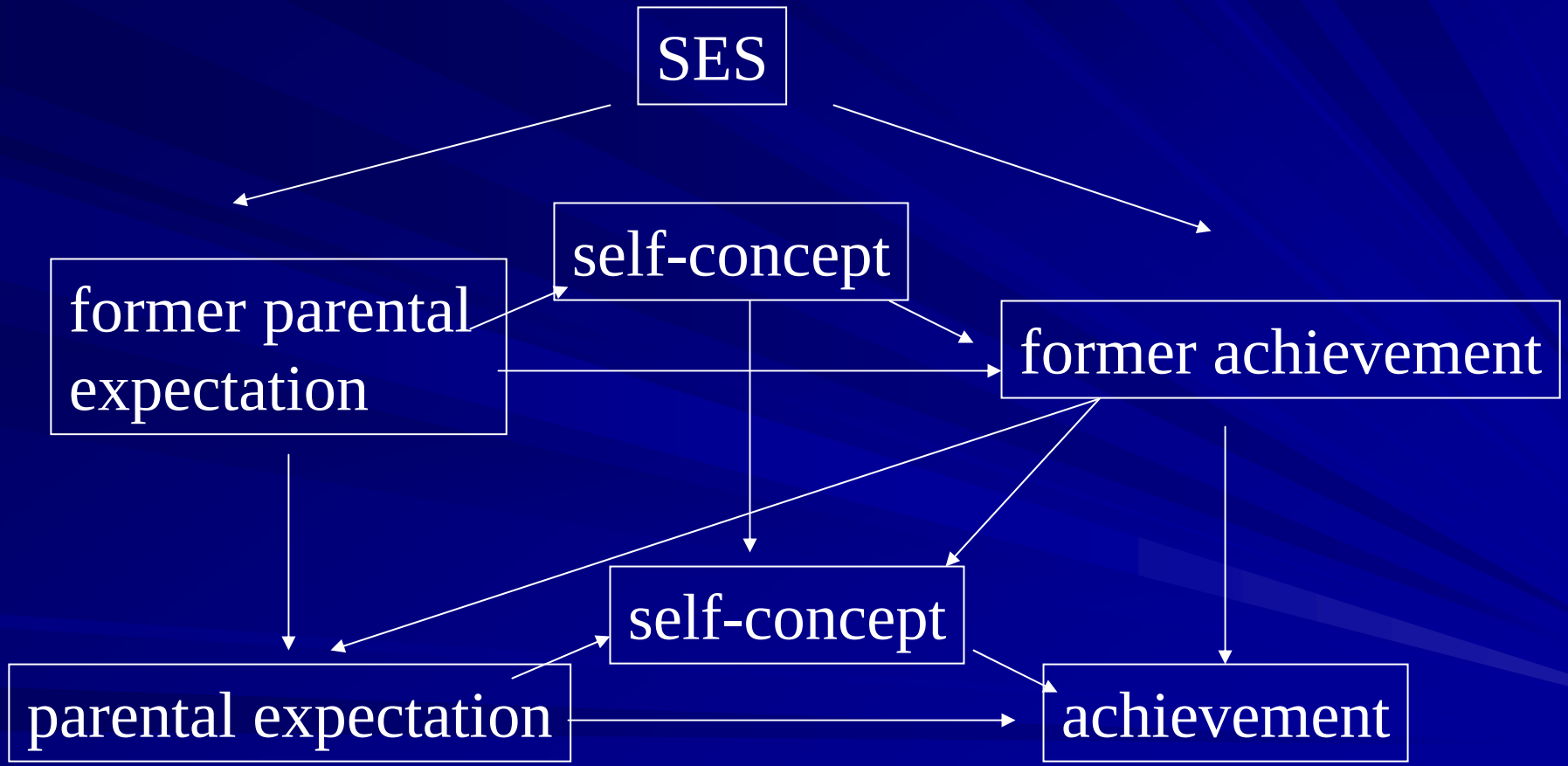
B) Conditions and Effects

- Are parental expectations a condition or an effect for achievements?
  - Use full four waves of data

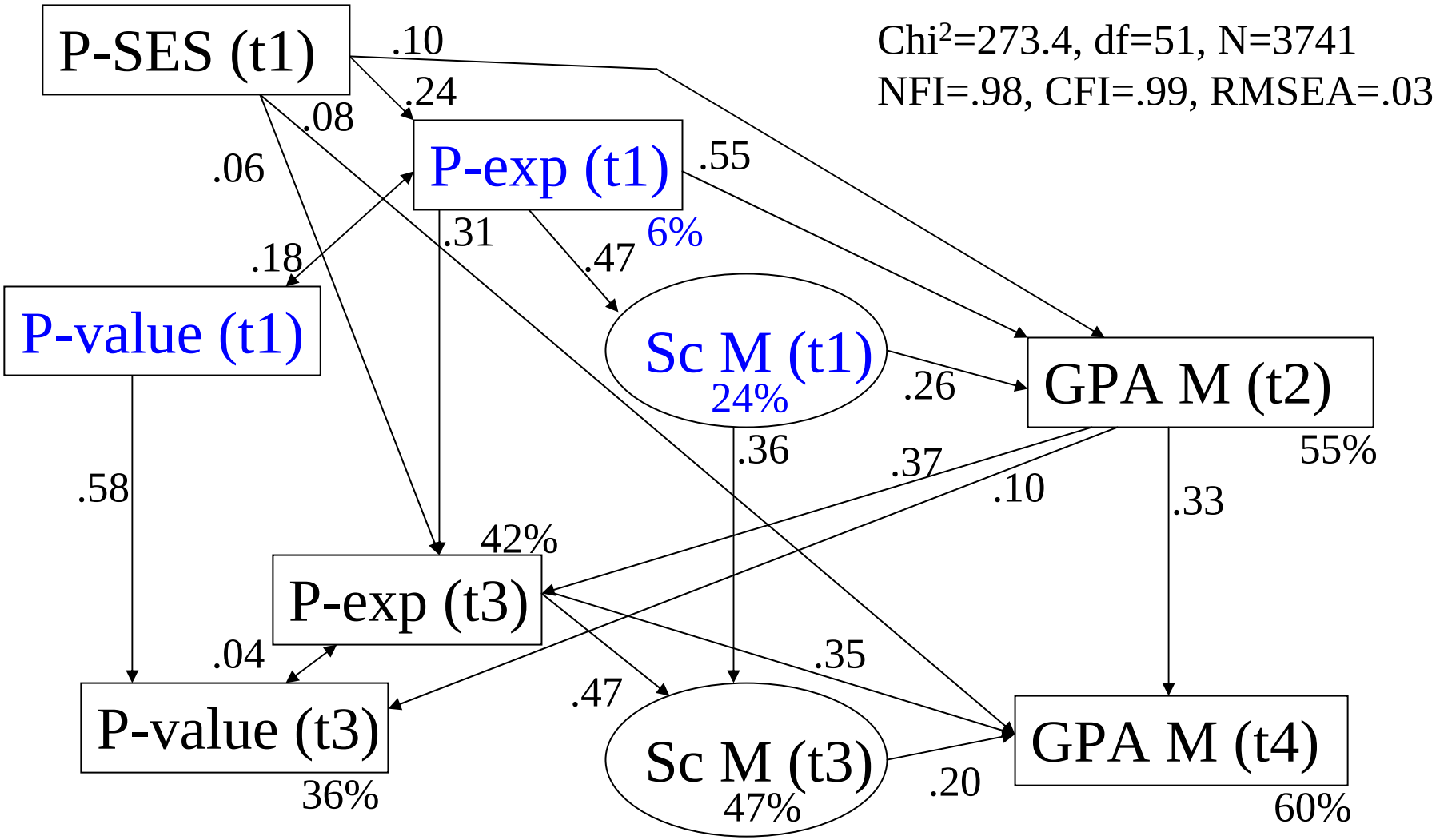
Model: Basic Processes (main Hypotheses)



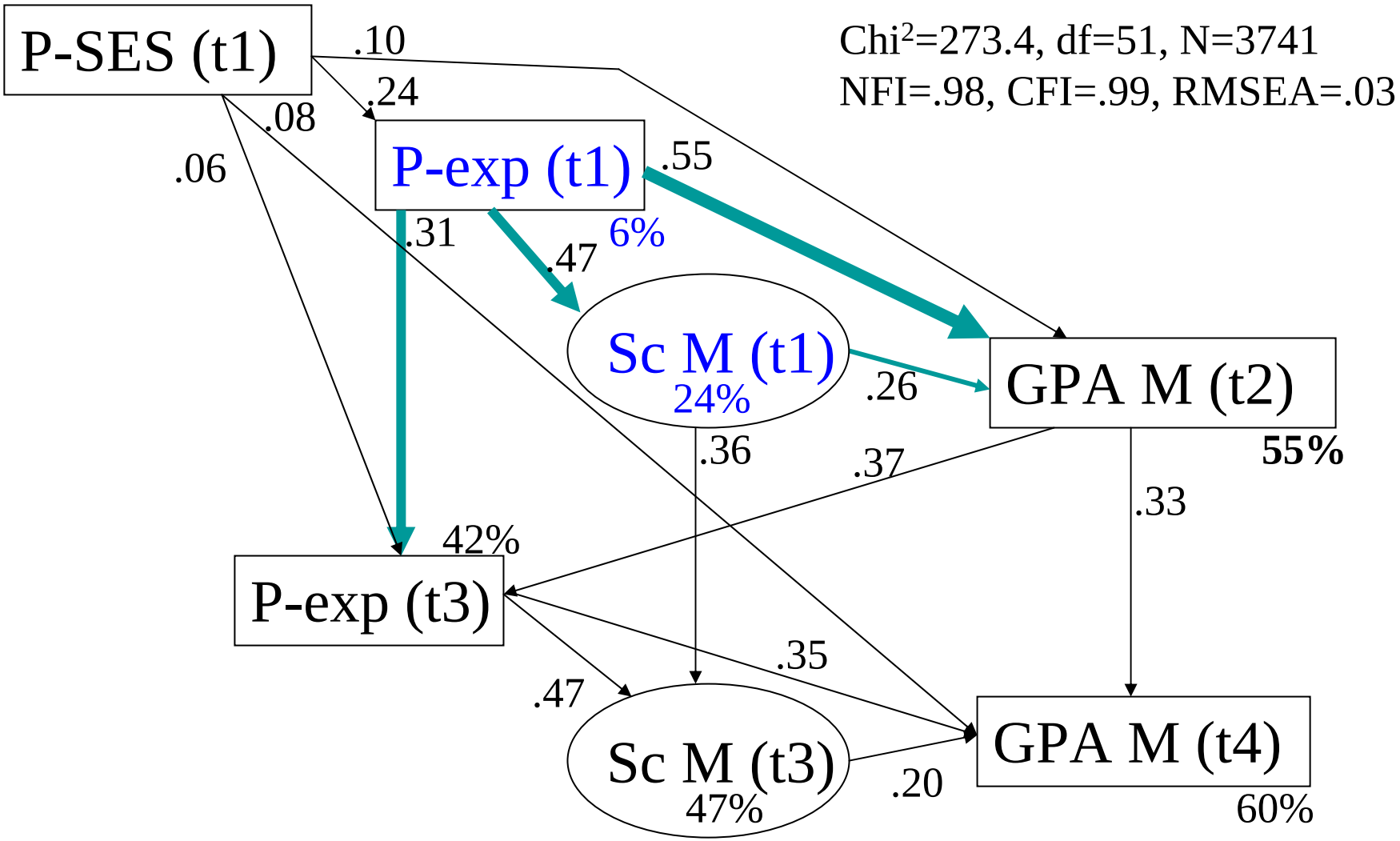
Model: Basic Processes (main Hypotheses)



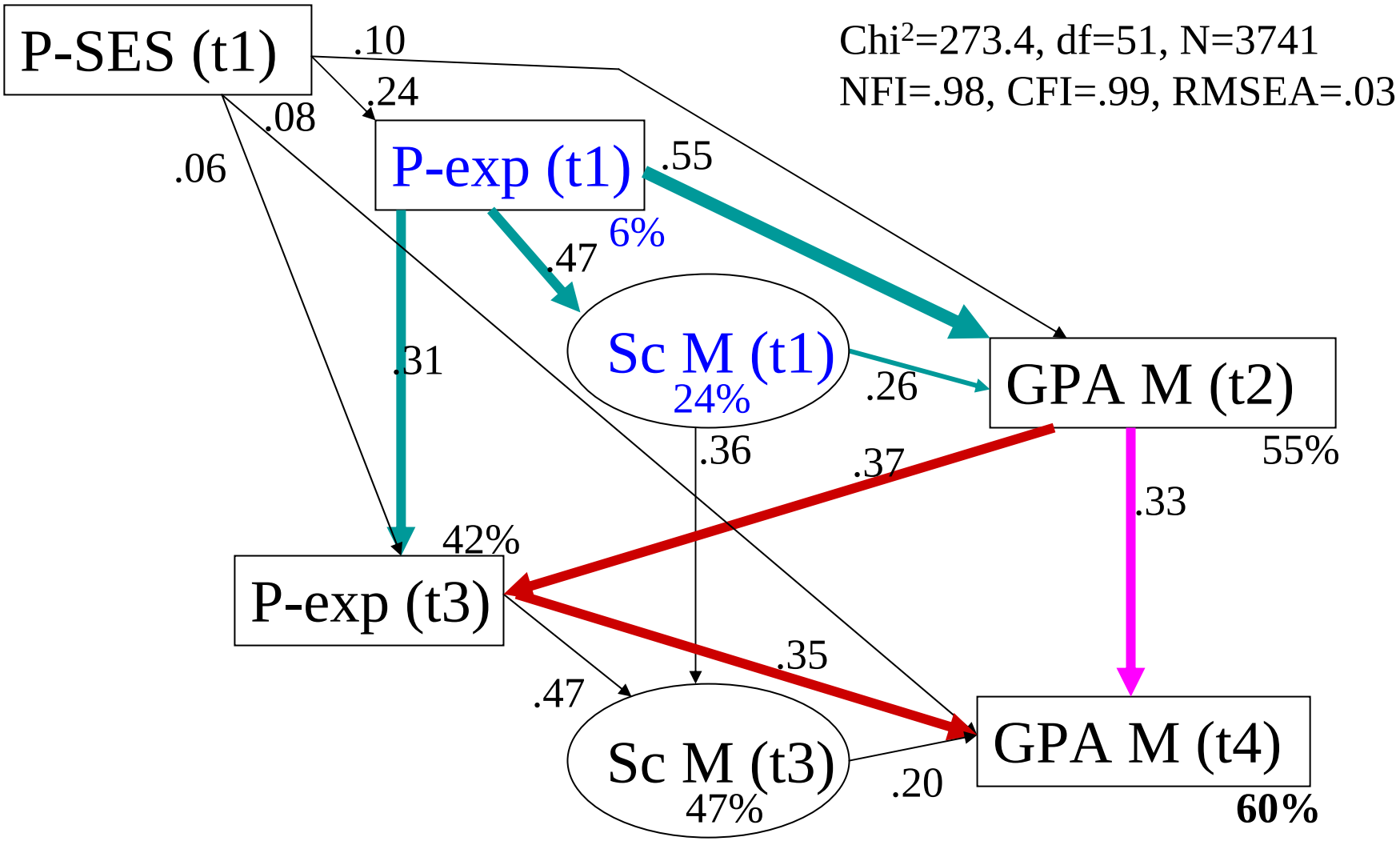
MSALT: Time 1-4 Math



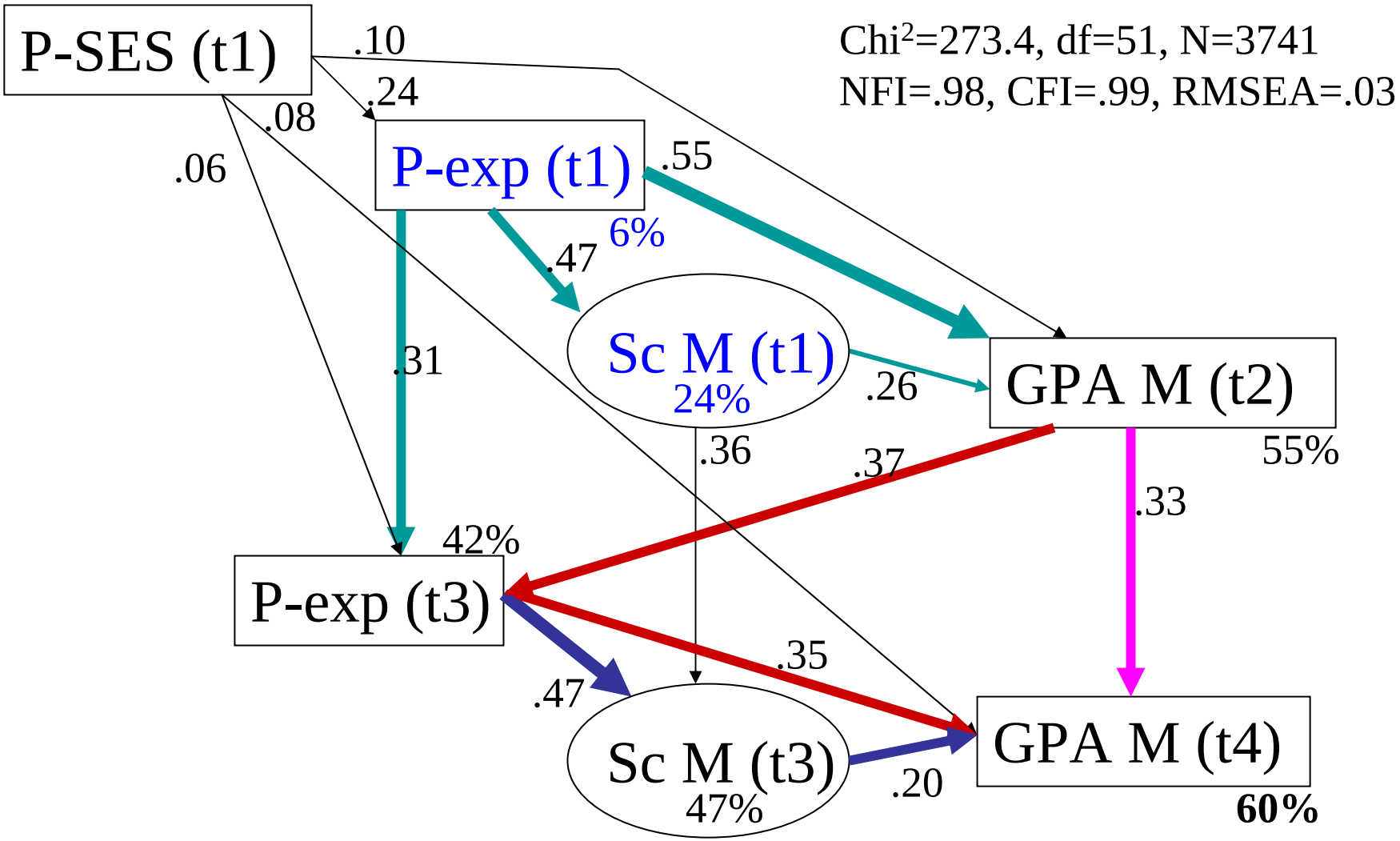
MSALT: Time 1-4 Math



MSALT: Time 1-4 Math



MSALT: Time 1-4 Math



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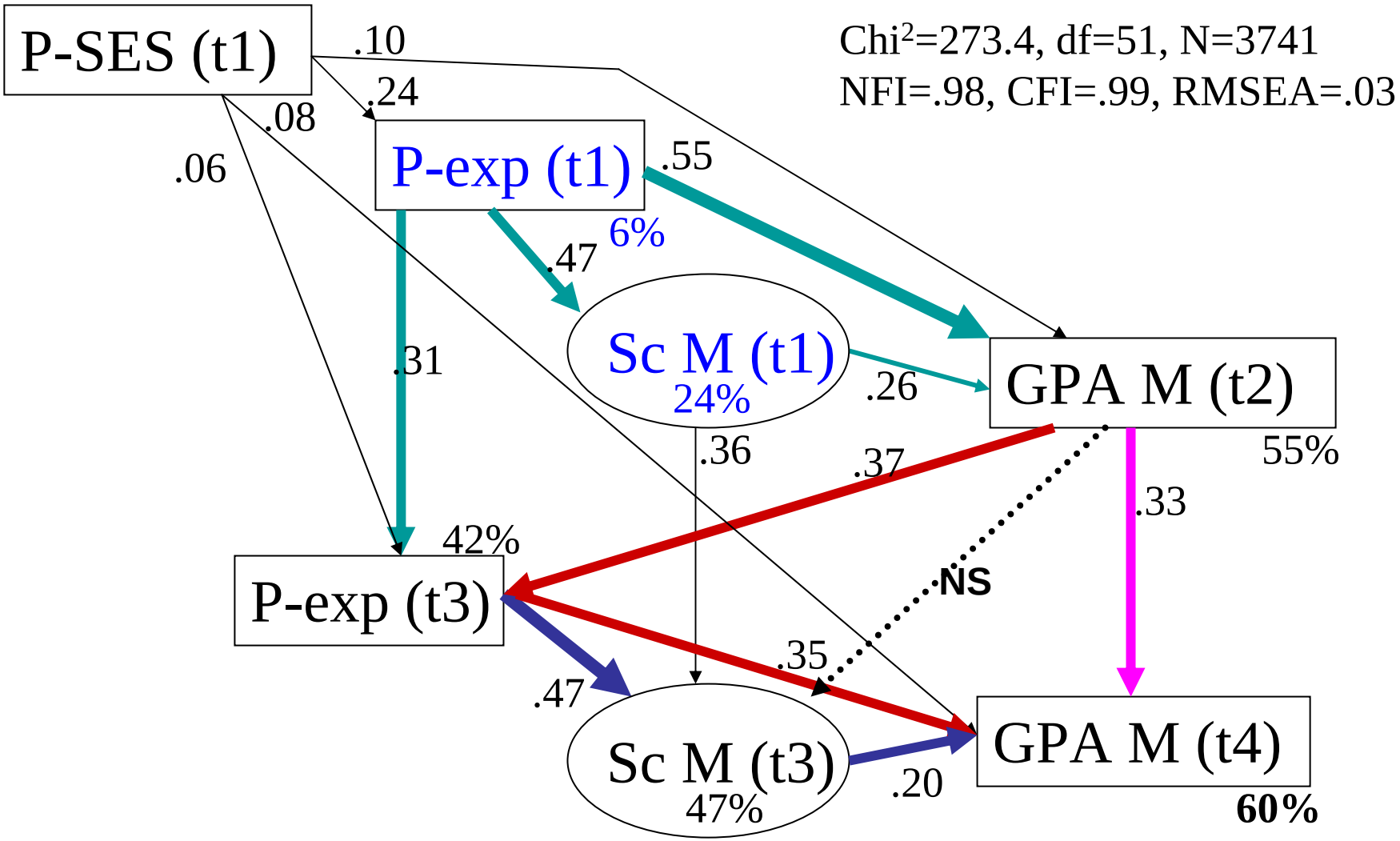
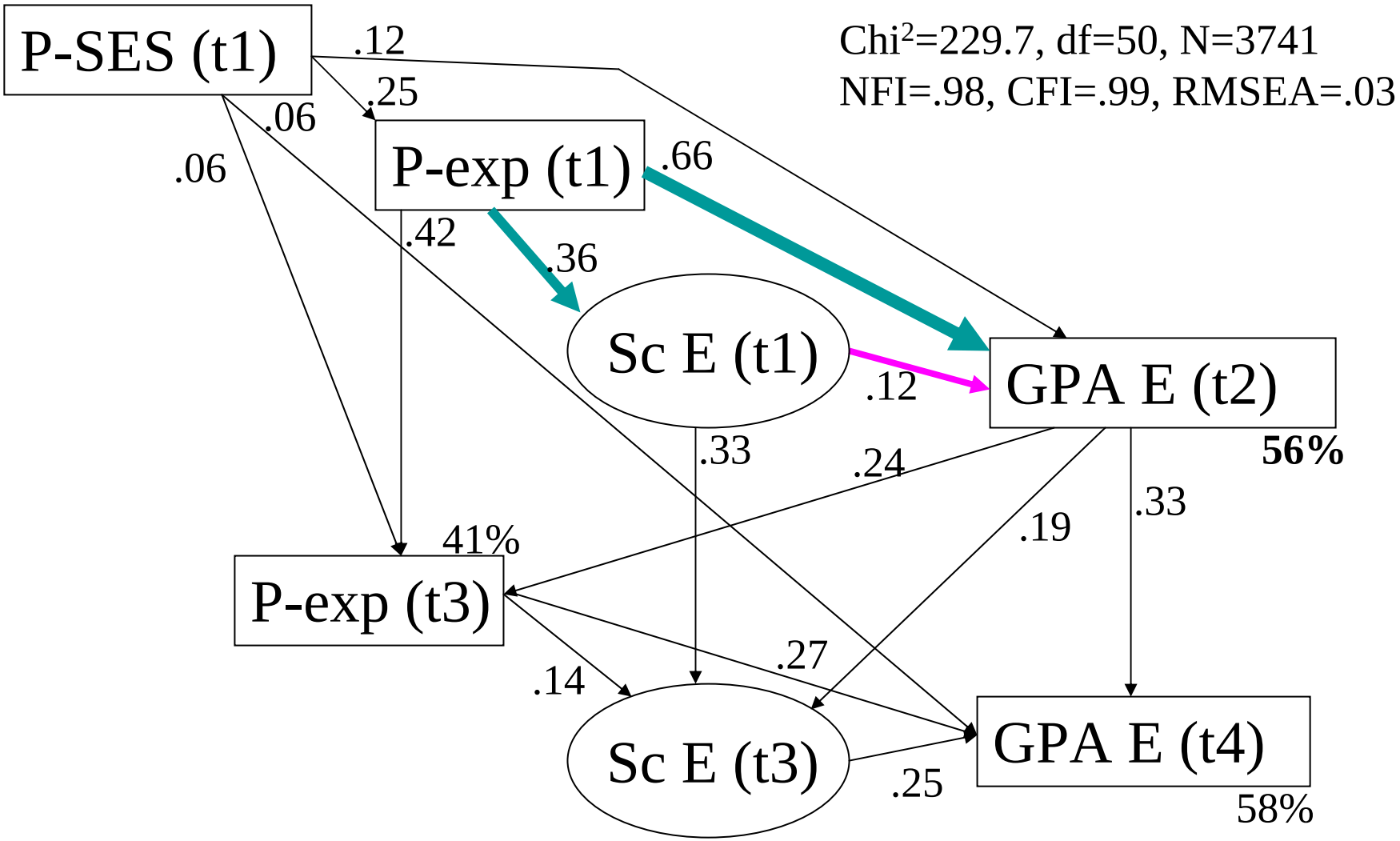
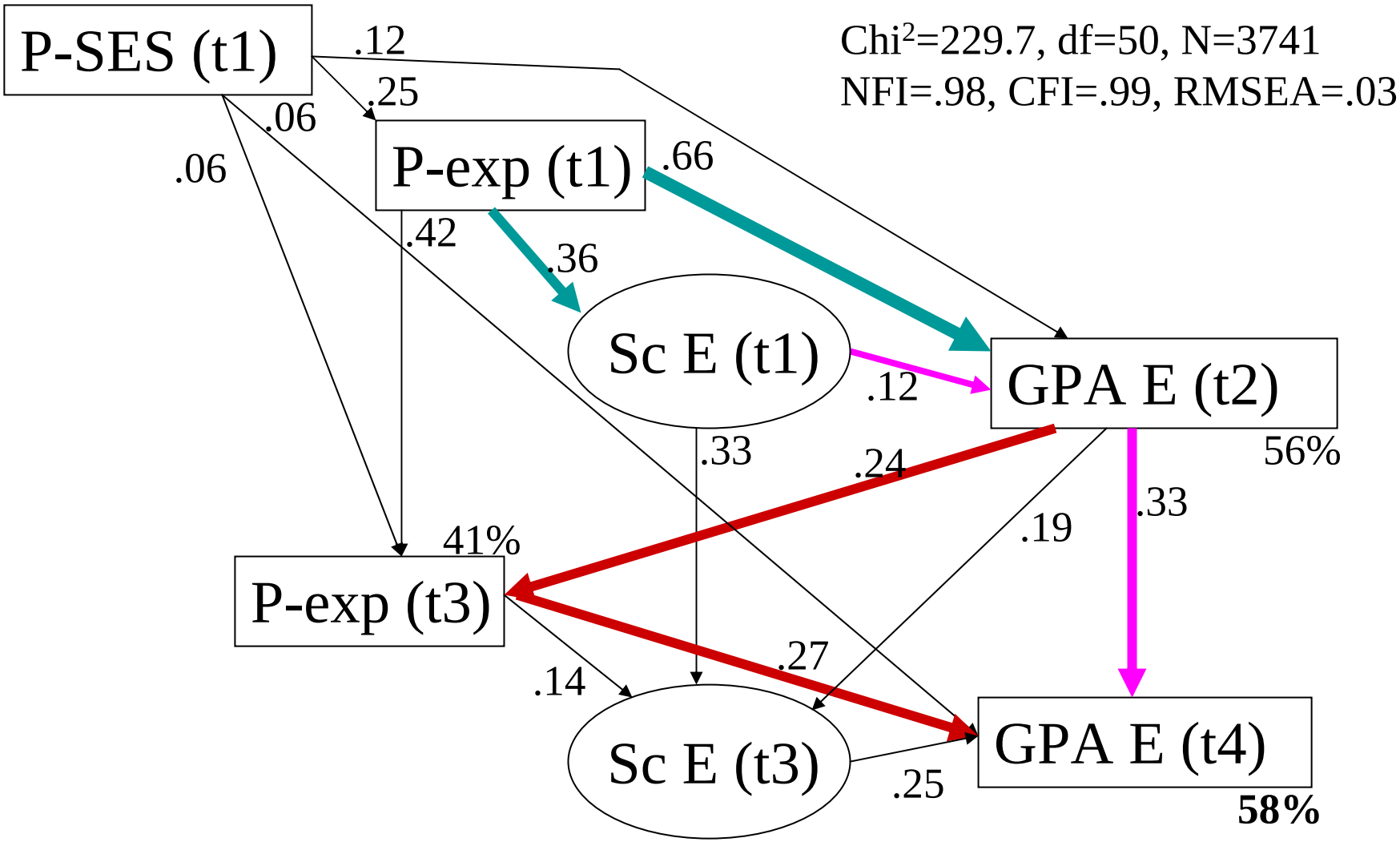


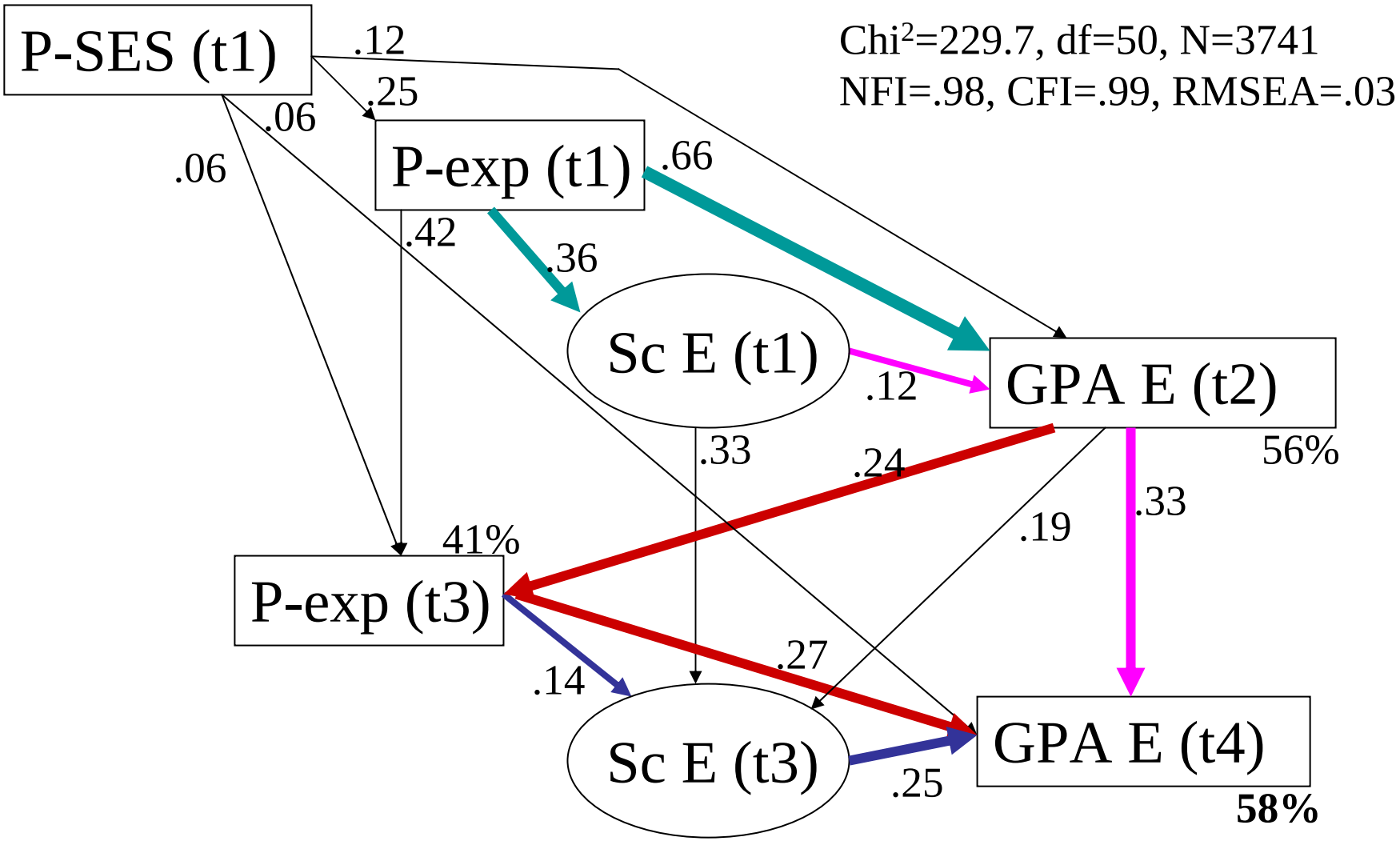
MSALT: Time 1-4 English



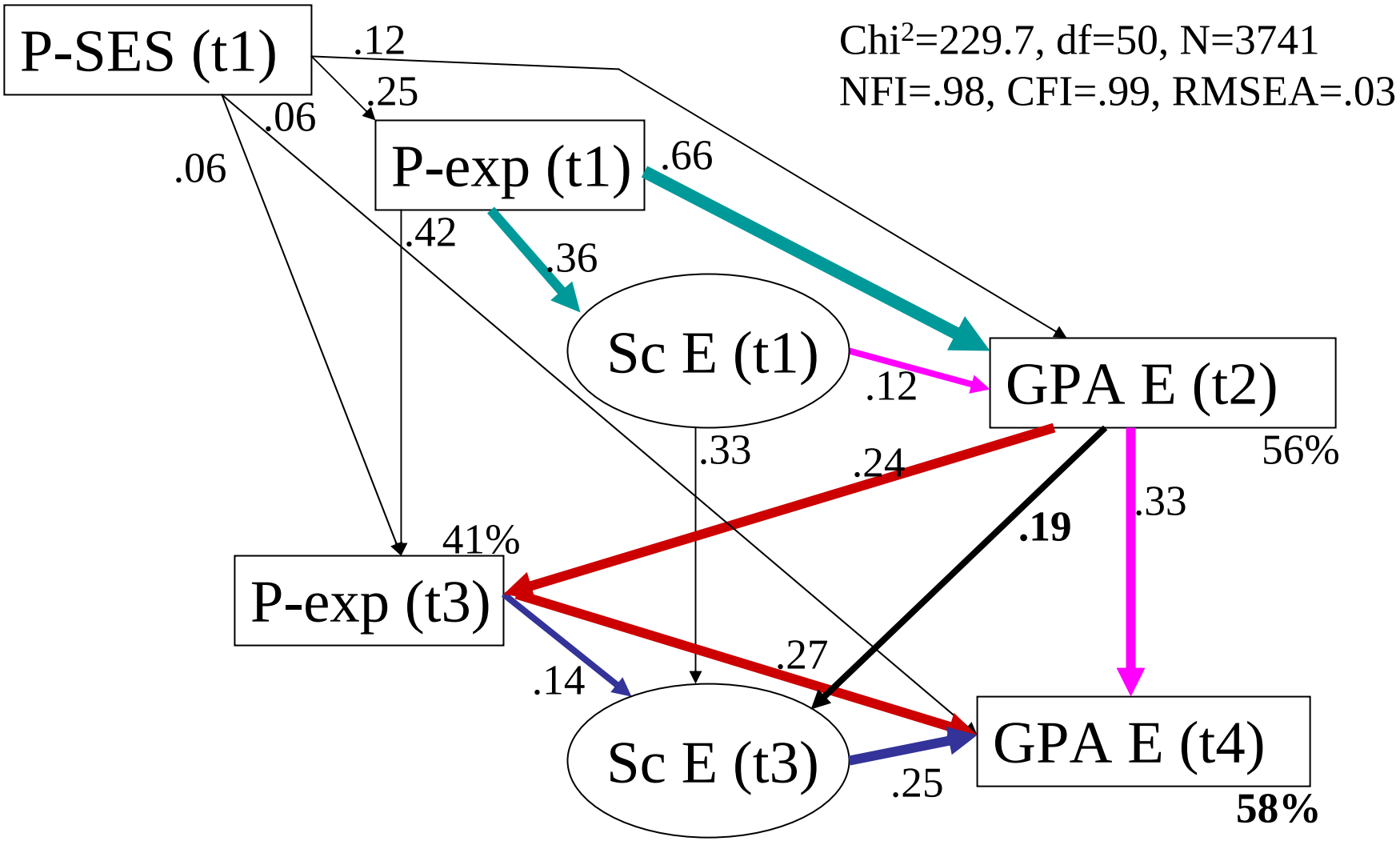
MSALT: Time 1-4 English



MSALT: Time 1-4 English



MSALT: Time 1-4 English



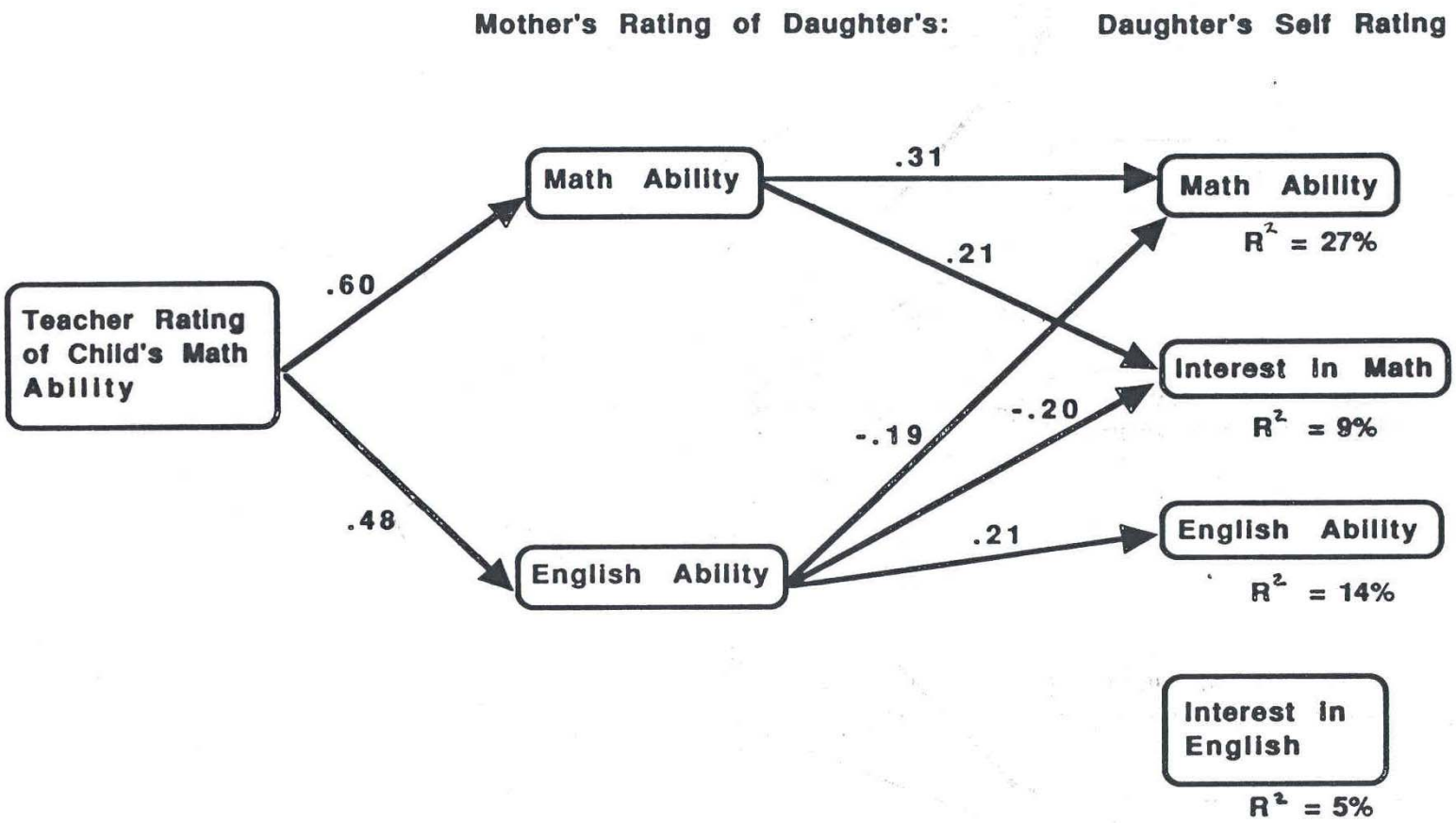
Conclusion

- During transition to junior high school, parental expectations and achievements form a circle of mutual influence.

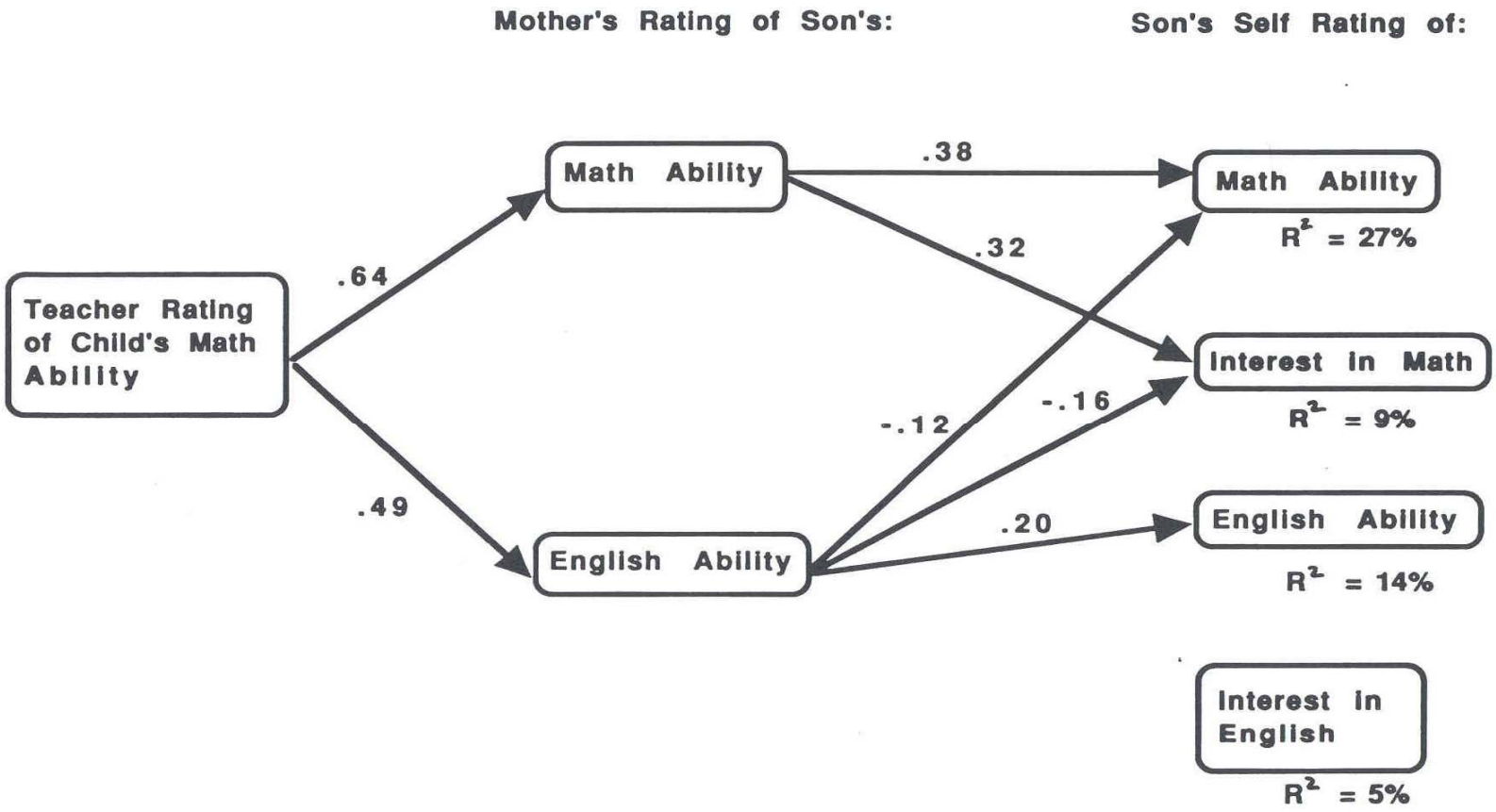
- This circle of reciprocal influences is evident in both math and English.

- What about the I-E effect at home?

Mother's Influence on Daughter's Self-Perceptions



Mother's Influence on Son's Self-Perceptions



N = 920

Conclusions

- Parent perceptions appear to matter both within and across domains.
- Implications for both within gender and across gender differences in interest in mathematics.

Next Steps

- Childhood and Beyond
  - How young do these self concepts emerge and stabilize?
  - How do they change with age?
  - How young do they begin to influence behavioral choices?

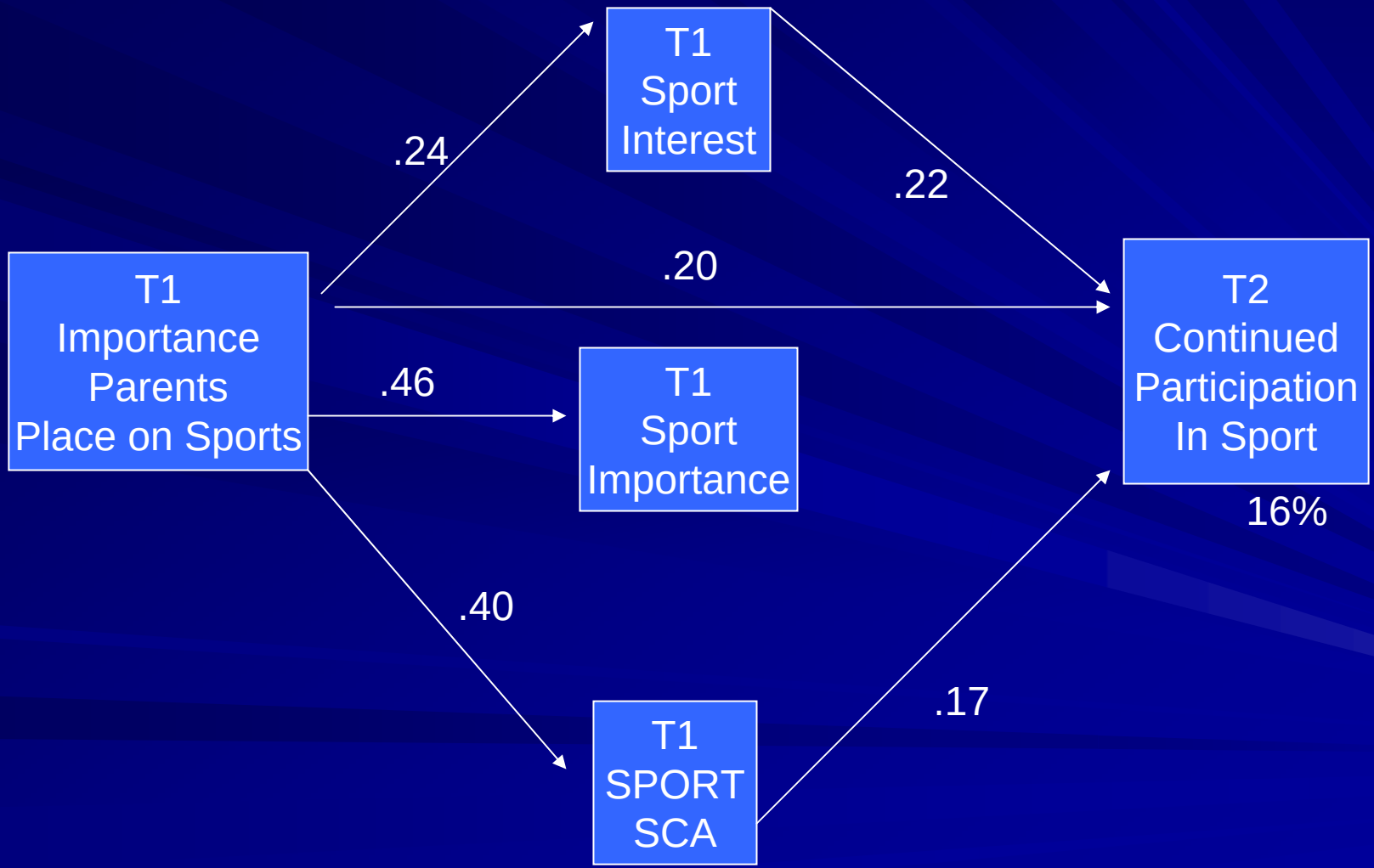
- We already know the answers to some aspects of these questions but that is another talk.

Other Important Questions

- What about parents' values?
- These dropped out of the SEM models I presented earlier

- We are just beginning to explore this question.

Msalt: High School Sports: Grade 10 to 12



Still More Important Questions

- Exactly how do parents and teachers influences the developmental trajectories of children's ability self perceptions and subjective task values?

- Our CAB study was designed to address these questions. This too is another talk!

Thank You

jeccles@umich.edu

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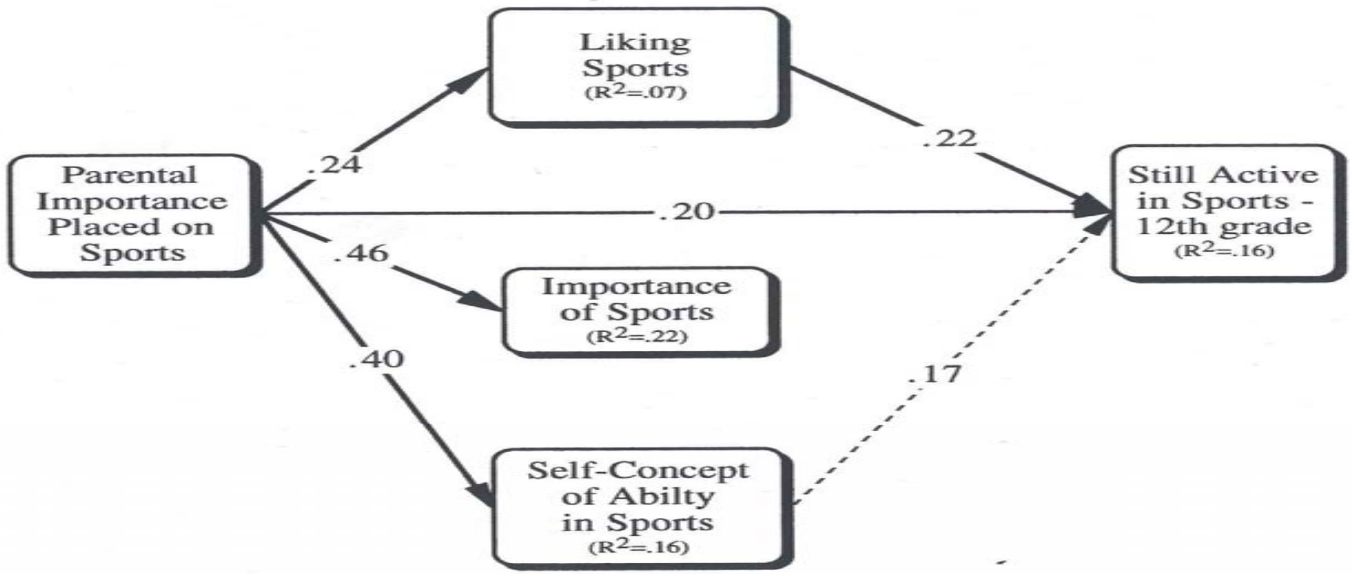
Grade 10 Sport-Related Attitudes Predicting Sports Participation in Grade 12



Developmental Changes in Within Person Interrelations across Multiple Activity Domains

- Main Collaborators on These Analyses
  - Jaap
  - Nicole Zarrett

Childhood and Beyond Study

- Similar Measures
- Population in Southeastern Michigan:
  - 4 Middle Class School Districts
  - Primarily White; 51% Female
- 3 Cohorts Beginning in 1st, 2nd, and 4th grades
- Approximately 500 Followed Longitudinally
  - Three Initial Annual Waves
  - 3 Year Break in Funding for Data Collection
  - 4 More Annual Waves or Until the Completion of High School

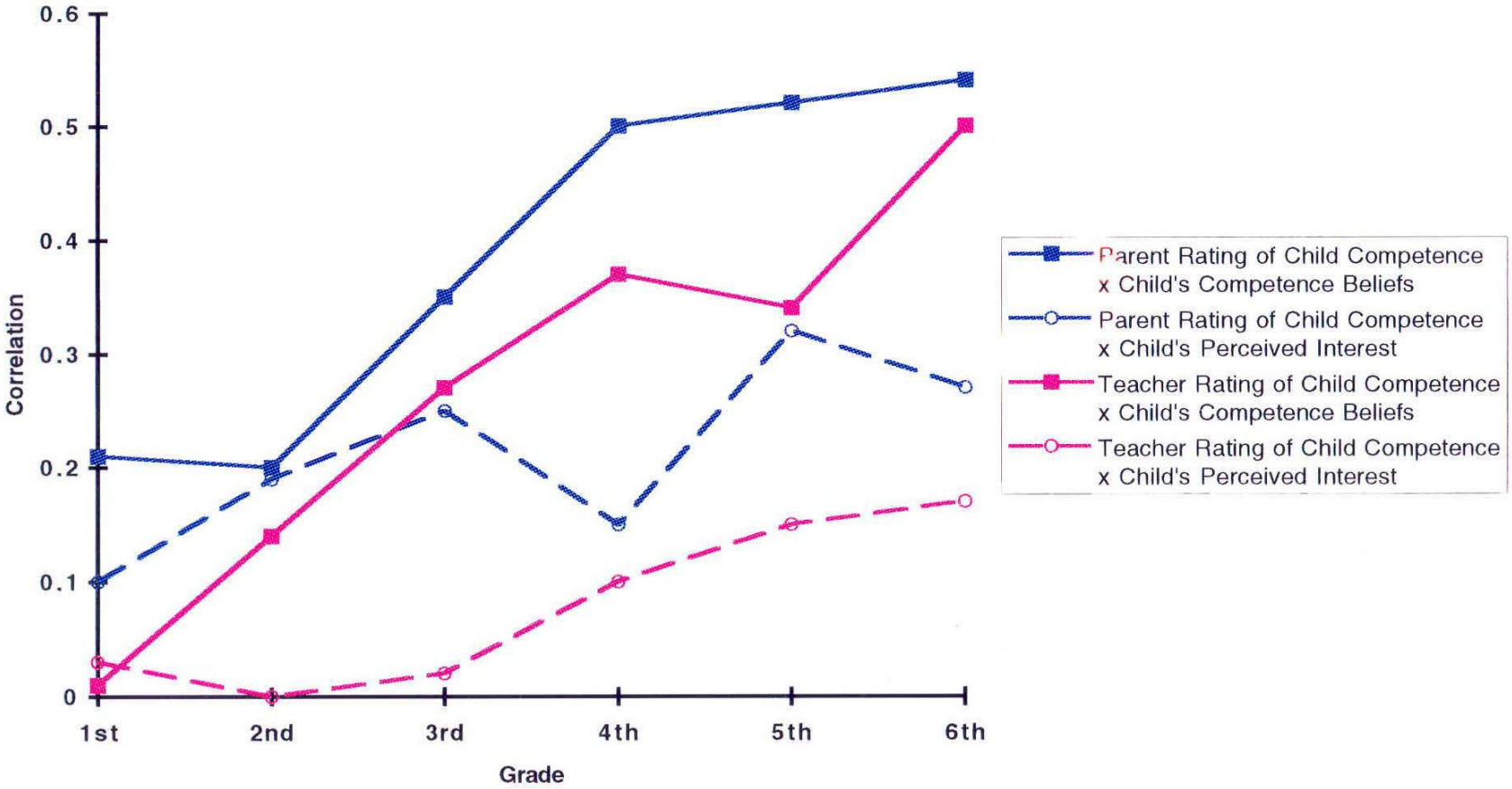
Measures: Children's Self- Reports

- Self-concept of abilities in various activities
  - e.g., How good at sports are you? (1=not at all good, 7=very good)
- Interest in various activities
  - e.g., In general, I find playing sports? (1=very boring, 7=very interesting)
- Beliefs concerning the importance of various activities
  - e.g., For me being good at sports is? (1=not at all important, 7=very important)
- Worries about one's performance
  - e.g. How much do you worry about doing well in sports (1 = Not at all, 7 = a lot)

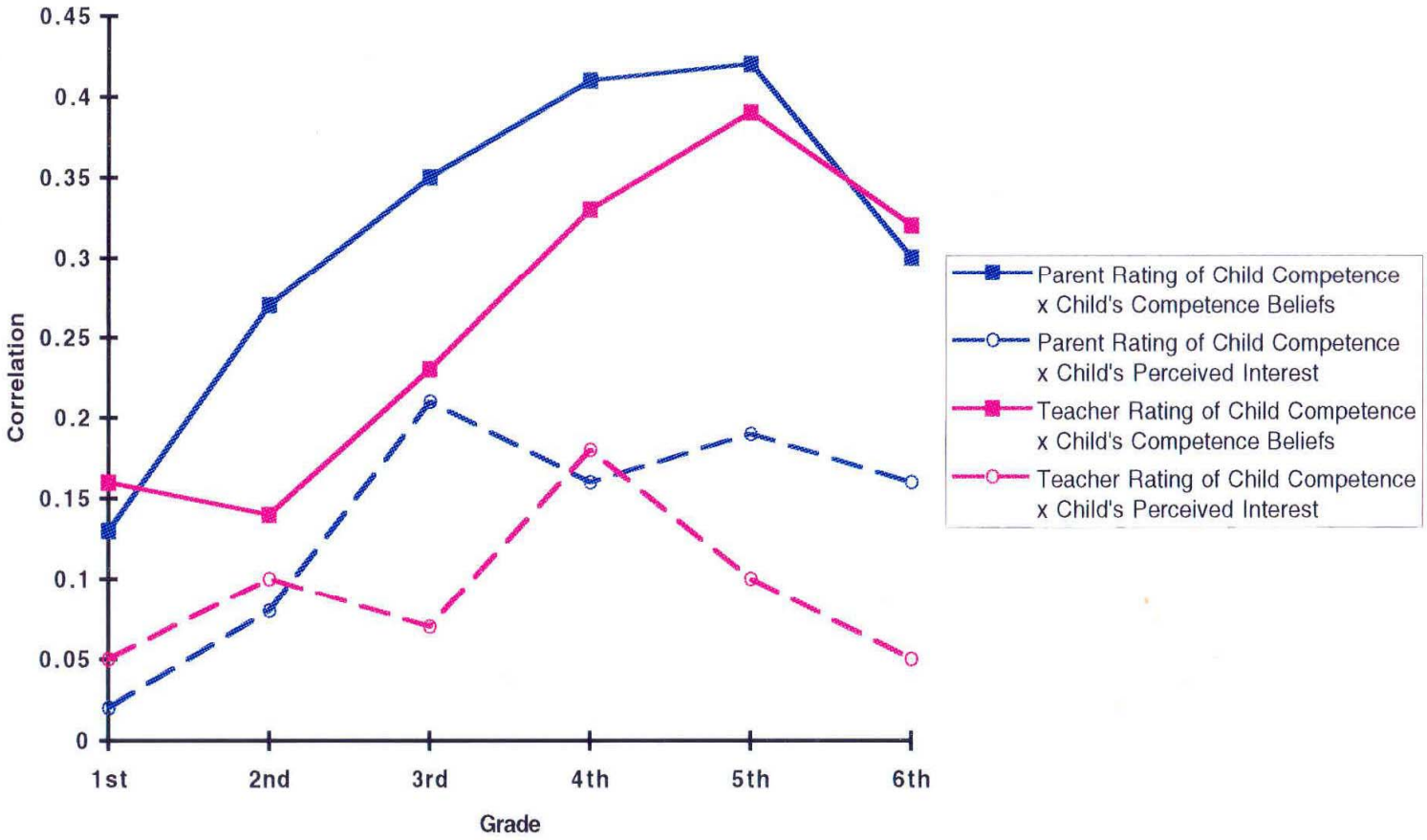
Summary Slide

- Childhood and Beyond: Collaborators

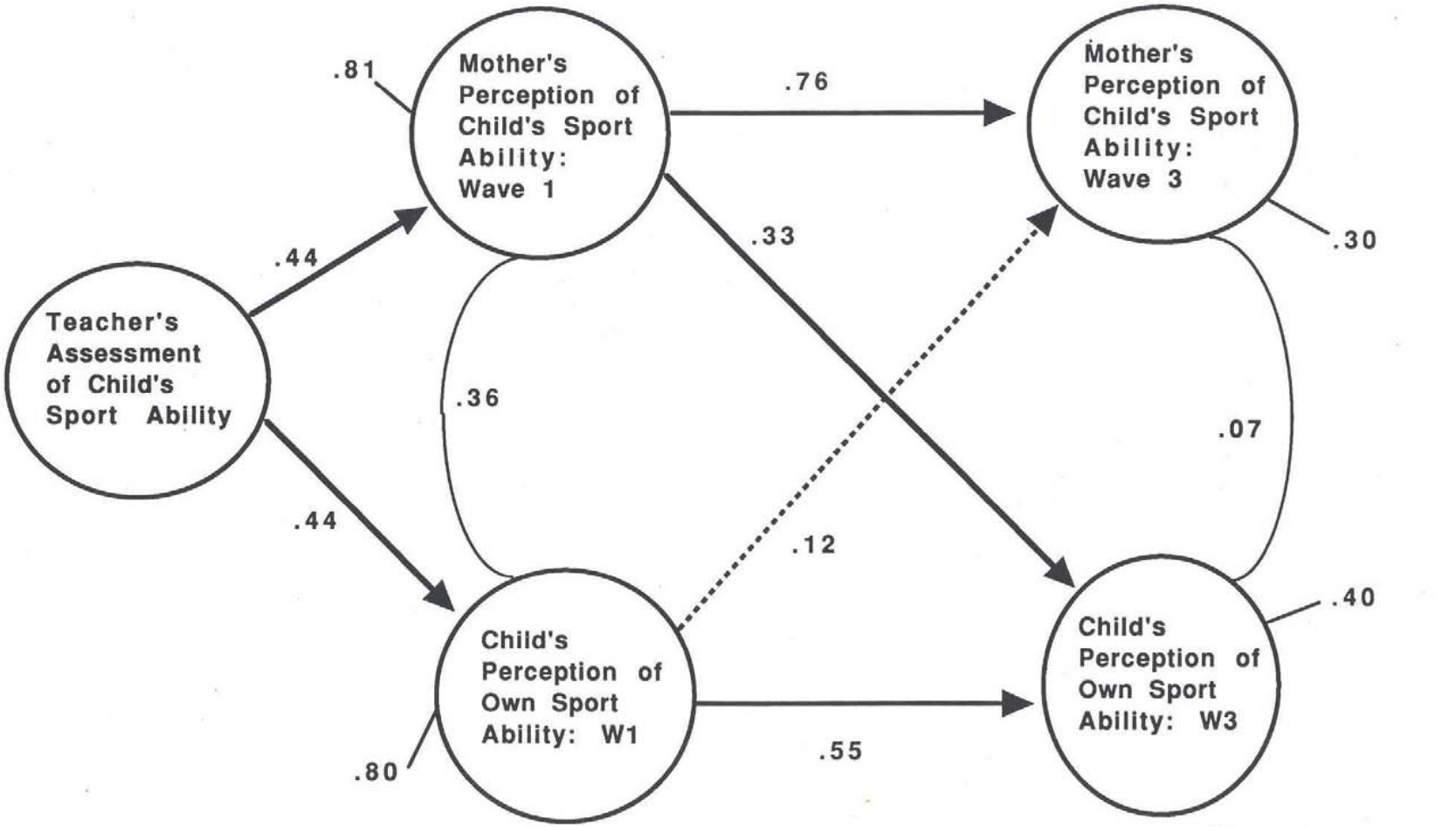
Relations Between Children's Competence Beliefs and Perceived Interest and Parent and Teacher Evaluations of Children's Competence in Math



Relations Between Children's Competence Beliefs and Perceived Interest and Parent and Teacher Evaluations of Children's Competence in Reading

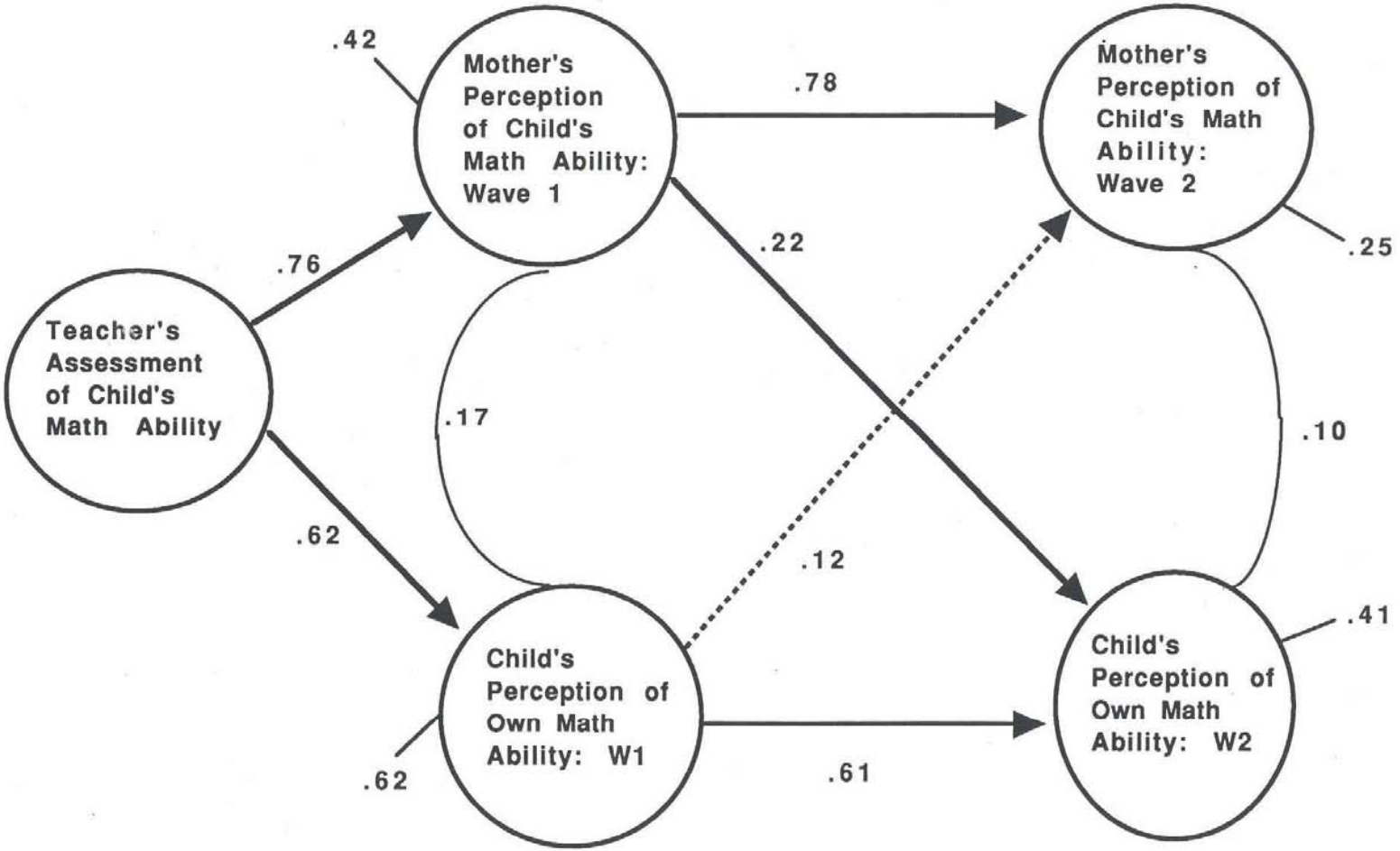


Cross Lagged Structural Equation Modelling of Causal Directions And Mediating Influence of Mother's Perceptions: Data for Sons



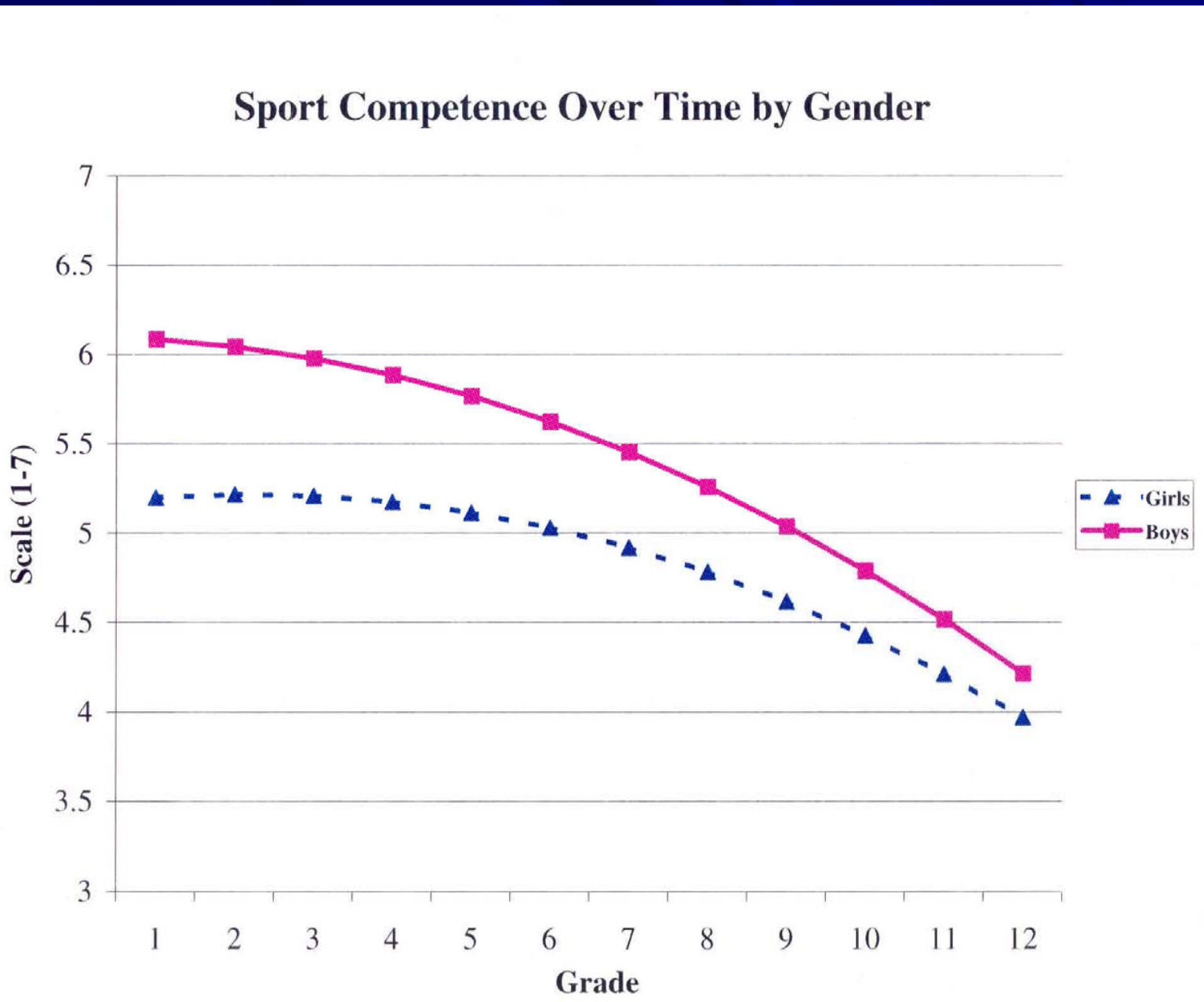
Note: Measurement Model Statistics Omitted

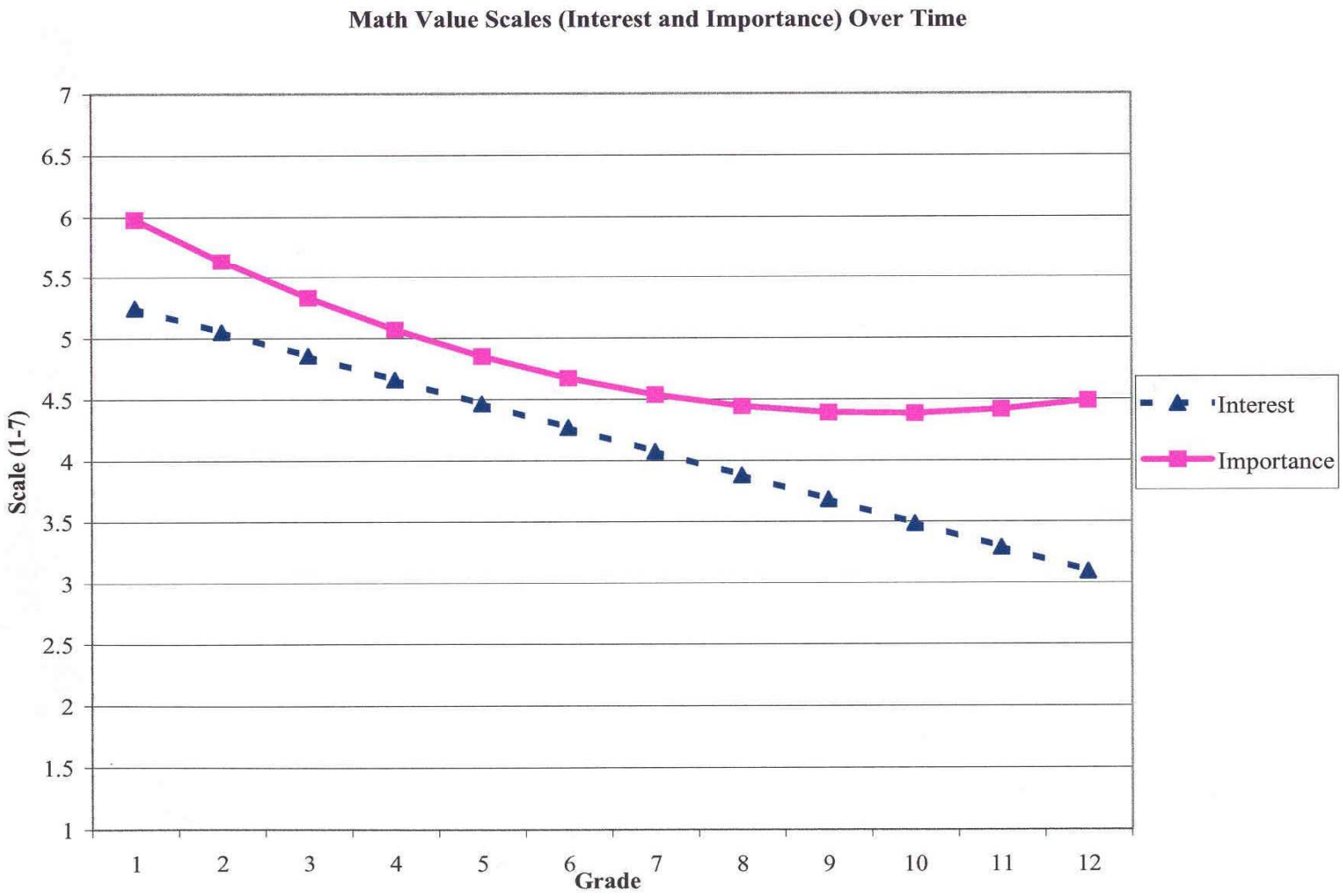
Cross Lagged Structural Equation Modelling of Causal Directions And Mediating Influence of Mother's Perceptions: Data for Sons



X (df=82) = 150.19
Goodness of Fit = .98

Note: Measurement Model Statistics Omitted


Sport Competence Over Time by Gender
Scale (1-7)
7
6.5
6
5.5
5
4.5
4
3.5
3
1
2
3
4
5
6
7
8
9
10
11
12
Grade
Girls
Boys


Math Value Scales (Interest and Importance) Over Time
Scale (1-7)
7
6.5
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
1
2
3
4
5
6
7
8
9
10
11
12
Grade
Interest
Importance

Childhood and Beyond: Collaborators

- Jacque Eccles
- Phyllis Blumenfeld
- Carol Freedman-Doan
- Rena Harold
- Kwang Suk Yoon
- Allan Wigfield
- Corrine Alfeld
- Lisa Colarossi
- Jennifer Fredricks
- Helen Patrick
- Robert Roeser
- Sandi Simpkins
- Mina Vida
- Nicole Zarrett

Childhood and Beyond

- Staff

Childhood and Beyond Study

- Sample Characteristics

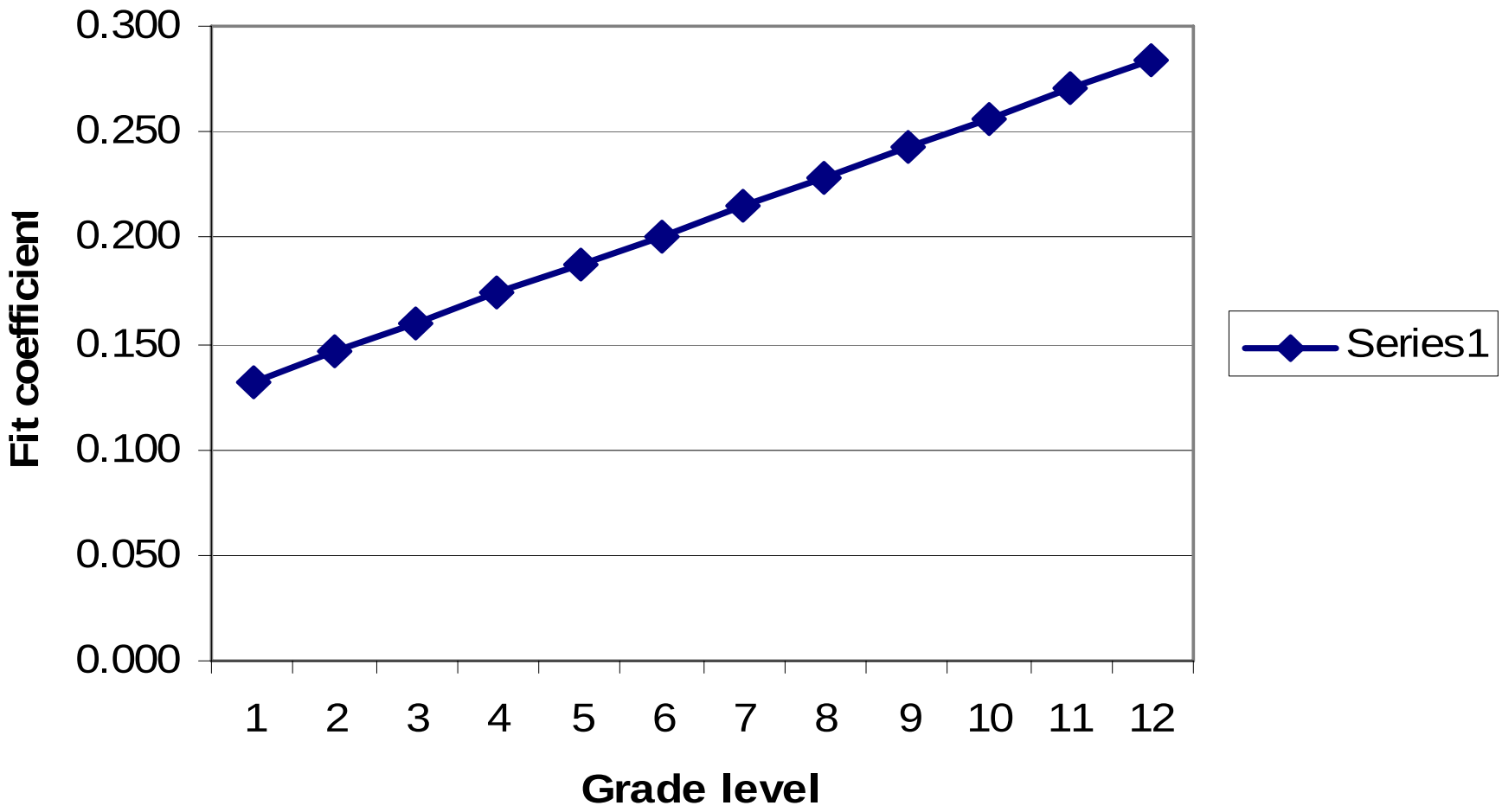
Childhood and Beyond

- Design

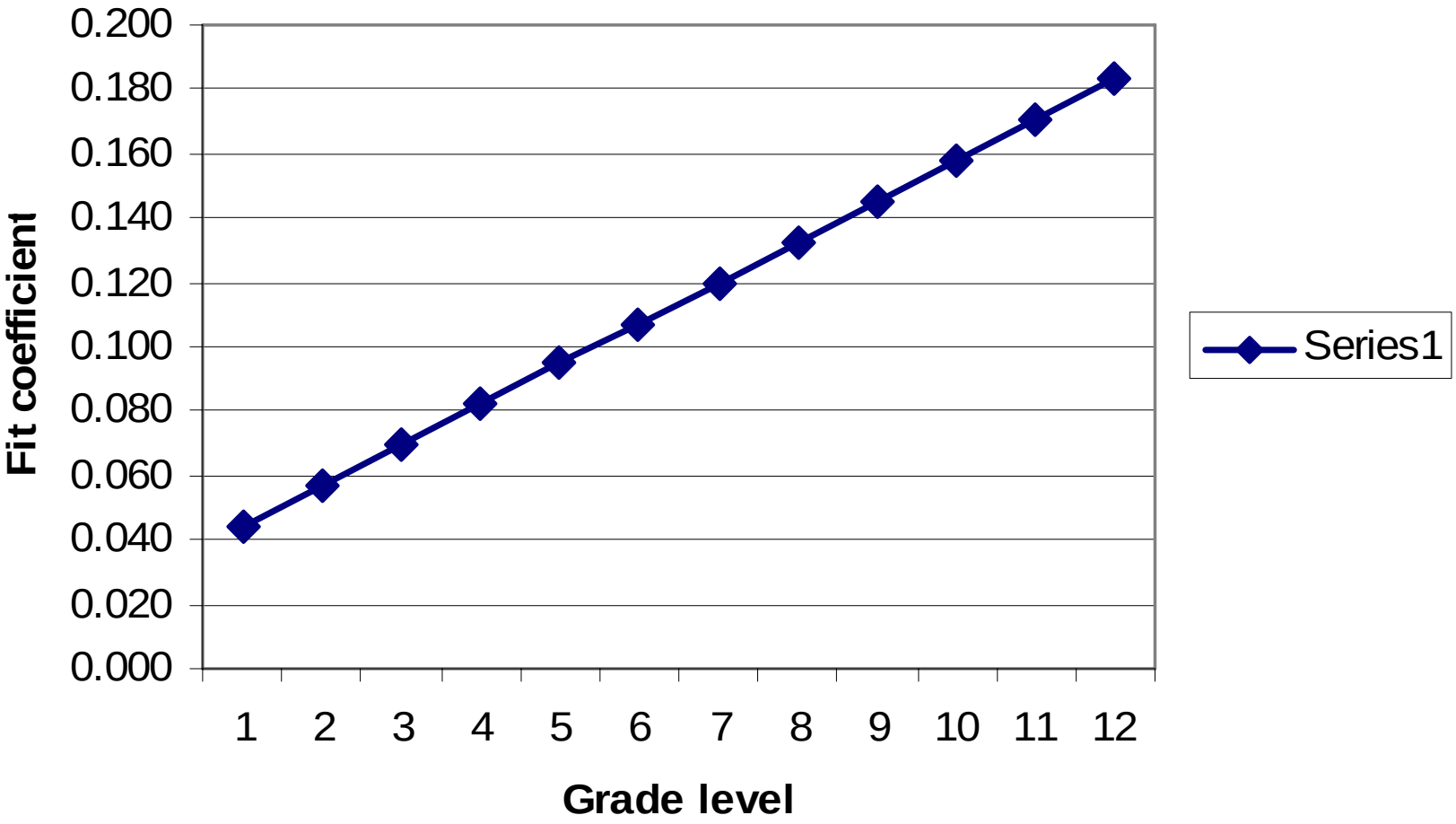
Childhood and Beyond

- Measures for these analyses

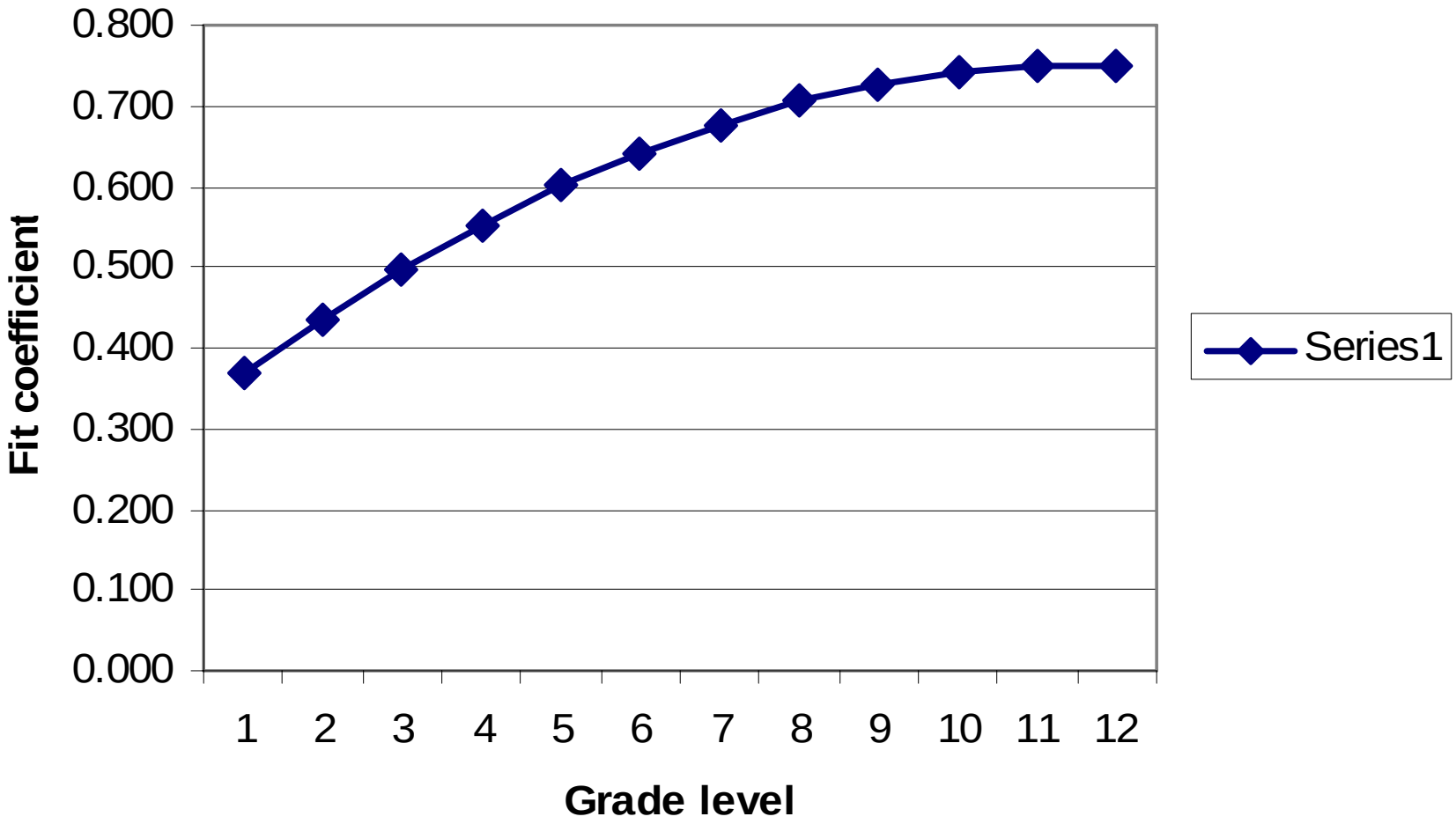
Longitudinal development of achievement x self-concept fit based on within-grade standardized components



Longitudinal development of achievement x interests fit based on within-grade standardized components



Longitudinal development of interests x self-concept fit based on within-grade standardized components



Part 2:

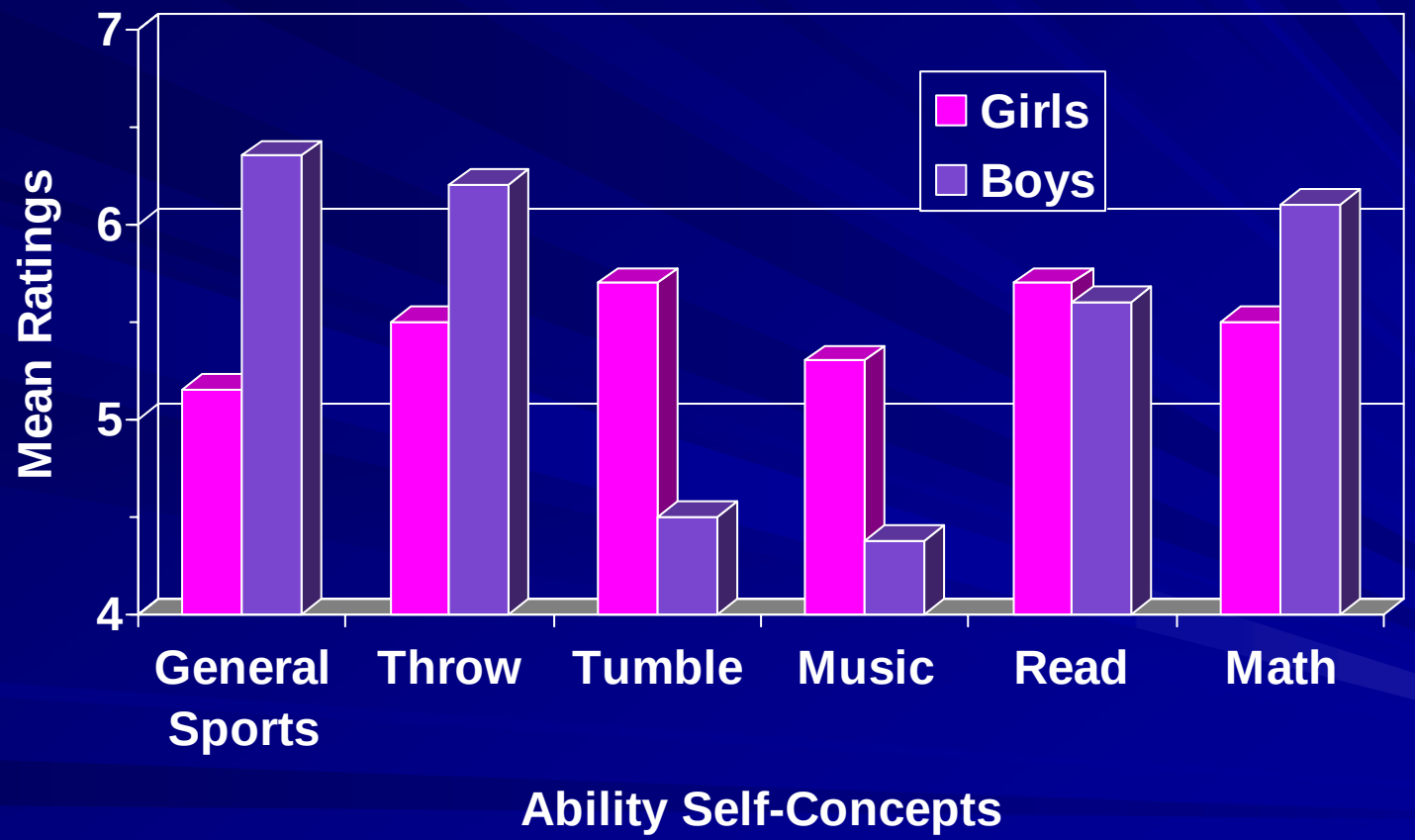
How Young Do These Differences Emerge?

Part 2:

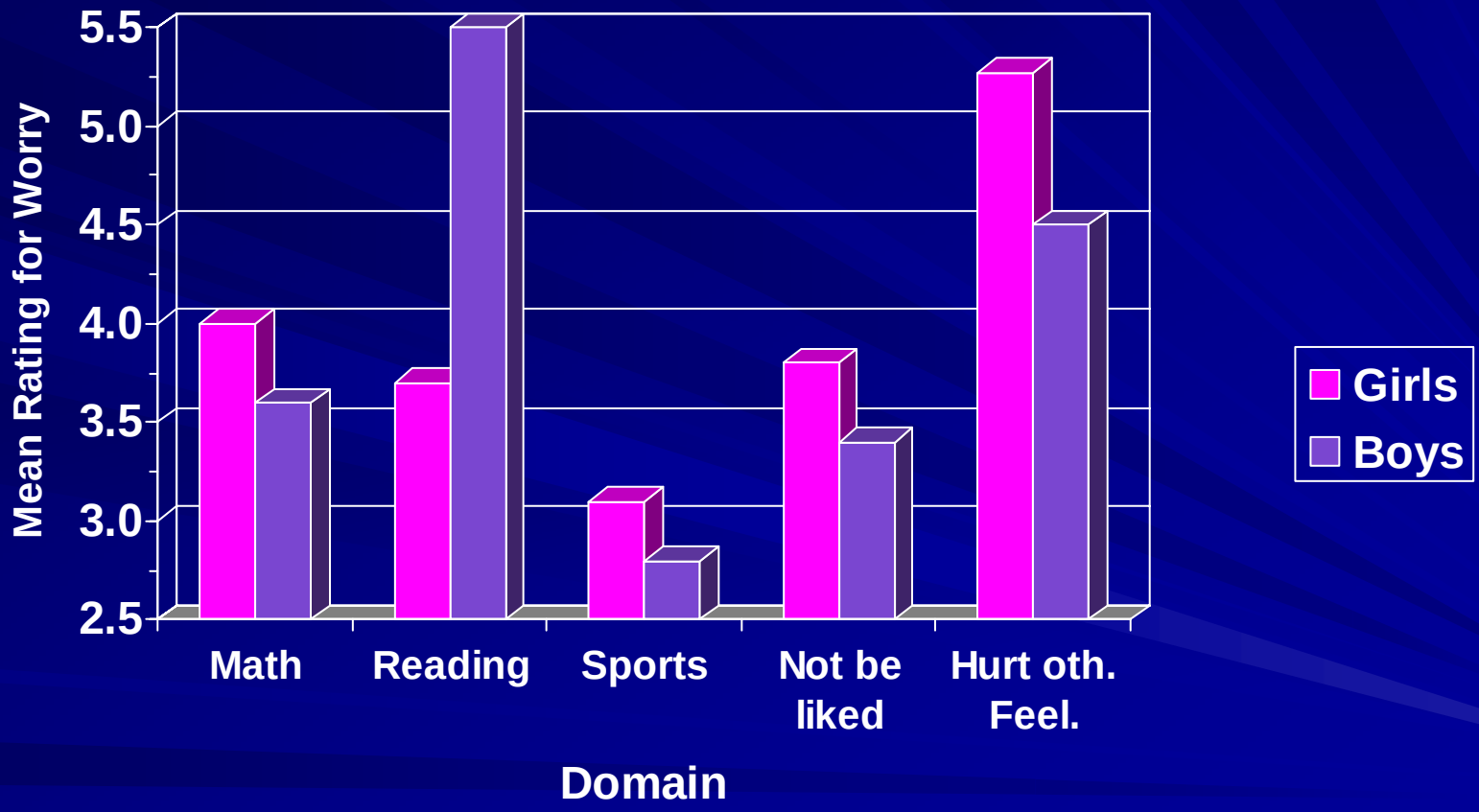
How Young Do These Differences Emerge?

How Do They Change with Age?

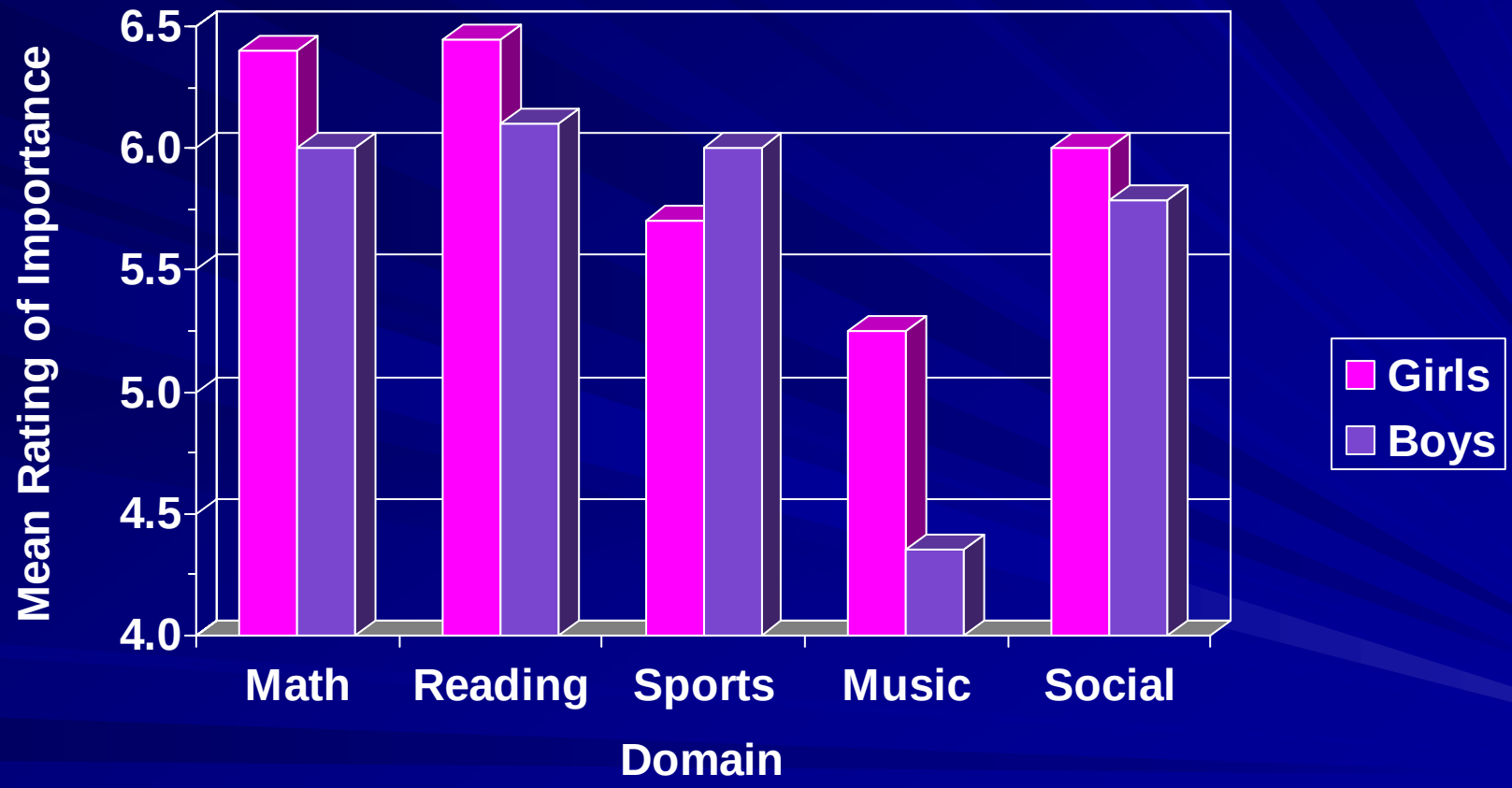
Gender Differences in Ability Self-Concepts: 1st, 2nd, & 4th Graders



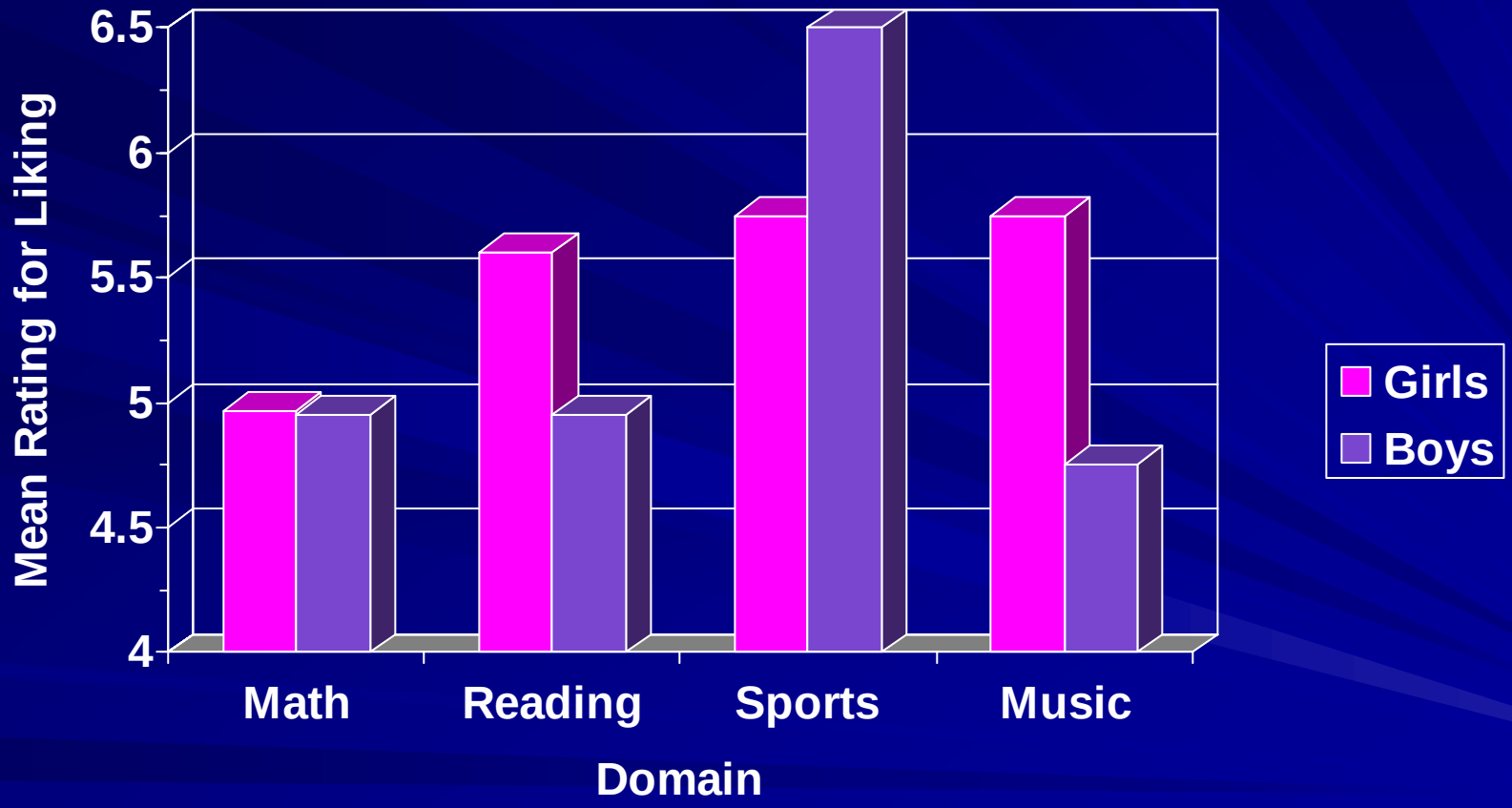
Gender Differences in Worry About Performance: Grades 1, 2, & 4



Gender Differences in the Importance of Ability: Grades 1, 2, & 4



Gender Differences in Enjoyment: Grades 1, 2, & 4

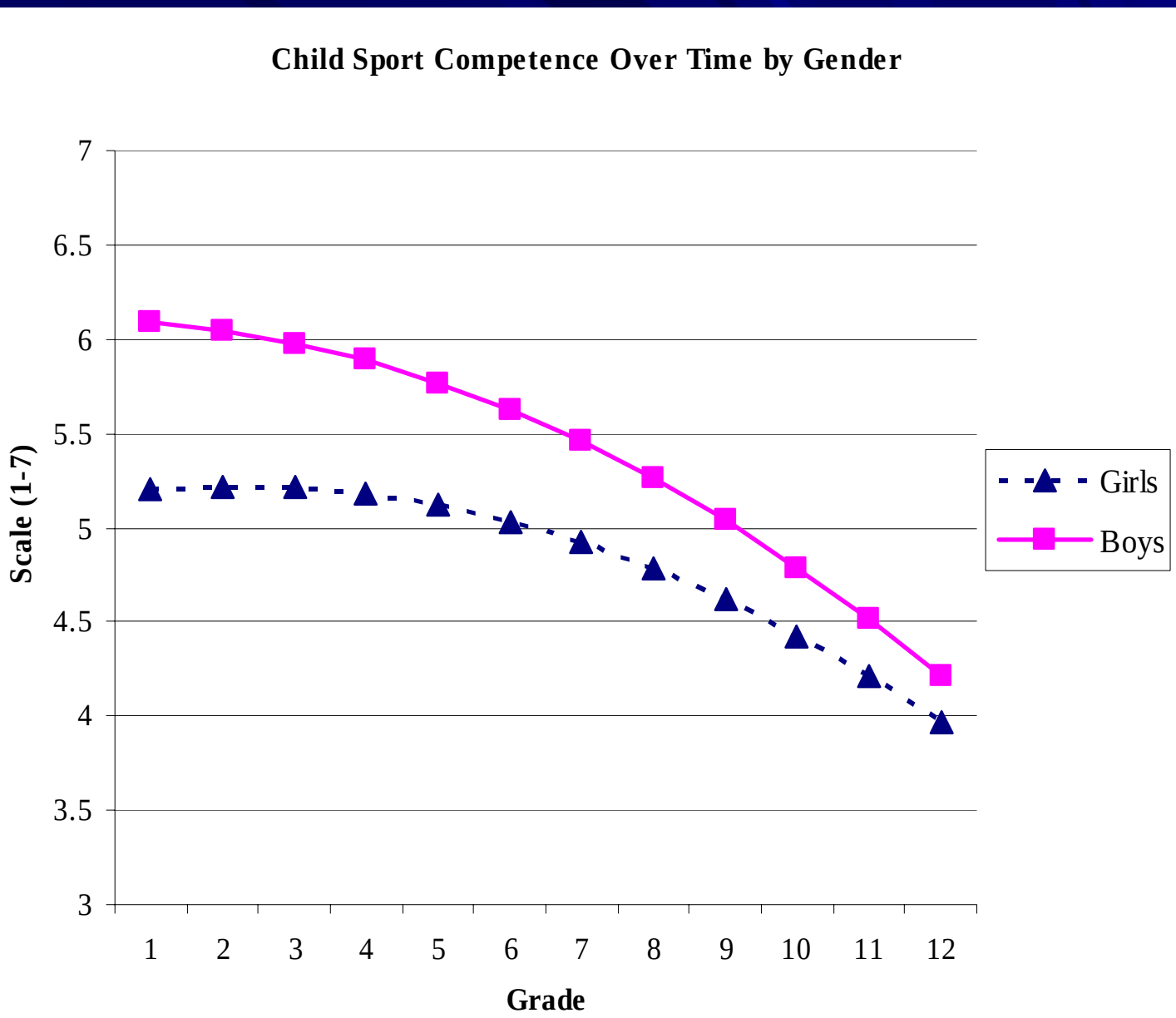


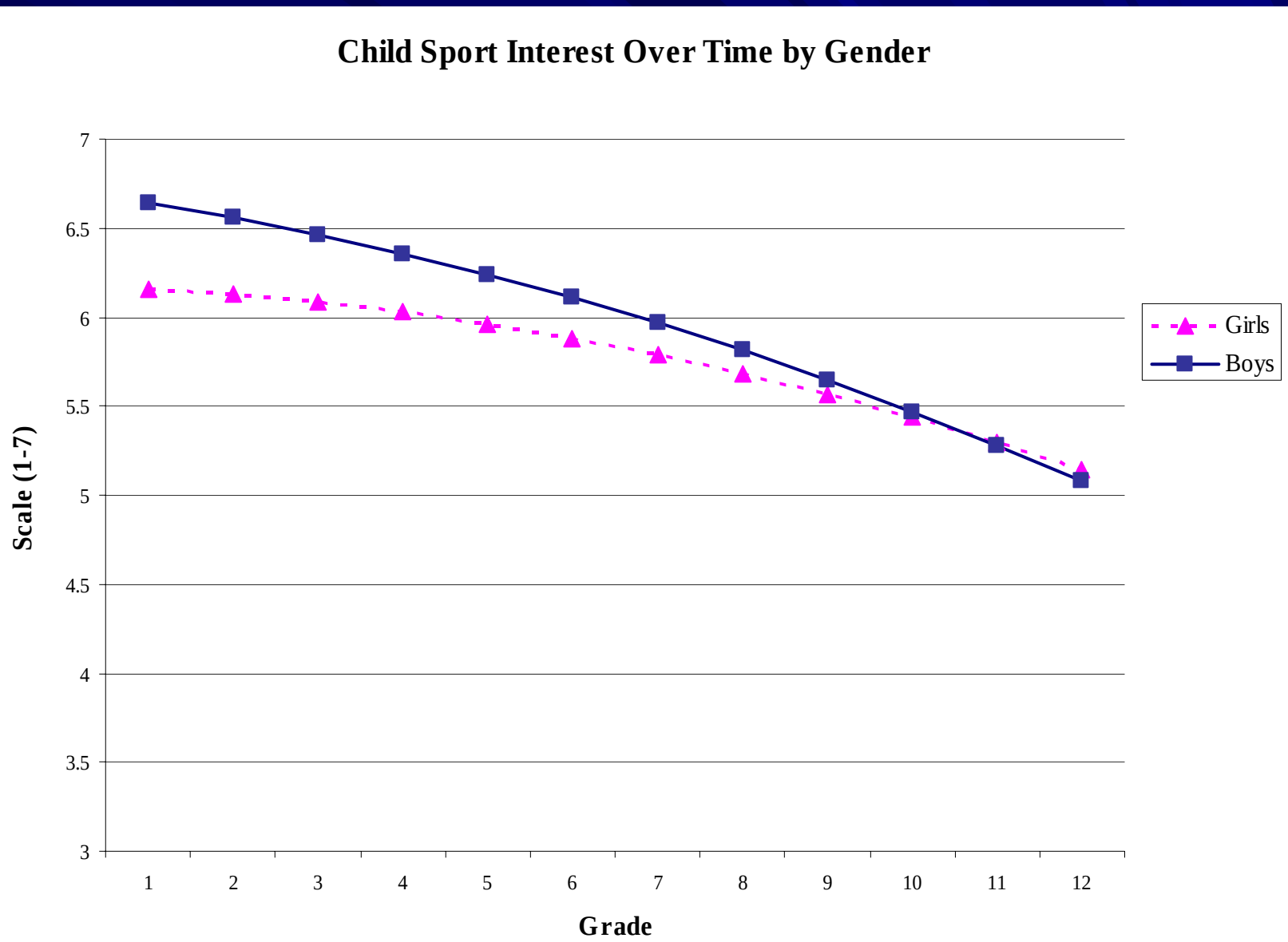
- What about Longitudinal Changes in these differences in Self and Task Related Beliefs about Sport?

- HLM Analysis Across First through Twelfth Grade Controlling for Family Demographics and an Indicator of Actual Sport Competence

Main Collaborator

- Jennifer Fredricks


Child Sport Competence Over Time by Gender
Scale (1-7)
7
6.5
6
5.5
5
4.5
4
3.5
3
1
2
3
4
5
6
7
8
9
10
11
12
Grade
Girls
Boys


Child Sport Interest Over Time by Gender
Scale (1-7)
7
6.5
6
5.5
5
4.5
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3.5
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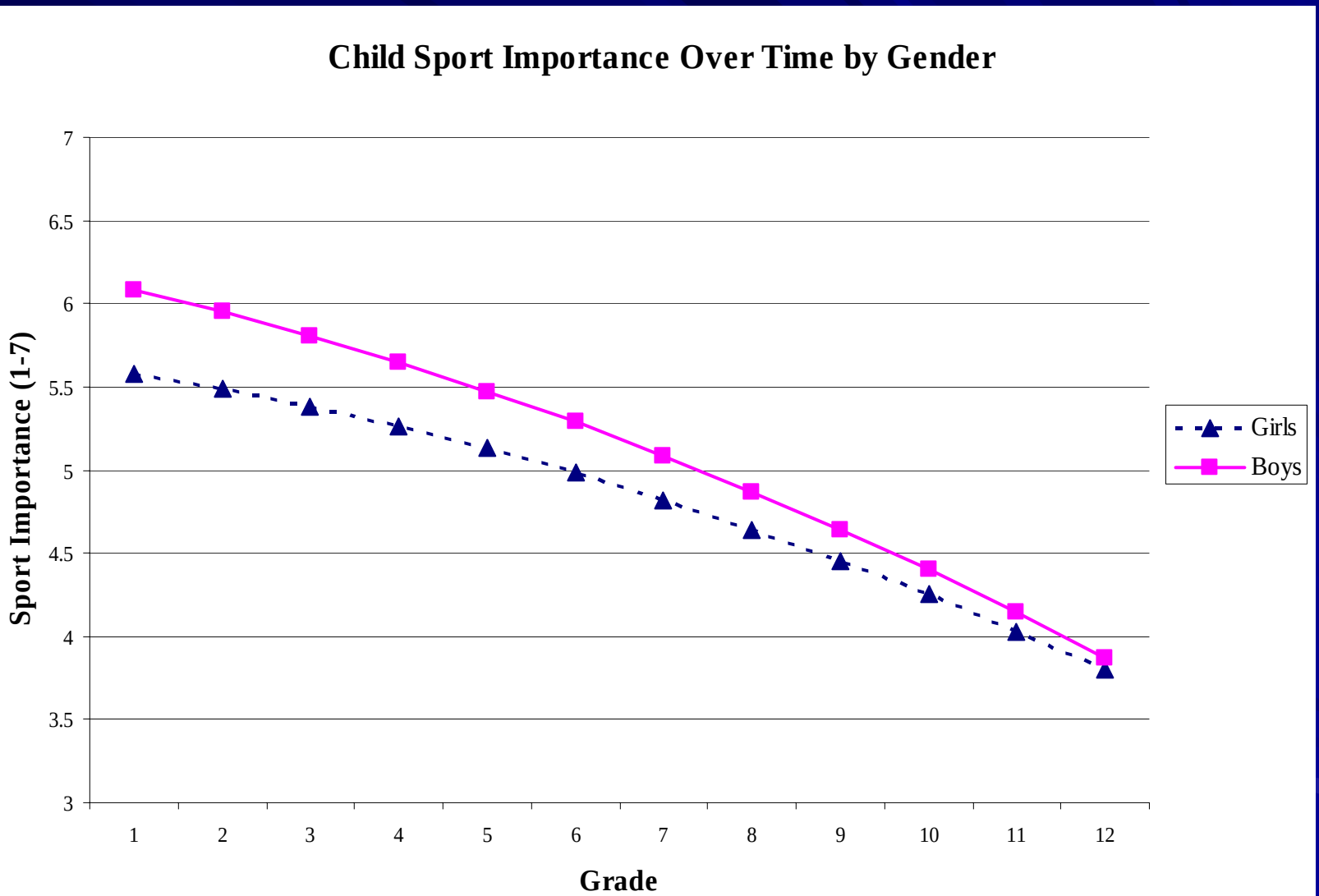
11
12
Grade
Girls
Boys


Child Sport Importance Over Time by Gender
Sport Importance (1-7)
7
6.5
6
5.5
5
4.5
4
3.5
3
1
2
3
4
5
6
7
8
9
10
11
12
Grade
Girls
Boys

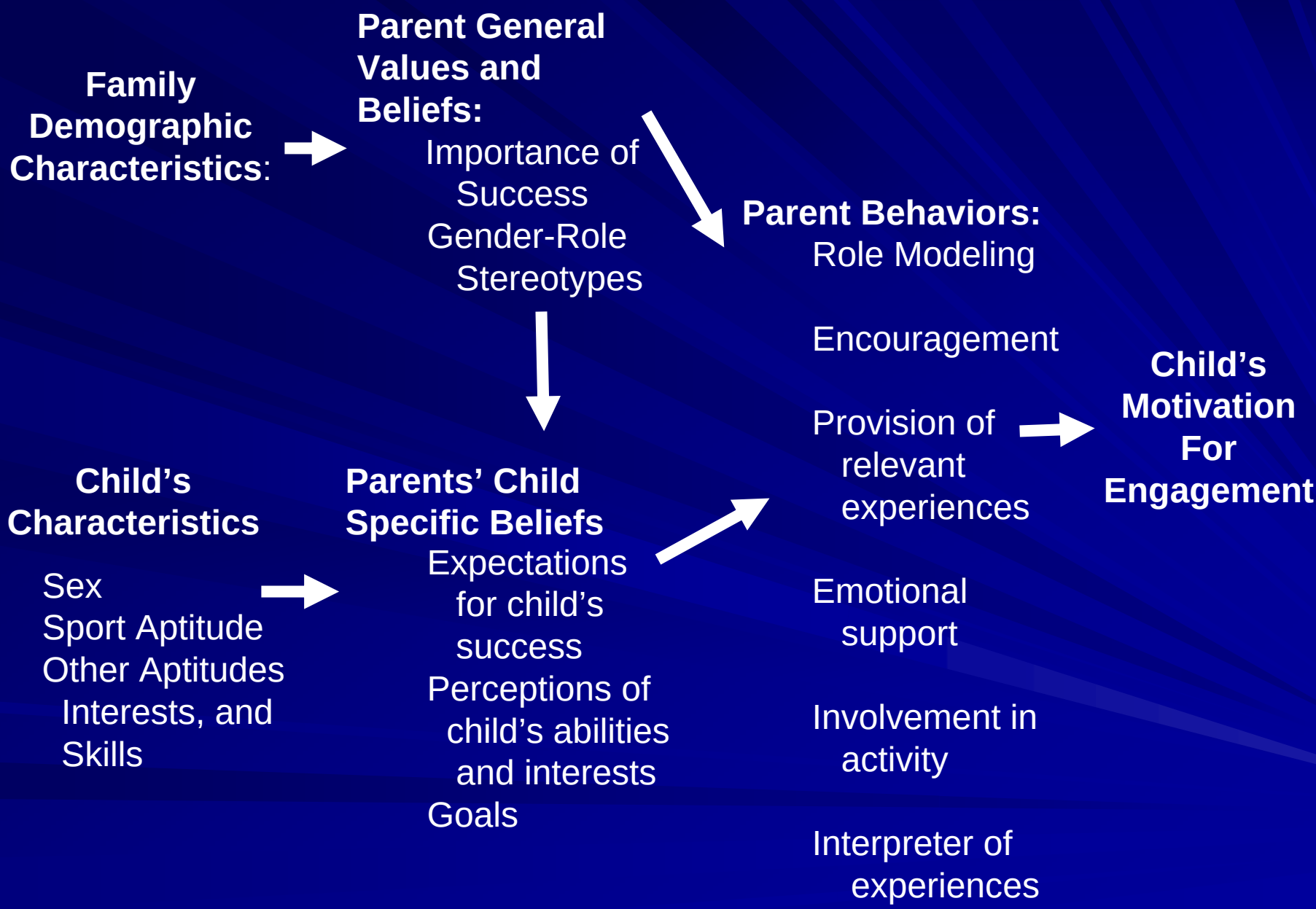
Conclusion

- Gender Differences in Both Ability Self Beliefs and Subjective Task Values Emerge Very Early in Development
- These Differences Get Smaller with Age

Part 3

- Family Influences on Both Gender Differences and Individual Differences in Children's Self and Task Related Beliefs About Sport

- CAB Study – Main Collaborators
  - Jennifer Fredricks
  - Janis Jacobs and Martha Bleeker
  - Nicole Zarrett and Sandi Simpkins


Family Demographic Characteristics:
Parent General Values and Beliefs:
Importance of Success
Gender-Role Stereotypes
Parent Behaviors:
Role Modeling
Encouragement
Provision of relevant experiences
Emotional support
Involvement in activity
Interpreter of experiences
Child's Motivation For Engagement
Child's Characteristics
Sex
Sport Aptitude
Other Aptitudes Interests, and Skills
Parents' Child Specific Beliefs
Expectations for child's success
Perceptions of child's abilities and interests
Goals

Study 1:
Main Collaborators

- Janis Jacobs
- Jennifer Fredricks
- Kwang Suk Yoon

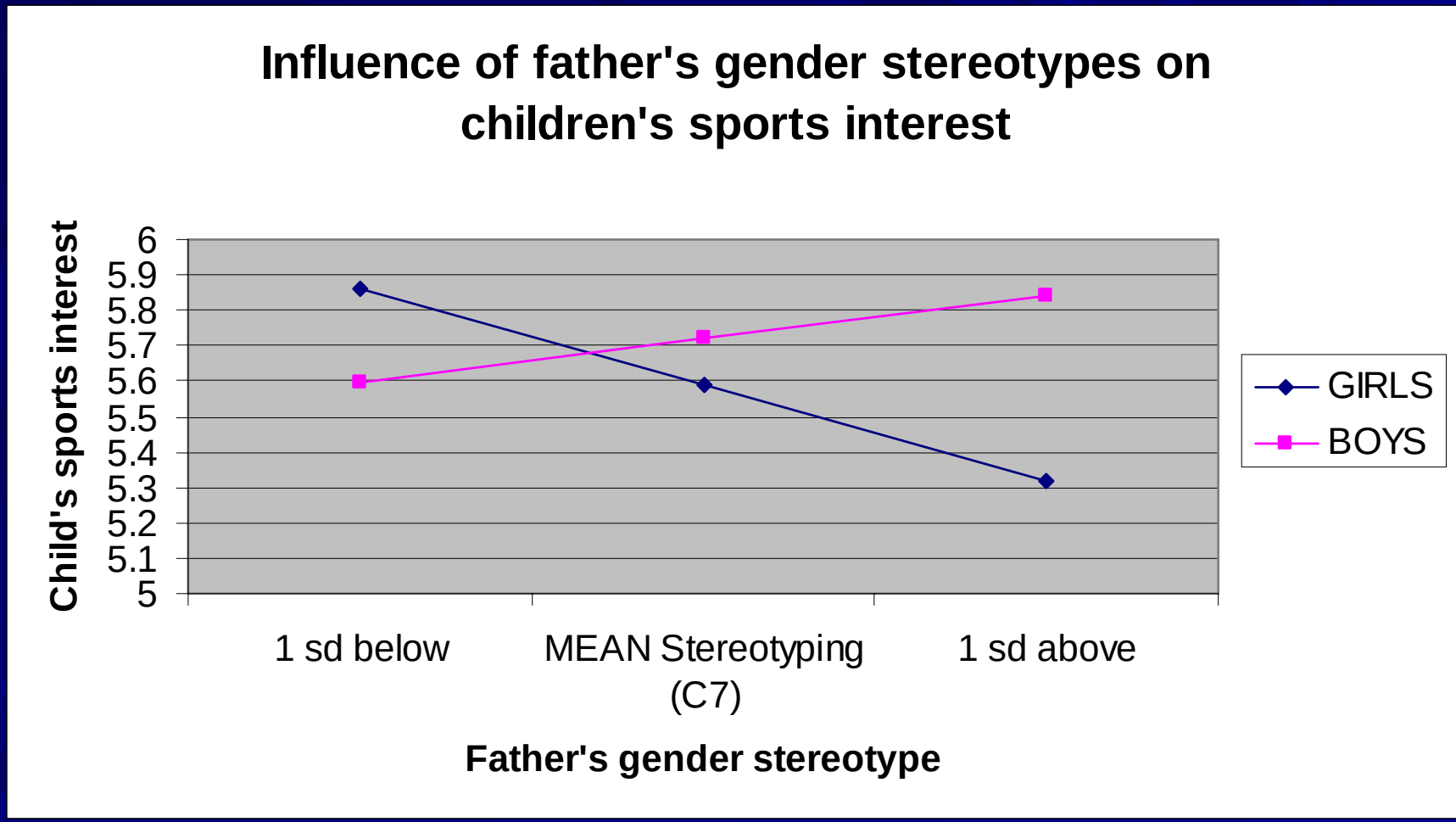
Measures

- Parents' Reports (Year 1-4)
  - Perceptions of Children's abilities
  - Gender stereotypes (about sports)
- Children's Reports (Year 3-5)

Role of Parent Attitudes on Child's Sports Interest, One Year Later

	MOM	DAD
Child Sex	.86***	.86***
Parent's Sports Gender Stereotype	.01	.00
Interaction of child's sex and gender stereotype	.00	.39**
Grade	.00	.00
Parent's perception of child's math ability	.43***	.43***
R-SQUARE	**.21**	**.22**

Father's Gender Stereotype and Child's Interest in Sports



Role of Family Purchases and Child Attitudes on Child's Sports Self-concept, 6 Years Later

Block 1	
Child Sex	.75***
Grade	-.24***
Child's Sports Interest (W2)	.23***
Sports items purchased for child (W2)	.28**
Child's sports self-concept, 6 years earlier (W5)	.48***
R-SQUARE	**.26**

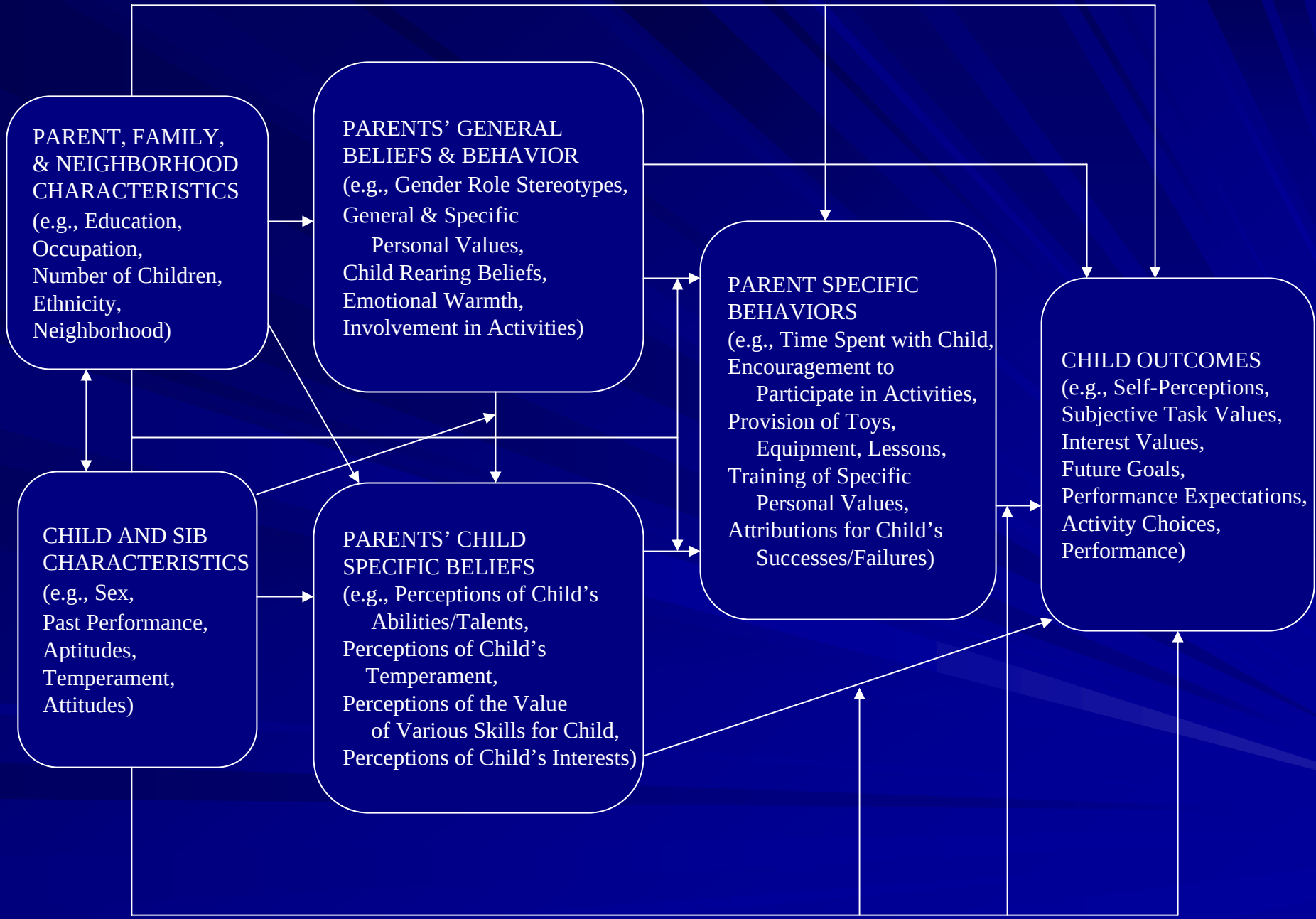
Summary of Findings Parent Study 1

- Children whose parents purchased the most sports items during earlier grades had the highest sports value two years later
- The interaction of father's gender stereotype and child's sex was a significant predictor of child's interest, indicating that as fathers' gender stereotypes increased, girls' interests in sports decreased, while boys' interests increased
- Two more examples of the association between parents' gender-role stereotypes and their perceptions of their children's sport abilities

Parenting Study 2

- More Elaborate Models of Parent Influences
- Recall the Eccles Parenting Model

Eccles' Parent Socialization Model



Childhood and Beyond Study: Waves 3 to 4

- Children
  - 125 2nd grade children
  - 123 3rd grade children
  - 200 5th grade children

- 448 Families
  - Mostly European-American and spoke English
  - 40% of mothers & 54% of fathers earned a degree from a 4-year college.
  - Median annual household income: $60,000 - $70,000

Measures: Children's Activities

- Child report of:
  - Engagement in various activities
    - Scale: 0 = *never*, 6 = *almost every day for a lot of time*
  - Interest in various activities
    - e.g., In general, I find playing sports? (1=very boring, 7=very interesting)
  - Self-concept of abilities in various activities
    - e.g., How good at math are you? (1=not at all good, 7=very good)
  - Beliefs concerning the importance of various activities
    - e.g., For me being good at math is? (1=not at all important, 7=very important)

Measures: Parents' Reports of Child's Sport Activities

- Engagement in sport activities during the last week
  - Scale: 1 = *0 hours*, 9 = *12-16 hours*, 12 = *over 25 hours*
- Interest in sport activities
  - e.g., How interesting does this child find playing sports? (1=very boring, 7=very interesting)

Measures: Parent Socialization

- Parent encouragement
  - How much they generally encouraged their child to engage in particular activities
    - Scale: 1 = strongly discourage, 7 = strongly encourage
- Parent-child coactivity
  - Generally, how often did they engage in activities with their child
    - Scale: 1 = never, 3 = 2-3 times a month, 7 = every day for 30 minutes or more
- Parent modeling
  - In the last week, how much time they spent engaged in particular activities
    - Scale: 1 = 0 hours, 6 = 10-15 hours, 8 = more than 20 hours

Measures: Parent Socialization

- Provision of Experiences
  - e.g., parent bought or rented sports equipment in the last year
    - Scale: yes, no
- Perceptions of Child's Ability
  - e.g., compared to other children, how would you evaluate this child's performance in sports
    - Scale: 1 = much worse than other children, 7= much better than other children
- Value of Domains
  - e.g., how important it is for this child to do well in sports
    - Scale: 1 = not at all important, 7 = very important

Only Show Results for Mothers

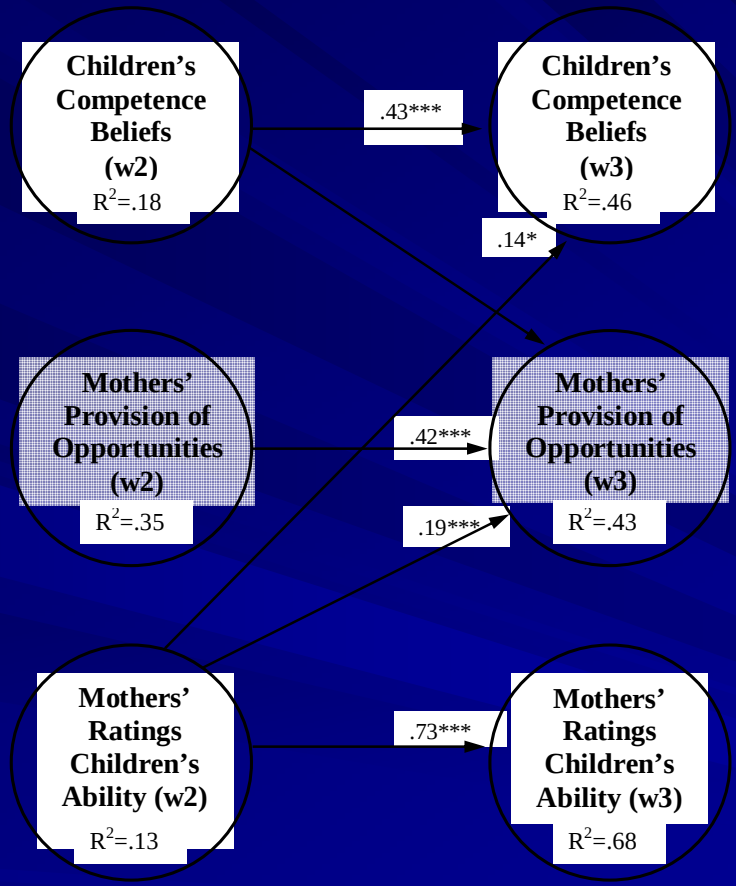
Because

Fathers' Findings are Basically the Same

Fewer Fathers Participated in Study

To Save Time

Sports Cross-lagged Conceptual Model



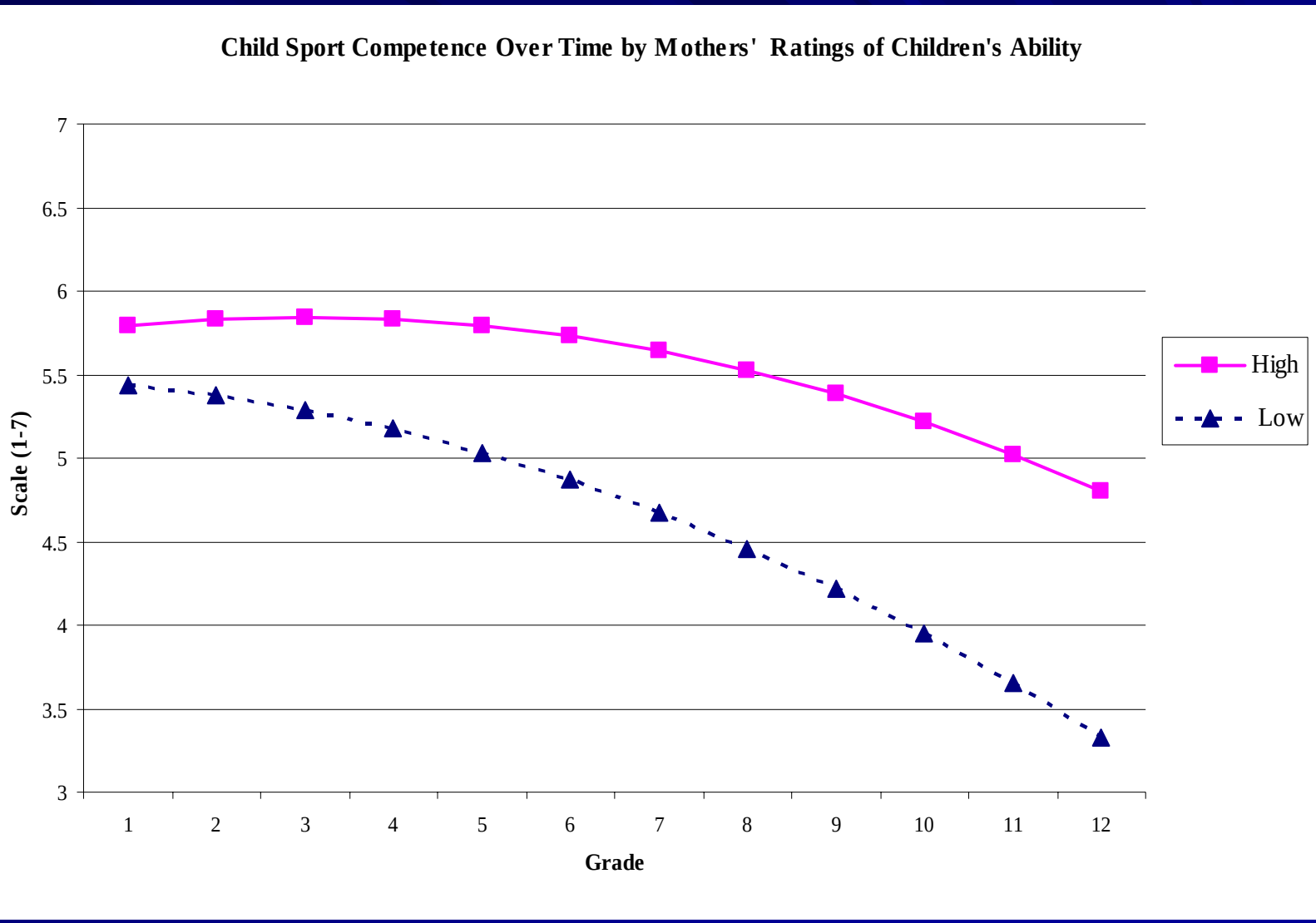
Note: Gender, grade, and aptitude are controls

Standardized Regression Coefficients for Hierarchical Regressions for Sports (Mothers)

	Self-Concept				Interest				Importance			
Predictors	Step 1		Step 2		Step 1		Step 2		Step 1		Step 2	
Step One Variables												
Gender (w3)	-.23	***	-.17	***	-.20	***	-.07		-.23	***	-.12	*
Grade (w3)	-.10		-.09		.00		.00		-.10		-.11	t
Prior aptitude (w1)	.12	*	.08		.03		.01		.03		.02	
Prior self-perceptions (w2)	.47	***	.42	***	.30	***	.22	***	.27	***	.20	***
Step Two Variables												
Mothers' child specific beliefs (w3)	----		.18	***	----		.23	***	----		.13	*
Mothers' own time use sports (w3)	----		-.03		----		-.05		----		-.01	
Mothers' encouragement sports (w3)	----		.00		----		-.01		----		.10	t
Mothers' time involve with child (w3)	----		-.04		----		.00		----		-.04	
Mothers' equipment purchases (w3)	----		.15	**	----		.16	***	----		.20	***
R-Square Change	.39		.06		.16		.08		.16		.08	
F-Change	57.01	***	7.08	***	16.64	***	7.46	***	17.05	***	7.67	***
Total Adjusted R Squared	.39		.44		.16		.24		.16		.24	

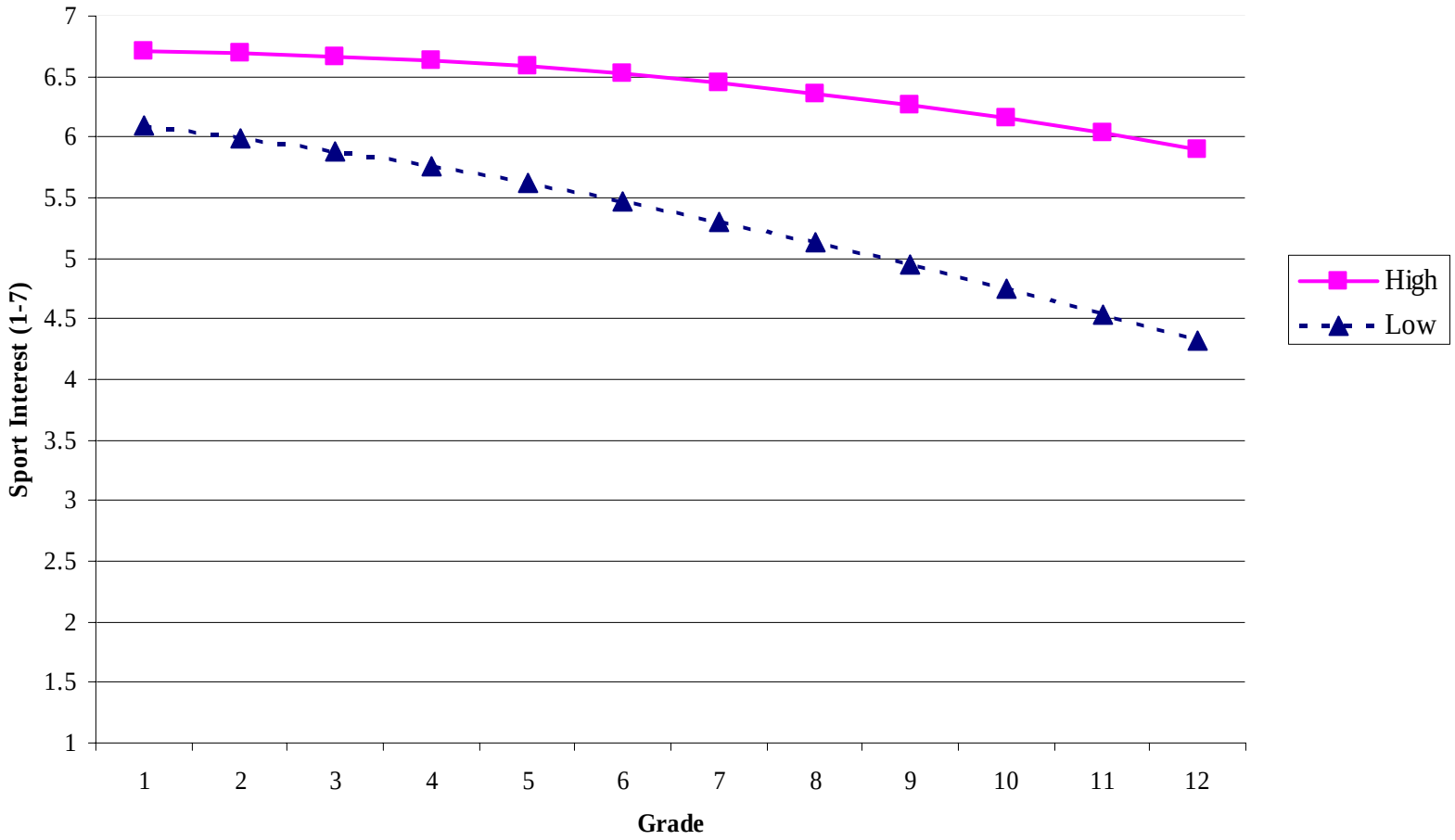
N=366; gender: 0=male, 1=female

*p<.05, **p<.01, ***p<.001, ^{t} p<.1

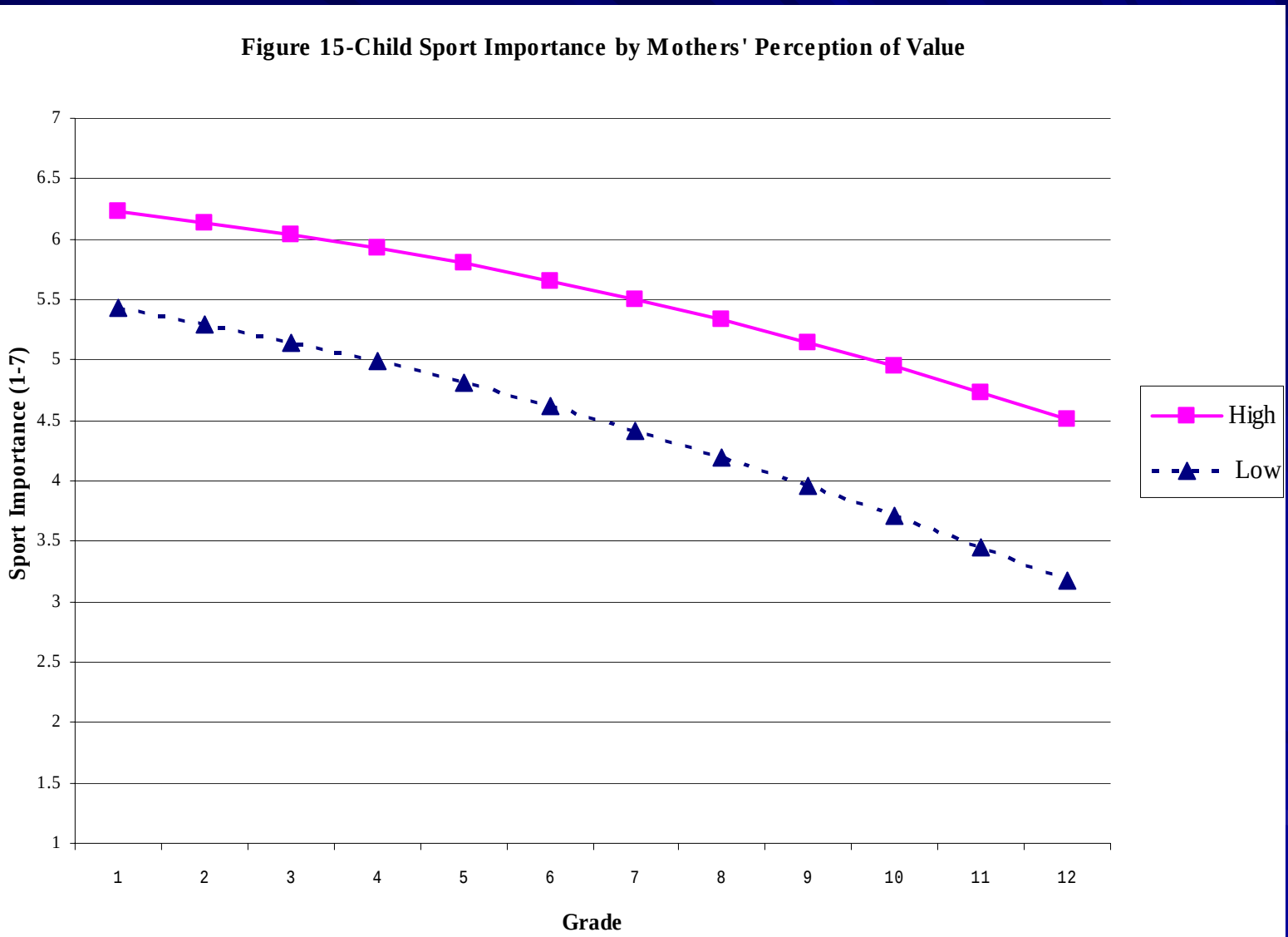


Controls for Bruininks-Oseretsky test for Motor Proficiency

Figure 13- Child Sport Interest Over Time by Mothers' Ratings of Child Ability



Controls for Bruininks-Oseretsky test for Motor Proficiency



Controls for Bruininks-Oseretsky test for Motor Proficiency

General Summary of Parent Influences

- Parents' Beliefs and Practices do Predict Increases in Their Children's Motivation for and Engagement in Sports
- Parents Do Treat Girls and Boys Differently with Regard to Sports
- These Differences Appear to Make a Difference in the Elementary School Years

Thank You

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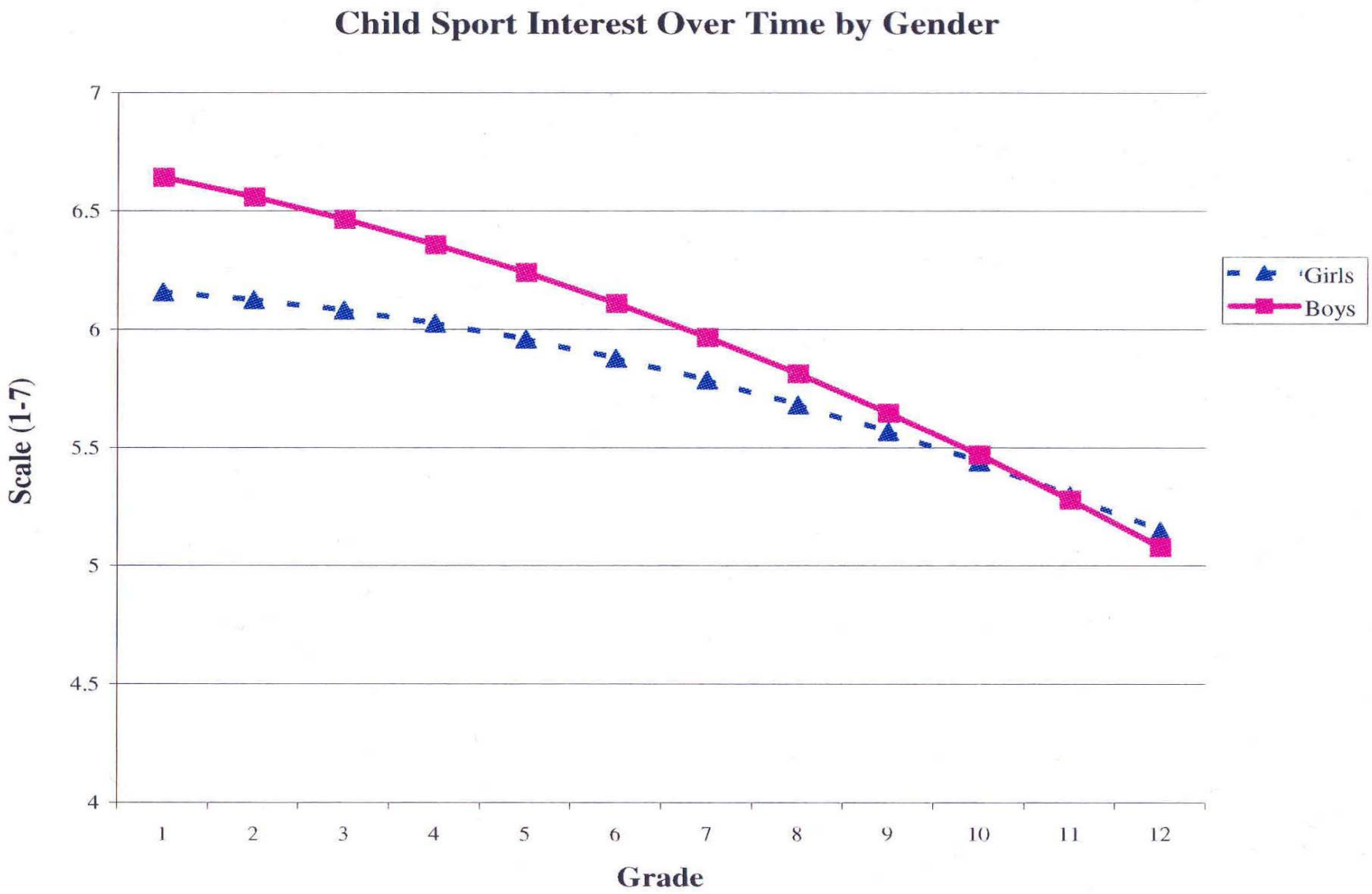
www.rcgd.isr.umich.edu/garp


Child Sport Interest Over Time by Gender
Scale (1-7)
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6.5
6
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Grade
Girls
Boys