

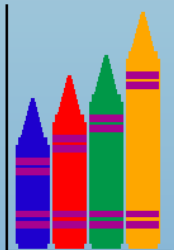
Issues in Longitudinal Research on Challenging Behaviors: The KIDS Study

Glen Dunlap, USF

Maureen Conroy, UF

Judy Carta, KU

Lise Fox, USF



Center for Evidence-Based Practice:
Young Children
with Challenging Behavior

Purpose of Session



- To present an overview of the KIDS study, along with some very early data, in order to discuss:
 - Issues and challenges in conducting multi-site longitudinal research;
 - Potential examinations and analyses of baseline data in KIDS study;
 - Important questions to ask of a longitudinal data base with information on children at high risk for challenging behaviors



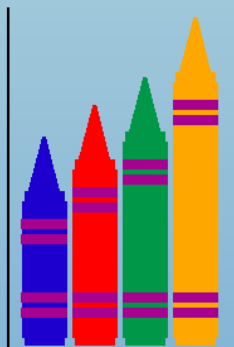
Agenda

- Overview of KIDS study plan and design -Glen
- Overview of population sample and Wave 1 data - Glen
- Analyses of language and behavior - Maureen
- Analyses of cumulative risk factors - Judy
- Issues, challenges, questions - Lise
- Open discussion – Everybody in the Room



OSEP Center on Evidence-based Practice: Young Children with Challenging Behavior

- 
- University of South Florida
 - University of Colorado – Denver
 - University of Florida
 - University of Kansas
 - Juniper Gardens
 - Beach Center
 - Lehigh University
 - Tennessee Voices for Children
 - Pyramid Parent Training
 - Vanderbilt University
 - University of Illinois

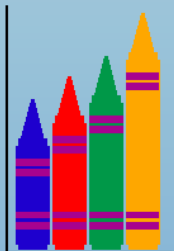


OSEP Center on Evidence-based Practice: Young Children with Challenging Behavior

(www.challengingbehavior.org)

Multi-site, Longitudinal
Study:

The KIDS Study



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KIDS Study - Lead Investigators

➤ University of South Florida – Dunlap, Fox

➤ University of Colorado at Denver - Strain

➤ University of Florida - Conroy

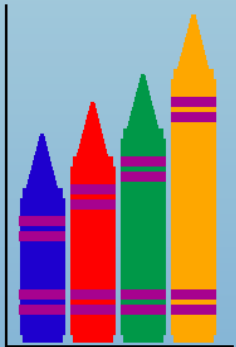
➤ University of Kansas - Juniper Gardens - Carta

➤ Lehigh University – Kern

➤ Tennessee Voices for Children – Timm

➤ USF - Data Base & Infrastructure – Lardieri, Sowell

➤ USF – Statistician - Banks

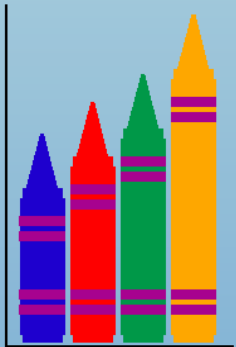


Purpose



The principal goals of the KIDS Study are to:

- (1) describe in detail the developmental trajectories of a diverse population of young children who exhibit serious challenging behaviors, or who are at high risk for developing challenging behaviors, and



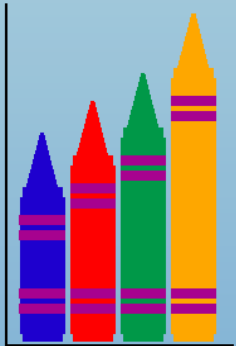
Purpose (continued)

- (2) identify variables that may predict different trajectories as well as different outcomes, such as readiness for kindergarten.



Some Anticipated Contributions

- Provide first empirical evidence of preventive factors regarding challenging behaviors from a multi-variate perspective
- Describe natural history of challenging behaviors in important populations of young children
- Provide necessary first-generation data for second-generation empirical tests of interventions



Primary Research Questions



- What is the developmental pattern (history) of challenging behaviors in a population of young children who are at high risk of significant problems of behavioral adjustment during kindergarten and subsequent school years?
- What variables (child, family, ecology, intervention) are most predictive of behavioral status and school readiness at kindergarten in a population of young children who are at high risk of significant problems of behavioral adjustment?



Recruitment

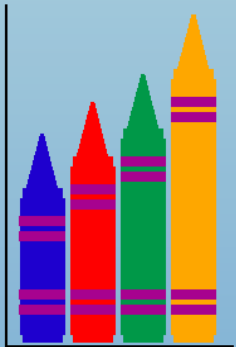
- Initial objective was to enroll a diverse group of 400 children representing various kinds of disabilities and risk factors, including Autism (ASD), ADHD/Behavior Disorder (Conduct Disorder, ODD), Multi-risk (Including Abuse and Neglect) and Developmental Delay
- Recruitment - from 6 sites/programs targeting these high risk populations
 - Lehigh Valley, PA; Nashville, TN (RIP), Gainesville, FL; Tampa Bay area , FL; Denver, CO; Kansas City and Lawrence, KS.



Participant Eligibility

Eligibility:

- (1) child is between 18 and 48 months;
- (2) parent/legal guardian provides informed consent and expresses willingness to participate for at least 3 years;
- (3) child exhibits challenging behavior that is being formally addressed by an early intervention or early childhood special education provider *or* child displays challenging behavior according to Center definition (impediment to development & social participation; chronicity) *or* child meets criteria for being at high risk of challenging behaviors due to presence of 4 of 10 risk factors.









Design

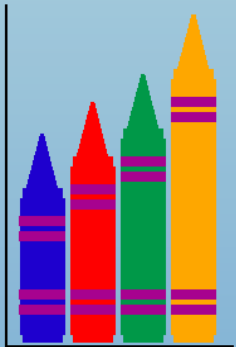
- Accelerated (longitudinal) growth curve design, with two cohorts...
 - 18-30 months
 - 36-48 months
- Data collection – every 6 months



Measurement Categories



-  Child Measures
-  Family Measures
-  Ecological/Contextual Measures
-  Intervention Measures (but very limited)
-  Growth Outcomes
-  Kindergarten Outcomes

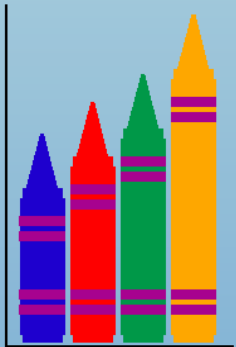


Primary Measures



From Caregiver (Family/Parent):

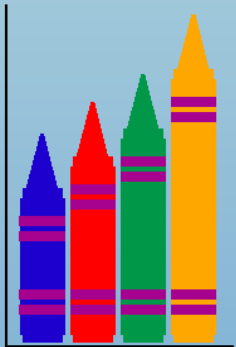
- Contact & demographic form
 - Family profile (interview)
 - CBCL – (1 ½ - 5)
 - TABS
 - PSI*
- Note: * = administered annually, rather than every 6 months



Primary Measures

From Caregiver (Family/Parent):

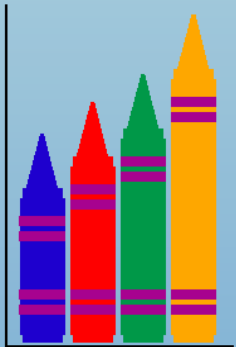
- Family Resource Scale*
- Family Support Scale*
- Rosenberg Self-esteem Scale*
- Pearlin Mastery Scale*
- HOME*



Primary Measures

From Child:

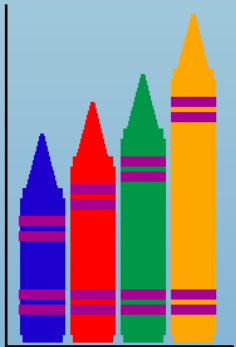
- PLS-4
- Picture Naming (3-5 yrs)
- Alliteration (3-5 yrs)
- Rhyming (3-5 yrs)



Primary Measures

From Child Care provider/environment:

- ITERS
- ECERS



Outcome (Kindergarten) Measures



Initial (one month)...

DIBELS – Initial sound fluency; Letter naming fluency

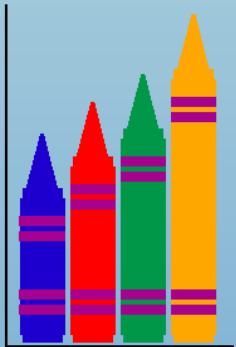
14-18 weeks...

DIBELS – Initial sound fluency; Letter naming fluency; Phoneme segmentation fluency; Nonsense word fluency

SSRS

Assessment of Readiness to Learn

Caregiver-Teacher Report Form (CBCL)



Current Status

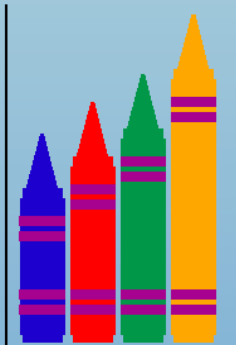


- Recruitment/Data collection initiated in late 2003
- Recruitment completed in August, 2005
- Wave 1 enrollment = 244 participants
- All Wave 1 data in data base, and Clean up of Wave 1 data nearing completion
- Additional Waves to be entered soon
- Wave 1 data analysis under way



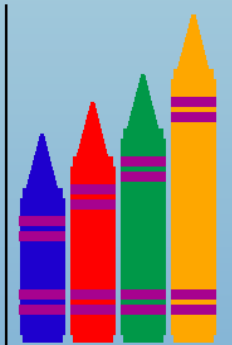
Population Description (n=244)

Male	62.6%
Female	37.4%
Enrolment age > 36 mos.	47.2%
Enrolment age < 36 mos.	52.8%
African-American	34.1%
Caucasian	37.1%
Hispanic	20.5%
Other	8.3%

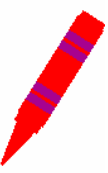



Population Description (n=244)

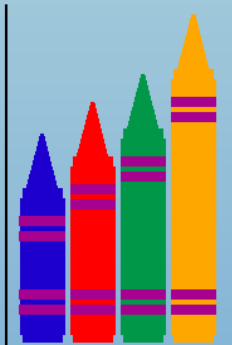
Known Dev. Delay	11.2%
Known Autism	5.1%
Known Language Problems	29.7%
CBCL Total > Clinical	34.9%
CBCL Internal > Clinical	23.3%
CBCL External > Clinical	40.6%



Some Risk Factors

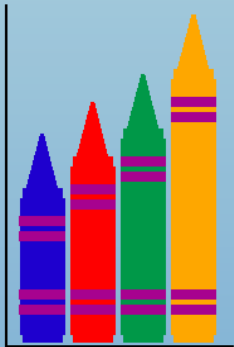


Hx of Mental Illness (birth family)	39.5%
Hx of Substance Abuse (birth family)	32.3%
Hx of Criminal Conviction (birth family)	28.2%
Hx of Domestic Violence (birth family)	17.9%
Hx of Child Protection	13.5%
Hx of Sleeping Problems (Child)	39.5%

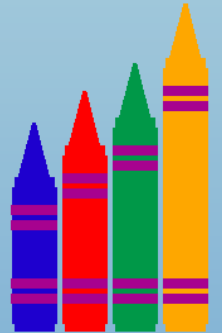



Population by Site

	UC-D	KU	Lehigh	TVC	UF	USF
% of Total N	12.3	16.9	18.8	15.7	12.3	24.1
% Male	46.9	68.2	73.5	65.9	56.3	58.7
% > 36 mos	25	50	55.1	58.5	43.8	42.9




Ethnicity by Site



	UC-D	KU	Lehigh	TVC	UF	USF
% African-American	0	59.1	10.2	17.1	50.0	55.6
% Caucasian	9.4	22.7	51.0	75.6	28.1	28.6
% Hispanic	90.6	11.4	20.4	2.4	12.5	7.9
% Other	0	6.8	18.4	4.9	9.4	7.9

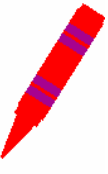
CBCCL by Site



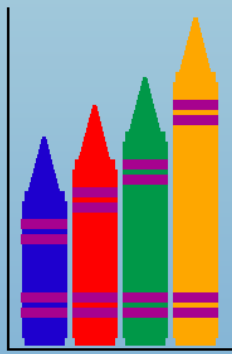
	UC-D	KU	Lehigh	TVC	UF	USF
% in Clinical Range (Total)	0	34.1	61.2	26.8	33.3	41.3



Some Risk Factors by Site



	UC-D	KU	Lehigh	TVC	UF	USF
% Hx of Mental Illness	3.1	32.6	52.1	43.6	45.5	47.5
% Hx of Criminal Conviction	3.1	21.4	24.5	20.5	37.5	49.2
% Hx of Substance Abuse	9.4	40.9	34.7	48.7	25.0	29.5



Some Observations



- A unique data base:
 - Participants at high risk for challenging behavior
 - Opportunity to examine growth trajectories and predictor variables over a considerable time period
- Some limitations:
 - Lack of detailed information regarding interventions
 - Lack of growth data on social variables



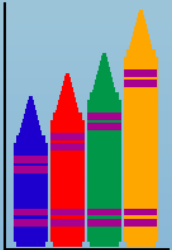
Some Observations



- Data analysis is just beginning
 - Wave 1 (baseline) data only
 - Ultimately, we will have 3-6 waves (6 month assessments) for all participants
 - As well as Kindergarten outcome data
- CRIEI is the first opportunity to present any data from the KIDS study....
 - So we look forward to your input!!!



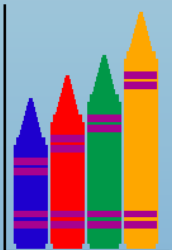
MAUREEN'S TURN



Center for Evidence-Based Practice:
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KIDS: The Relationship Between Language and Behavior

Very Preliminary
Findings



Center for Evidence-Based Practice:
Young Children
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Purpose of Presentation

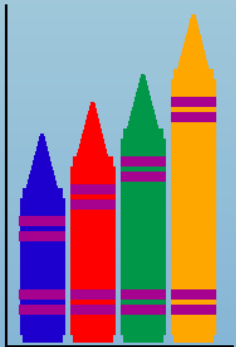


- To present preliminary findings from Wave 1 data on the relationship between behavior and language measures in the KIDS participants
 - Pearson Correlation Coefficients (age groups & CBCL subgroups)
 - PLS-4 & CBCL Subscales
 - PLS-4 & TABS Subscales
 - 2 x 2 Chi-square Analyses
 - CBCL (Clinical/borderline v. Nonclinical/borderline) & PLS-4 (≤ 86) v. (> 86)



Background Literature Review

- Previous research has established the co-morbidity between behavior and language deficits in PK and elementary aged children
 - Relationship between language and behavior deficits appears to be bi-directional (Benner et al., 2002; Gallagher, 1999)
 - Children with significant language deficits are more likely to have significant problem behaviors, including deficits in social competence (Griffin et al., 1997; McCabe, 2004)
 - Children with significant behavior problems are more likely to have significant language deficits (Kaiser et al., 2000; 2002)

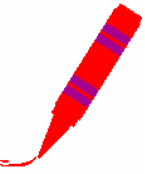


Background Literature Review

- Deficits in language and behavior co-occur, but the exact nature of the relationship remains unclear
 - Relationship may differ based on gender of participants (Kaiser et al., 2000; 2003)
 - Relationship may be related to severity (McCabe, 2004) and type (Nelson et al., 2003) of language deficit
 - Relationship may become clearer in older children (Hooper et al., 2003) and over time (Benasich et al., 1993)



Background Literature Review

- 
- Emerging evidence suggests relationship between behavior and language may differ based on:
 - Types of problem behaviors (internalizing v. externalizing) and language deficits (expressive v. receptive) (Cohen et al., 1998; Dionne et al., 2003; Qi & Kaiser, 2004)




Background Literature Review

- Further research is needed to examine the nature of the relationship between behavior problems and language deficits (Benner et al., 2002)
- Gallagher (1999) suggests examining the following factors:
 - Ages
 - Severity of symptoms
 - Different measures



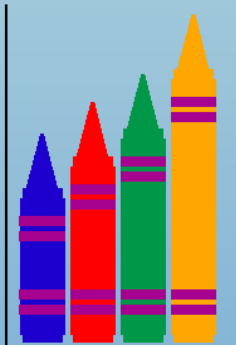
Current Investigation

- 
- Examined the relationship between language and behavior in KIDS participants
 - Across 3 age groups
 - 18 - 36 months
 - 36 - 48 months
 - 18 - 48 months
 - Types of deficits
 - Behavior
 - CBCL Clinical/Borderline (Total, Internalizing, Externalizing)
 - TABS (Detached & Hyperactive)
 - Language (≤ 86 on the PLS-4)
 - Total Language Score (TLS)
 - Expressive Communication (EC)
 - Auditory Comprehension (AC)



Target Population

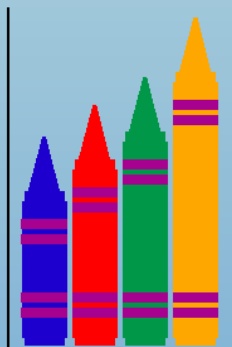
	Clinical & Borderline
CBCL Total	47.7%
CBCL Externalizing	50.9%
CBCL Internalizing	35.7%



Target Population

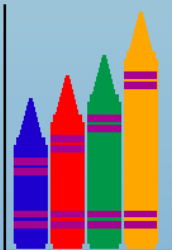


	% of Participants Scoring ≤ 86 (1SD or below)
PLS-4 Total Language Score	34.8%
PLS-4 Expressive Language Score	38.6%
PLS-4 Auditory Comprehension Score	33.3%



Relationship Between Scores on the CBCL & PLS-4 and TABS & PLS-4

Pearson Correlation
Coefficients



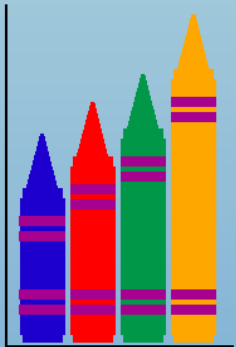
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Relationships Between CBCL & PLS-4 and TABS & PLS-4

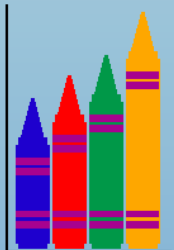
➤ Pearson Correlation Coefficients were determined to:

Examine relationships for 3 behavior subgroups:

1. CBCL Total (Clinical/Borderline)
2. CBCL Externalizing (Clinical/Borderline)
3. CBCL Internalizing (Clinical/Borderline)



CBCCL Total Scale Subgroup



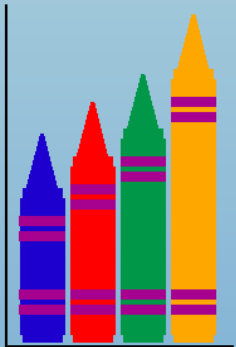
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CBCL Total Subgroup



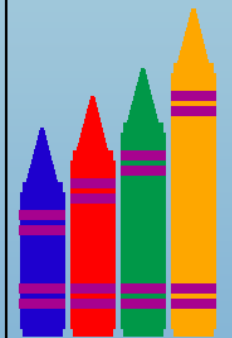
Relationship between PLS-4 (TLS, EC, AC) & CBCL Total Problem Subscale Score

- No significant correlations were found across or within age groups on the
 - PLS-4 & CBCL Total Problem Score

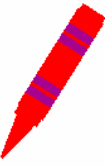


CBCL Total Subgroup

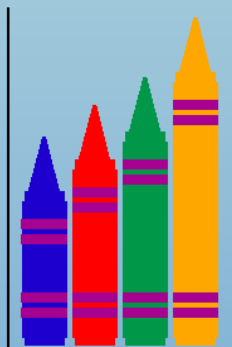
	CBCL Internalizing Problem Score	TABS Detached
18 mos - 48 mos		
PLS-4 TLS	NS	-.19 (p=.03)
PLS-4 EC	NS	NS
PLS-4 AC	NS	-.20 (p=.02)
≥ 36 mos		
PLS-4 TLS	NS	-.28 (p=.02)
PLS-4 EC	NS	-.24 (p=.04)
PLS-4 AC	NS	-.33 (p=.00)
<36 mos		
PLS-4 TLS	NS	NS
PLS-4 EC	NS	NS
PLS-4 AC	NS	NS



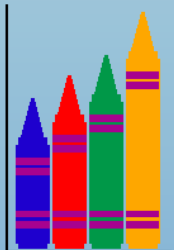
CBCL Total Subgroup



	CBCL Ext. Problem TSCR	CBCL Aggression TSCR	CBCL ADHD TSCR	TABS Hyper
18 -48 mos				
PLS-4 TLS	-.20 (p=.02)	-.19 (p=.03)	NS	NS
PLS-4 EC	-.21 (p=.02)	-.19 (p=.04)	-.18 (p=.04)	NS
PLS-4 AC	NS	NS	NS	NS
≥36 mos				
PLS-4 TLS	-.25 (p=.04)	-.26 (p=.03)	NS	NS
PLS-4 EC	-.31 (p=.01)	-.32 (p=.00)	NS	NS
PLS-4 AC	NS	NS	NS	NS
< 36 mos				
PLS-4 TLS	NS	NS	NS	NS
PLS-4 EC	NS	NS	NS	NS
PLS-4 AC	NS	NS	NS	NS



CBCL Externalizing Subgroup



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CBCL Externalizing Subgroup

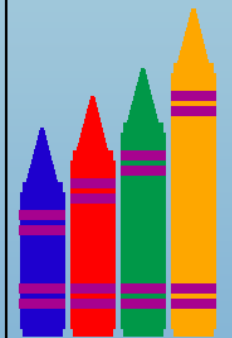


- Relationship between PLS-4 (TLS, EC, AC) & CBCL Total Subscale Score
 - Only 1 significant finding:
 - <36 mos
 - PLS-4 EC & CBCL Total Problem Score [- .31 (p=.01)]



CBCL Externalizing Subgroup

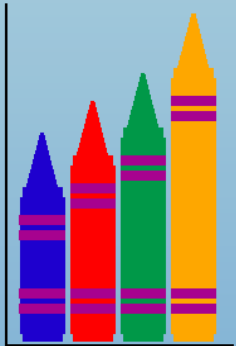
	CBCL Internalizing Problem Score	TABS Detached
18 - 48 mos		
PLS-4 TLS	NS	-.20 (p=.02)
PLS-4 EC	NS	-.19 (p=.03)
PLS-4 AC	NS	NS
≥ 36 mos		
PLS-4 TLS	NS	-.31 (p=.01)
PLS-4 EC	NS	-.28 (p=.02)
PLS-4 AC	NS	-.35 (p=.00)
< 36 mos		
PLS-4 TLS	-.25 (p=.05)	NS
PLS-4 EC	NS	NS
PLS-4 AC	NS	NS



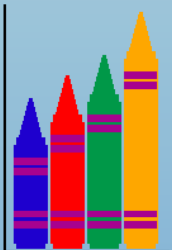
CBCL Externalizing Subgroup



- No significant correlations were found between PLS-4 (TLS, EC, AC) scores and
 - CBCL Externalizing Problem Score
 - CBCL Aggression
 - CBCL ADHD
 - TABS Hyperactive



CBCCL Internalizing Subgroup



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CBCL Internalizing Subgroup

- No significant correlations were found between PLS-4 (TLS, EC, & AC) and
 - CBCL Total Problem Score



CBCL Internalizing Scale

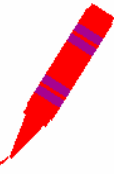


- Relationships between PLS-4 (TLS, EC, & AC) and CBCL Internalizing Subscales
 - No significant correlations
 - CBCL Internalizing Total Score

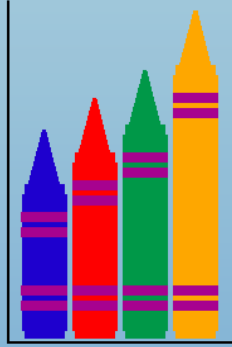
- Relationships between PLS-4 (TLS, EC, AC) and TABS Detached
 - Only significant correlations:
 - 18 - 48 mos: PLS-4 EC & TABS Detached [-.21 (.05)]
 - \geq 36 mos: PLS-4 EC & TABS Detached [-.28 (.05)]



CBCL Internalizing Scale

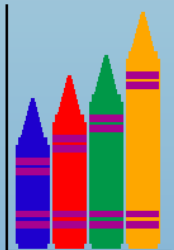


	CBCL Ext. Problem TSCR	CBCL Aggression TSCR	CBCL ADHD TSCR	TABS Hyperactive
18 - 48 mos				
PLS-4 TLS	-.21 (p=.04)	-.23 (p=.02)	NS	-.22 (p=.04)
PLS-4 EC	-.23 (p=.03)	-.23 (p=.02)	NS	-.21 (p=.04)
PLS-4 AC	NS	NS	NS	NS
≥ 36 mos				
PLS-4 TLS	NS	-.30 (p=-.02)	NS	-.30 (p=.02)
PLS-4 EC	-.28 (p=.03)	-.33 (p=.01)	NS	-.28 (p=.03)
PLS-4 AC	NS	NS	NS	NS
< 36 mos				
PLS-4 TLS	NS	NS	NS	NS
PLS-4 EC	NS	NS	NS	-.29 (p=.03)
PLS-4 AC	NS	NS	NS	NS



Relationships between Clinical Scores on the CBCL & PLS-4

Chi-square Analyses



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with Challenging Behavior

Relationship Between Clinical CBCL & PLS-4 Scores

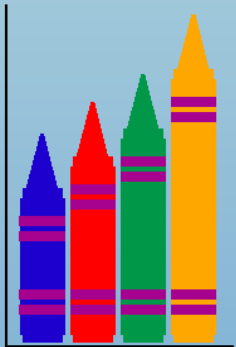
- 2 x 2 Chi-square analyses
 - Clinical/Borderline CBCL Total & ≤ 86 on the PLS-4 (Total, EC, AC)
 - Clinical/Borderline CBCL Externalizing & ≤ 86 on the PLS-4 (Total, EC, AC)
 - Clinical/Borderline CBCL Internalizing & ≤ 86 on the PLS-4 (Total, EC, AC)



Relationship Between Clinical CBCL & PLS-4 Scores

➤ Significant Chi-squares:

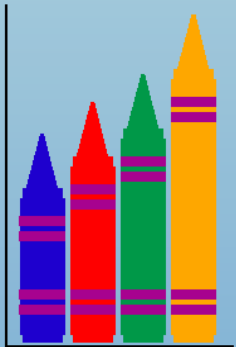
- All significant findings involved the relation between expressive language and clinical/borderline scores on CBCL Total or CBCL Internalizing for participants 18 - 48 mos or participants < 36 months



Relationship Between Clinical CBCL & PLS-4 Scores

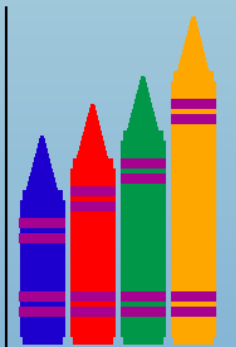
➤ Significant Chi-squares:

- Participants 18 - 48 mos
 - CBCL Internalizing Clinical/Borderline & PLS-4 EC ($p = .05$)
- Participants < 36 mos
 - CBCL Total Clinical/Borderline & PLS-4 EC ($p = .03$)
 - CBCL Internalizing Clinical/Borderline & PLS-4 EC ($p = .01$)



Summary of Findings

- Relationship between language and behavior is complex
 - Age appears to influence some of the relationships
 - Measures appear to influence some of the relationships
 - TABS Detached & PLS-4 were correlated at times when the CBCL Internalizing Subscales & PLS-4 were not correlated
 - CBCL Externalizing Subscales & PLS-4 were correlated at times when other CBCL Subscales and TABS were not correlated
 - Type of deficit appears to influence some relationships
 - Clinical/Borderline on the CBCL Total v. Externalizing v. Internalizing subscales indicated different relationships



Caveat

- Very preliminary findings
- No correction for multiple correlations or multiple chi-square analyses
- Some counterintuitive findings warrant further consideration

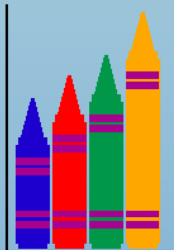


Future Research Directions

- Continue to pursue investigating the relationship between language and behavior at young ages (<36 months) and how this relationship changes over time
- Examine the influence of different measures when interpreting the relationship between language and behavior
- Examine the influence of different types of deficits and specific language indicators



JUDY'S TURN



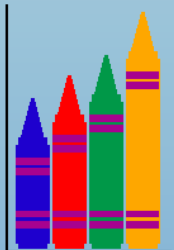
Center for Evidence-Based Practice:
Young Children
with Challenging Behavior

Examining the Role of Cumulative Risk for Children with Challenging Behaviors

**Judy Carta, Sharon Lardieri &
Matt Timm**

**Conference on Research
Innovation in Early Intervention**

February 25, 2006

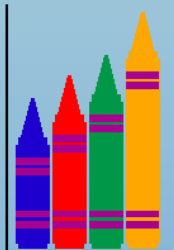


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Nobody Loves Me But My Mother...

And She Could Be Jivin' Too.

-B. B. King



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Background on Cumulative Risk

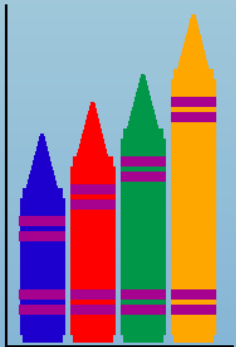


- Research has clearly suggested that risk factors such as child maltreatment, domestic violence, and poverty affect children's outcomes.
- Cumulative risk hypothesis: It is the accumulation of risk factors, independent of the presence of particular risks, that adversely affect child outcomes



Literature Substantiates Influence of Cumulative Risk

- Rutter et al. (1979) found a significant correlation between 6 family risk factors and children's *psychiatric* disorders
- Sameroff (2000) found a relationship between number of environmental risks and increased *maladaptive* outcomes for children




KIDS Study

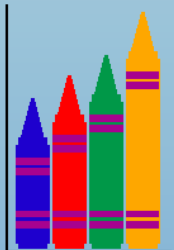
- We will examine the role of cumulative risk over time in the development of challenging behavior and language development.
- This is our first look at cumulative risk at the first wave of data collection.



While cumulative risk
approach seems
straightforward...



The methodology for selecting
risks, determining risk cut-offs, and
analyzing risks is not clearly
described or consistent across
studies.



Purposes of My Presentation



- Share some preliminary data on cumulative risk in this sample at high-risk for behavior problems
- Talk about decision-making about methodology of cumulative risk
- Share some ideas for future directions in our cumulative risk work
- Get input of audience members



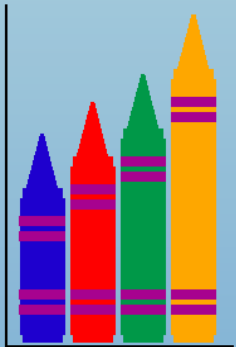
Some Initial Decisions

- What to include as risk factors?
- How to establish cut-points for each risk?
- What are the dependent variables of most interest?



Measures

- All measures gathered in the first wave of data collection from KIDS study
- 12 risks altogether-similar to Sameroff
- Dependent Variables
 - *Child Behavior Checklist (CBCCL)- Parent report of externalizing and internalizing problems*
 - *Preschool Language Scale IV (PLS)- Expressive*

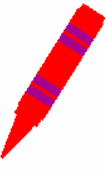


How risk index was constructed

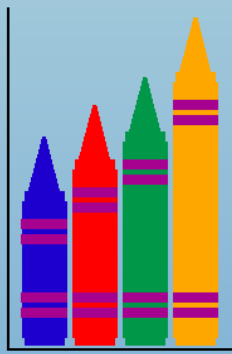
- Each risk was dichotomized so that the presence or absence of the risk was identified.
- Dichotomization was carried out through:
 - Conceptual classification (e.g., having less than high school diploma)
 - Creating a statistical cut-off (e.g., lowest 1/3 of the sample)
 - Using established clinical criteria for defining risk (e.g, Parenting Stress)
- Scores on the 12 risk factors were summed to produce a cumulative risk score for each child.




Risk Factors and Their Criteria



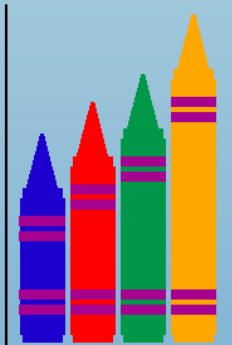
Risk	Measure	Criteria
Mental Illness	History of mental illness in family?	Yes
Criminality	Birth parents convicted of crime?	Yes
Marital discord	History of domestic violence	Yes
Child maltreatment	Child Protection concerns about safety of child	Yes
Teen mom	Birth mom's age	<18 yrs at child's birth
English not primary language	Language child hears most at home?	Not English
Parental distress	Parenting Stress Inventory-Distress Subscale	In clinical range



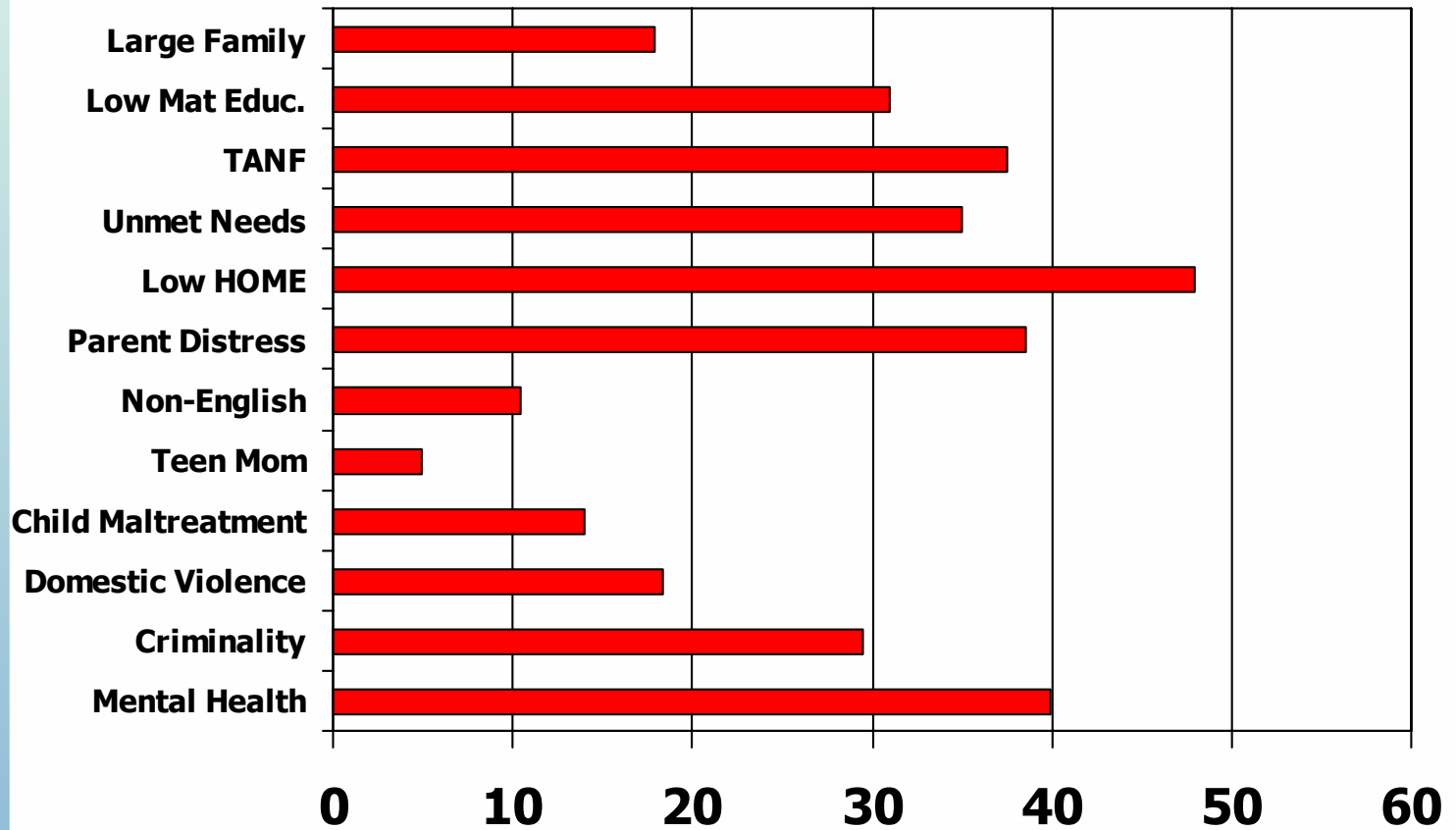
Risk Factors and Their Criteria (cont.)



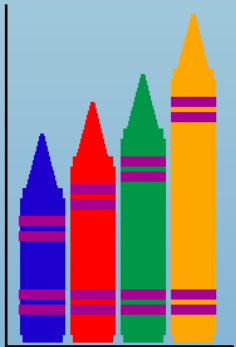
Risk	Measure	Criteria
Low stimulating home environment	HOME Total Score (Infant-Toddler or Early Childhood)	Score in lowest 1/3 of our sample
Lack of family support	Unmet needs on Family Support Scale	Number of unmet needs is in upper 1/3 of our sample
Low income	Family is TANF recipient	Yes
Limited education of primary caregiver	Primary caregiver's education	< High School diploma
Large family size	Number of children	4 or more children



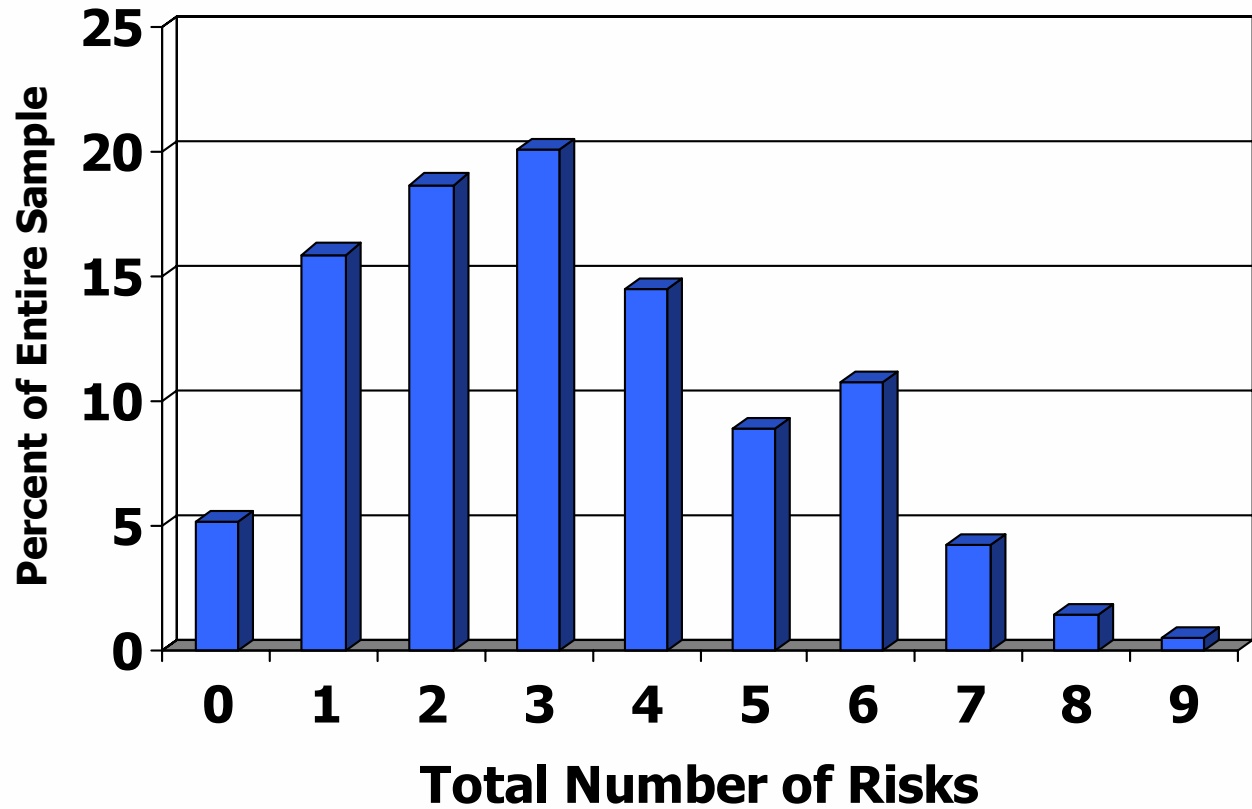
Percentage of Sample with Risk Factor



N = 244

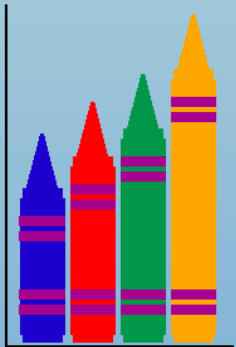


Distribution of Cumulative Risk Across Entire Sample

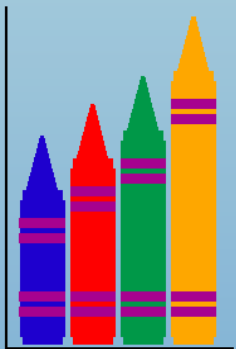
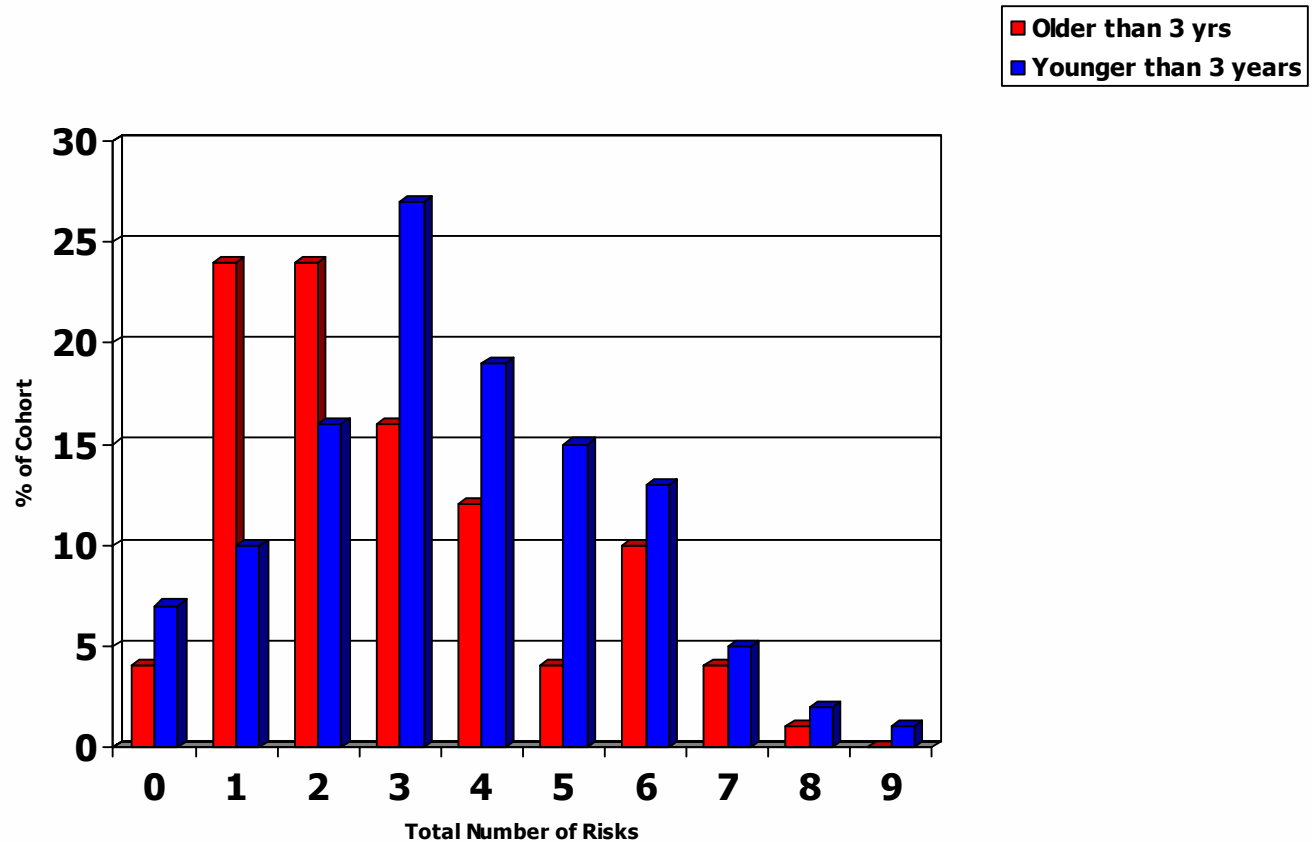


N = 244

M=3.25; sd = 1.97



How cumulative risk compares for younger and older




Correlations between risks and behavioral outcomes

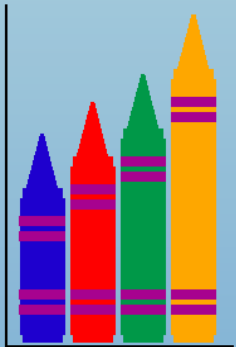
- Risk most highly correlated with CBCL-Externalizing:
 - Parent Distress: $r = .255; p < .001$
- Risks most highly correlated with CBCL-Internalizing
 - Parent Distress: $r = .185; p < .004$
- PLS-Expressive
 - Low Home Environment: $r = .34; p < .001$
 - SES: $r = -.26; p < .0001$
 - Maternal education: $r = .25; p < .0001$



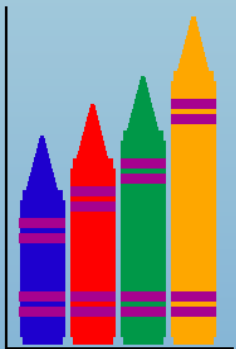
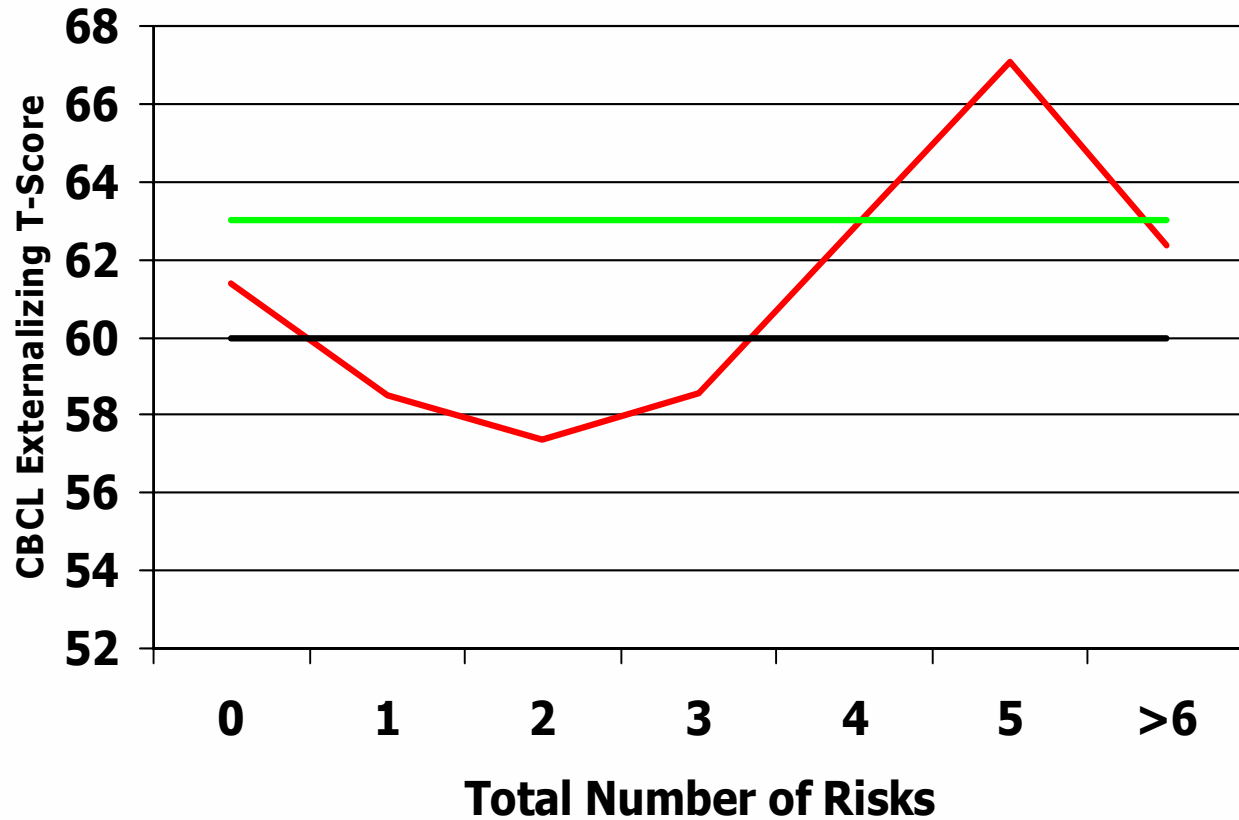
Relationships Between Cumulative Risk and Outcomes



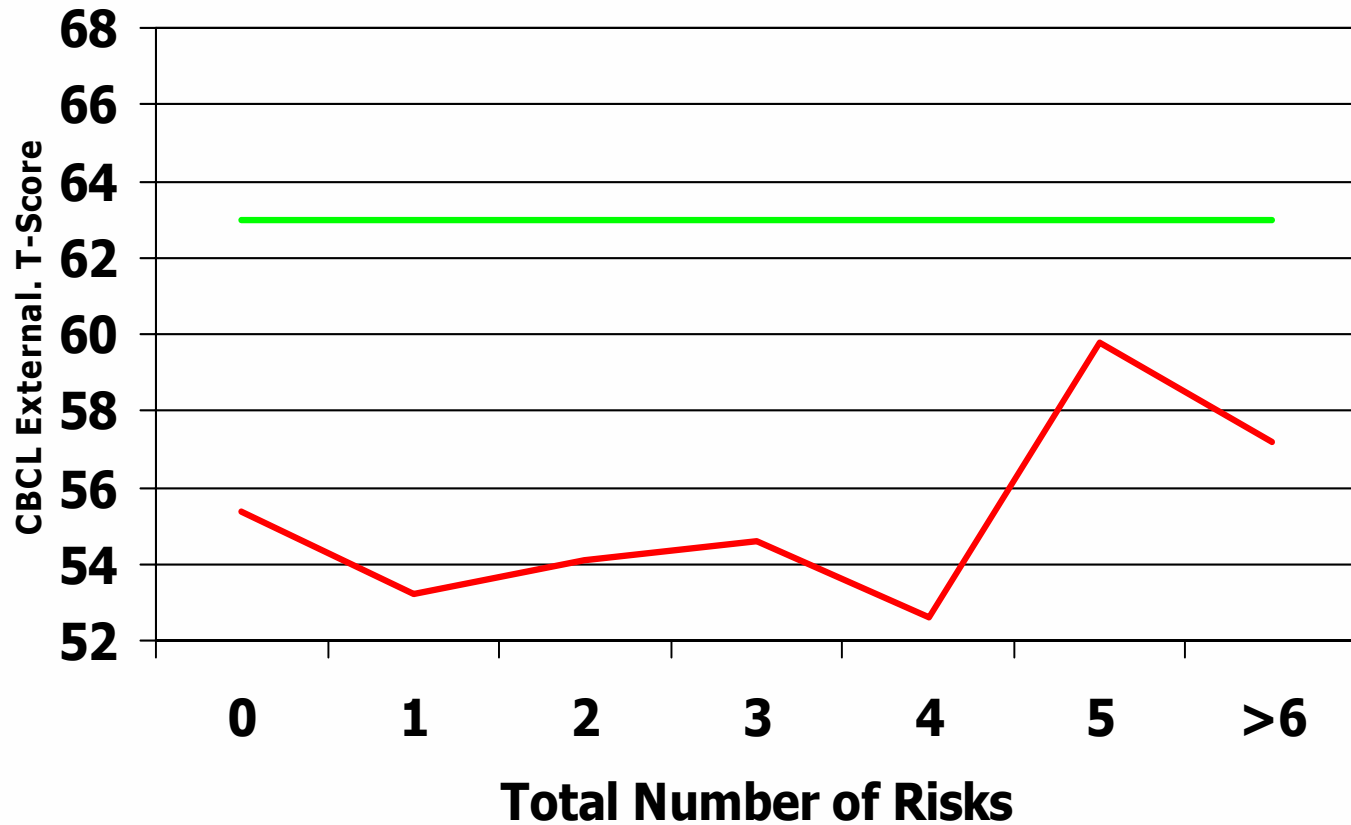
	CBCL External.	CBCL Internal.	PLS Expressive
Cumulative Risk	.141 (.04)	.105 (NS)	.28 (.0001)



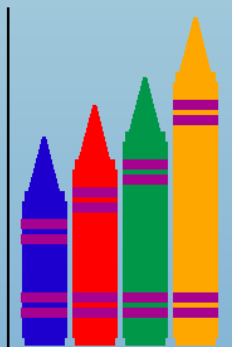
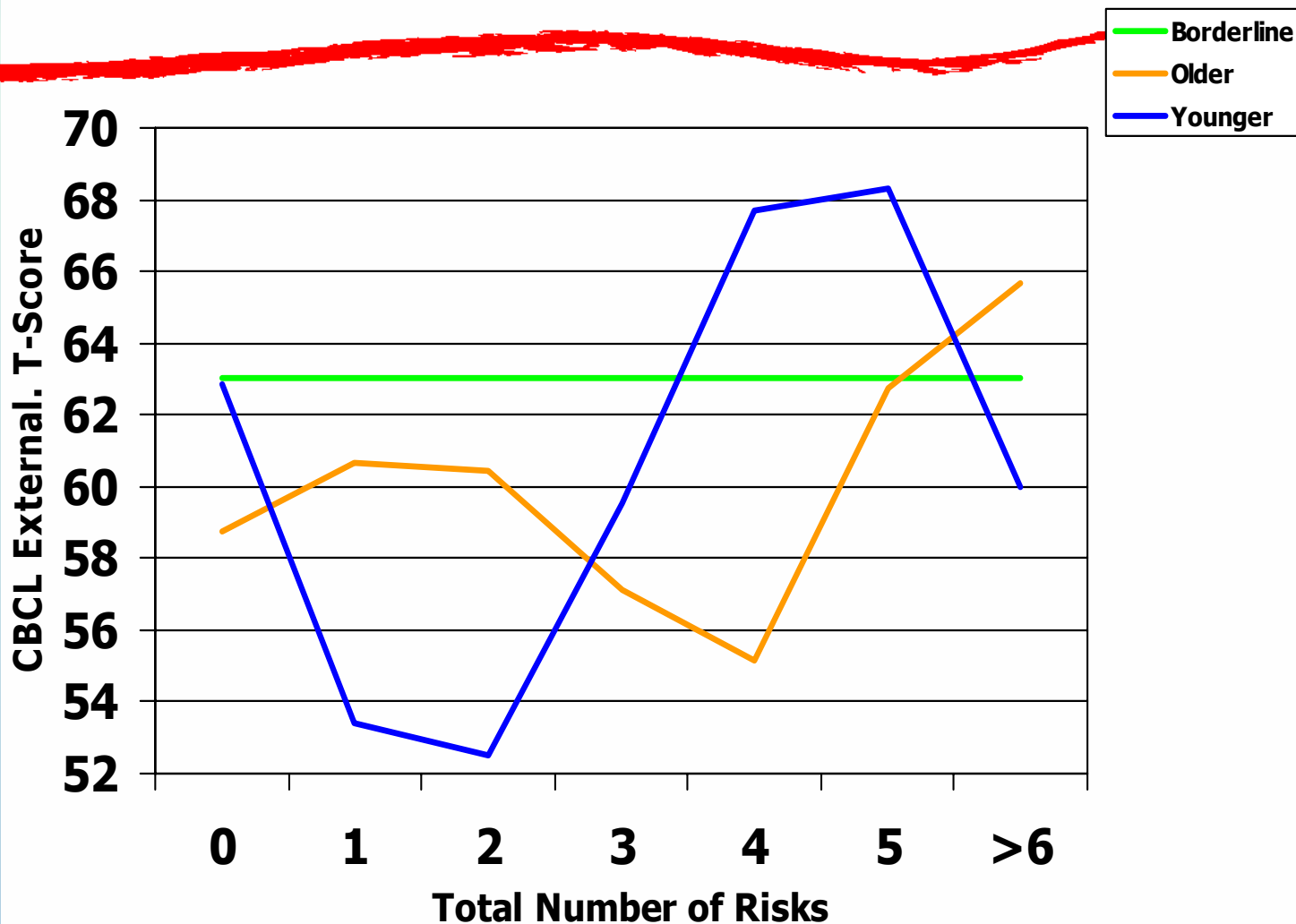
Relationship between Cumulative Risk and CBCL Externalizing Problems (Entire Sample)



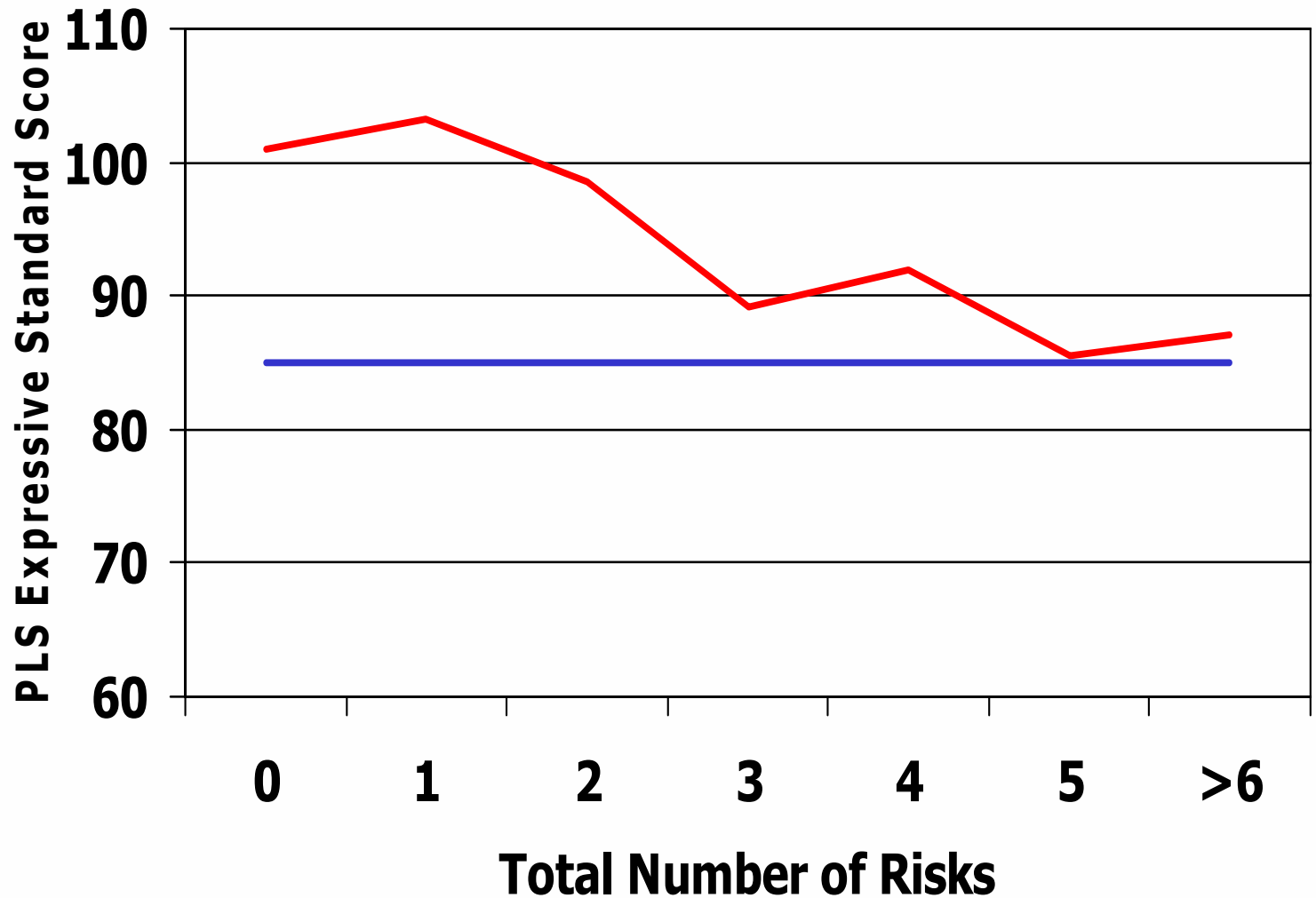
Relationship Between Cumulative Risk and CBCL Internalizing Problems



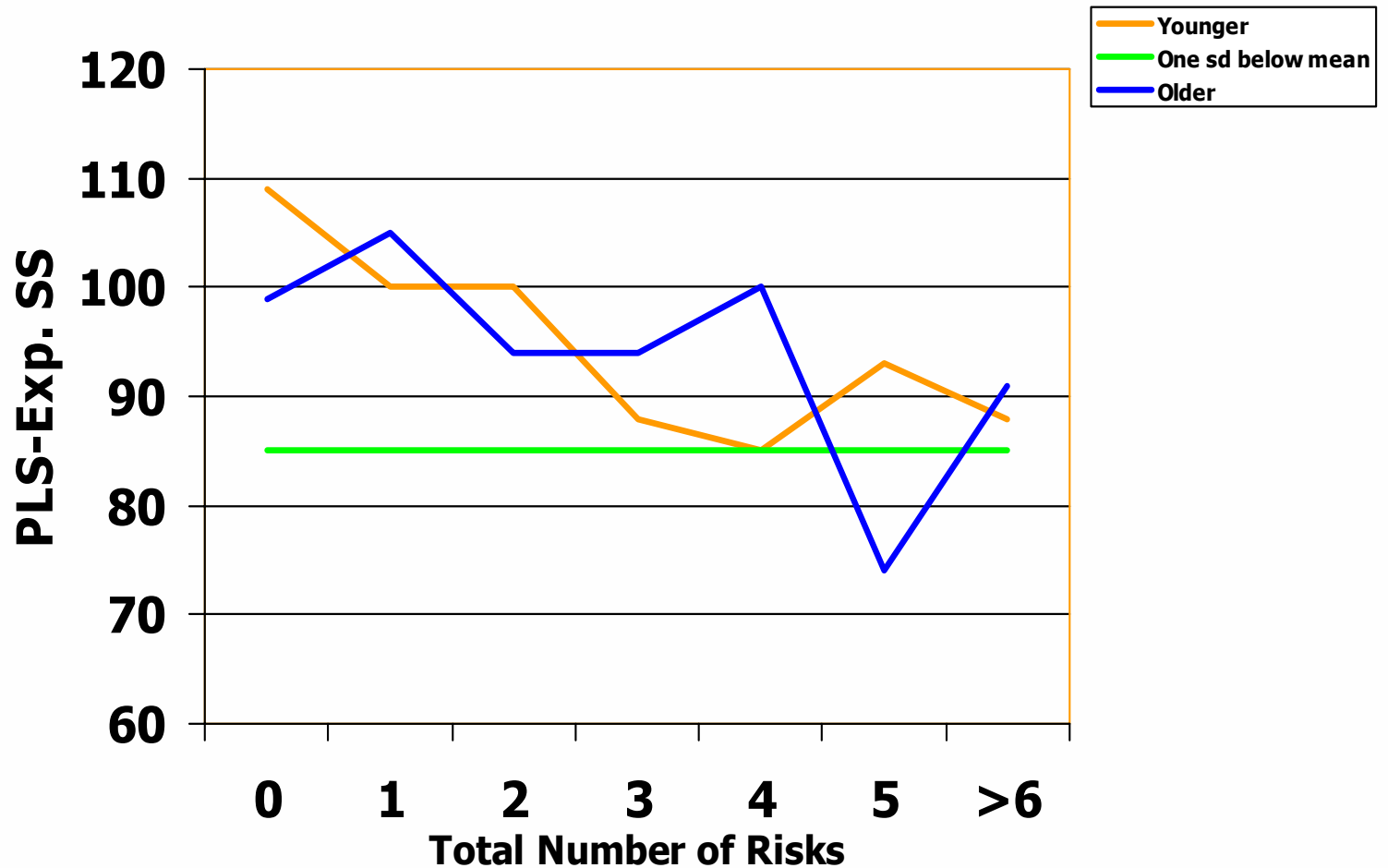
Cumulative Risk and Externalizing Problem Behavior for Younger and Older Cohorts



Relationship Between Cumulative Risk and Preschool Language Scale-Expressive



Relationship between Cumulative Risk and Preschool Language Scale-Expressive




Summary

- In the overall sample, we do see some linear trends for the effects of cumulative risk on Externalizing Problems and Expressive Language.
- We did not see an effect of cumulative risk on Internalizing Problems—perhaps a function of the types of risks we identified.
- We did not see a “threshold effect”- No dramatic changes after a certain number of risks.
- Surprisingly, we found a significant linear trend in the relationship between cumulative risk and externalizing behavior for the younger cohort and not in the older cohort.



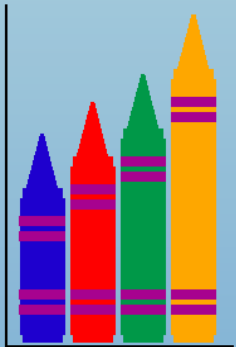
What does this all mean for early intervention?

- 
- Cumulative risk does make a difference in children's outcomes.
 - Good news--No threshold effect—means even reduction of individual risks could improve outcomes
 - Some risks may be more influential than others. (e.g., parenting stress)
 - Early intervention needs to be about risk reduction. We need to learn whether and how EI can reduce risks and the impact that has on children's outcomes.
 - We have to consider the broad fabric of risks to make a significant impact on children's outcomes.



Next Steps

- Linear regressions to look at effects of risks measured continuously, not dichotomized.
- Examining effects of cumulative risk over time on trajectories of behavior problems and language outcomes with additional waves of data.
- Including effects of protective factors in a more comprehensive model of risk and resilience.

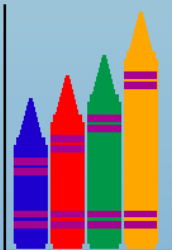


A Useful Reference on Risk Methodology

- Burchinal et al. (2000). Cumulative risk and early cognitive development: A comparison of statistical risk models. *Devel. Psych, 36, 793-807.*



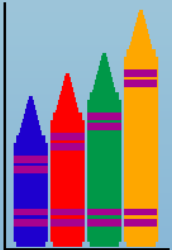
LISE's TURN



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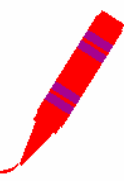


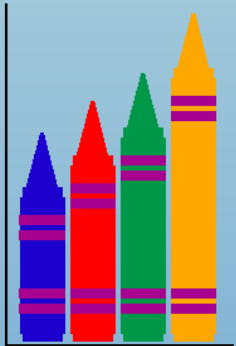
Challenges, Reflections, Possibilities



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Challenges & Reflections

- 
-
- Longitudinal, Multi-Site Research
 - \$\$
 - Time
 - Infrastructure
 - Reasonable assessment battery
 - Descriptive, not intervention




Challenges & Reflections

- Initial data only; relationship between factors
- Indication that age of child is a variable of interest
- Indication that the number of risk factors may have relationships



Possibilities

- 
- Unique nature of the data set – first data set focused on understanding the development and nature of challenging behavior
 - Knowledge of trajectories may yield important information for
 - Focus of intervention activities (e.g., child-focused vs. family-focused)
 - Approaches needed for intervention (e.g., parenting, parenting stress, language promotion)
 - Timing of intervention
 - Ecologies linked to optimal outcomes



Your Perspectives

- Questions of interests and ways to approach the analyses
- Advice about analytic approaches
- Reflections about the ability of the data set to inform practice

