

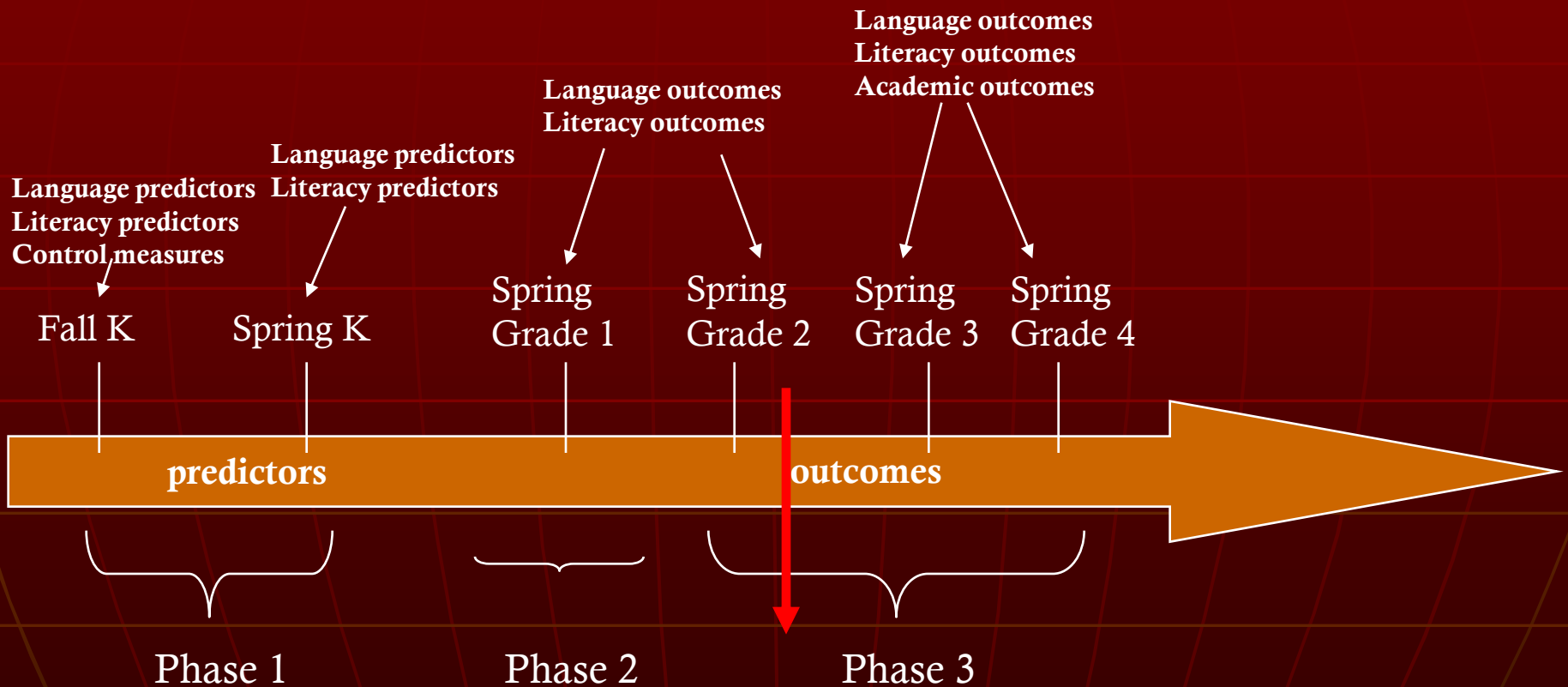
Individual Differences in L2 Oral Language and Literacy Outcomes in English-Speaking Students in French-L2 Immersion Programs



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Our Longitudinal Study



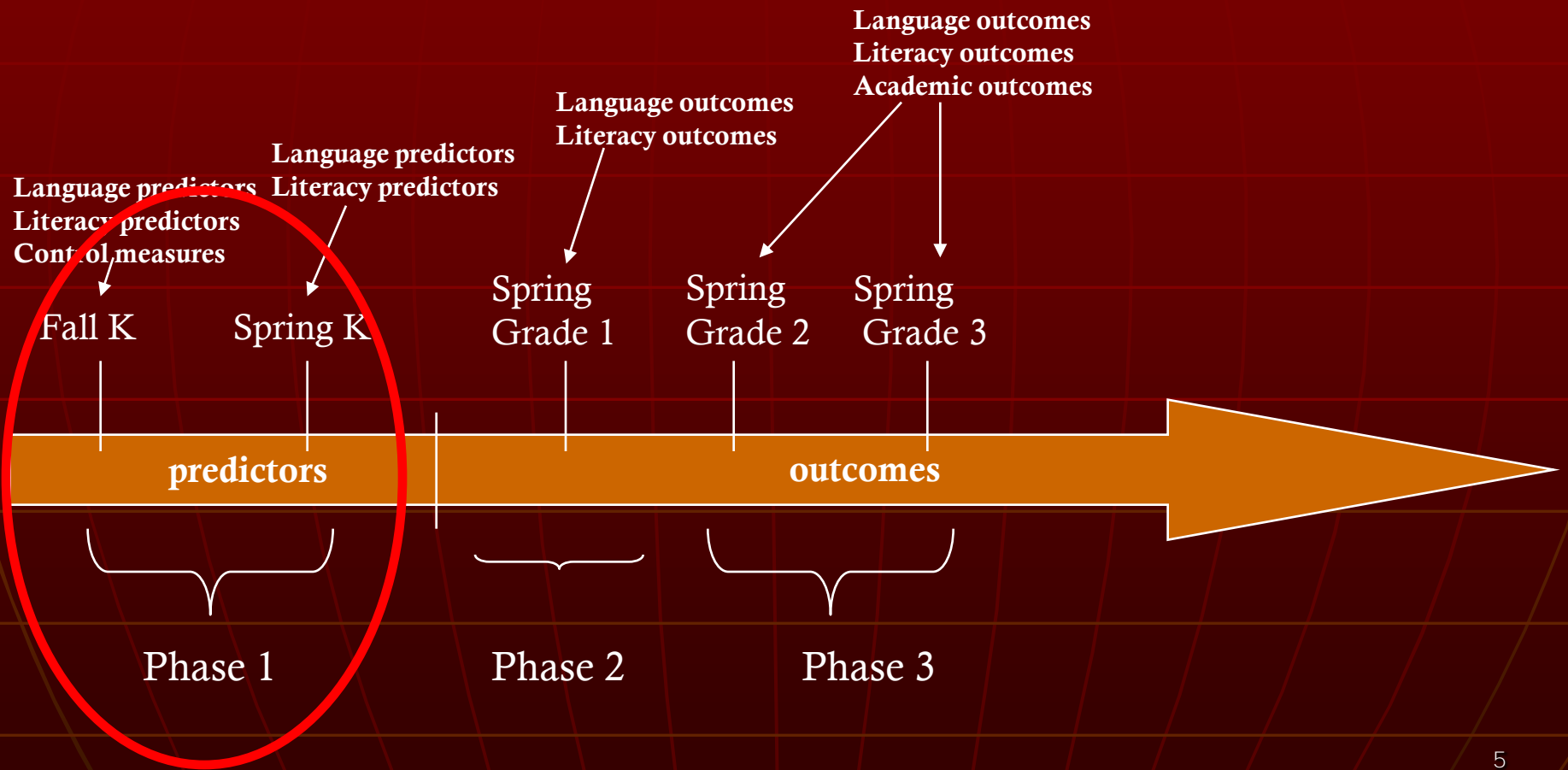
Research Questions

1. Do risk for reading and oral language learning difficulty constitute distinct or overlapping risk profiles?
2. What factors account for individual variation, and specifically risk for difficulty, in L2 reading and oral language achievement in FI students?
3. How accurately and reliably do predictors based on L1 abilities predict L2 reading and oral language achievement in FI students?
4. How early can risk for difficulty in L2 reading and oral language development be identified in FI students using L1 predictor measures?

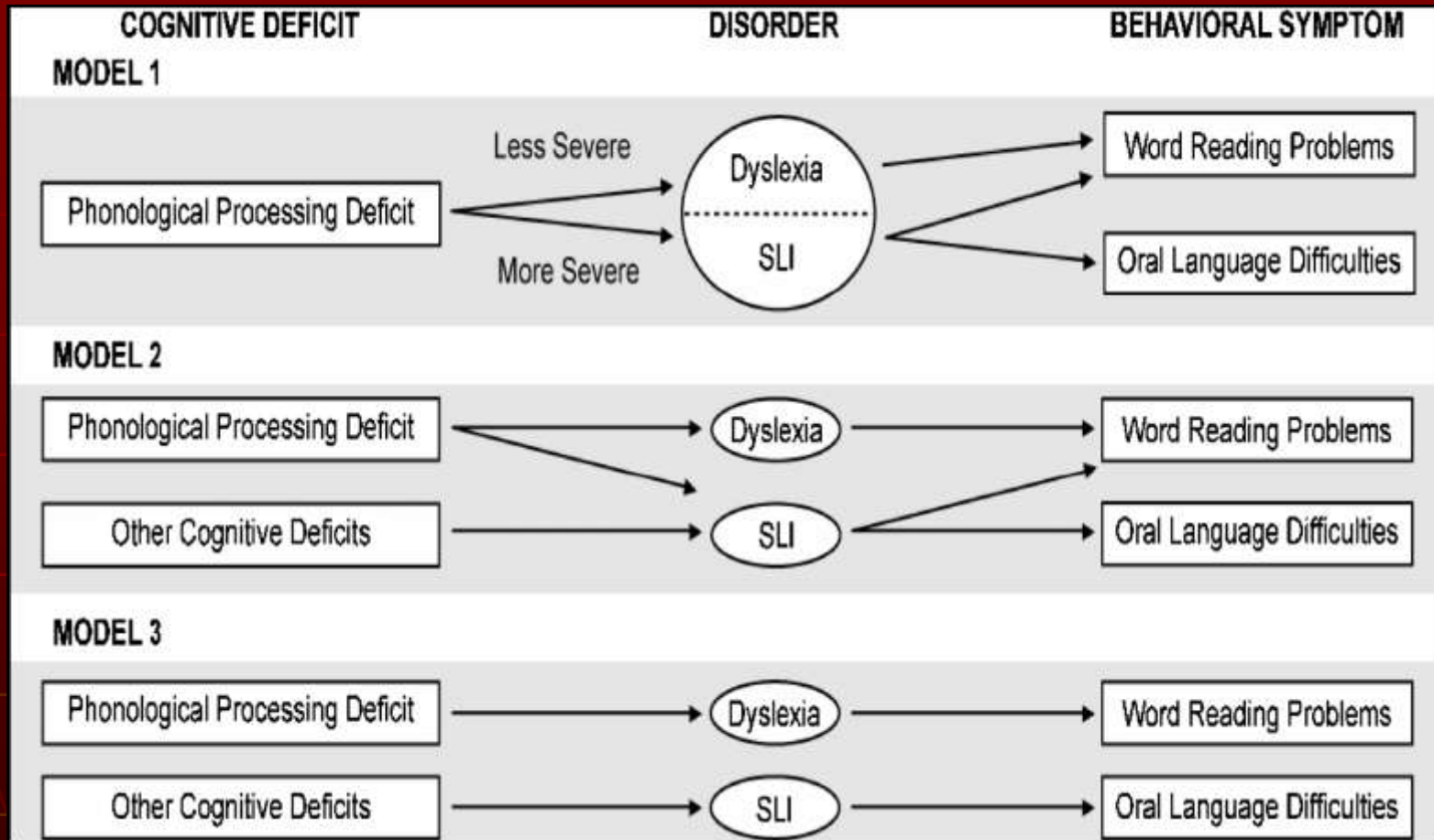
Participants

- School board on South Shore of Montreal
- Monolingual English or English-dominant bilinguals (n=86)
- Early French Immersion program
- Kindergarten (fall & spring) & grade 1 (spring) testing
- Typically developing, at-risk for oral language and/or literacy impairment
- Individual sessions; oral & written language testing
- English & French testing
- Literacy testing prior to literacy instruction

Differential Characteristics of Risk for LI & RI



SLI versus Dyslexia



Kindergarten Test Battery

LANGUAGE	LITERACY	CONTROL
<ul style="list-style-type: none">■ CELF-4 (E)■ TEGI (E; exp. gram. morphology. grammaticality judgement)■ TCFG (F; exp.gram. morphology. grammaticality judgement)■ CNRep (E)■ French Nonword Rep	<ul style="list-style-type: none">■ Letter-Sound Knowledge (E&F)■ Blending (E&F)■ TAAS/TAAF (E&F; elision)■ RAN/RAS (E&F)	<ul style="list-style-type: none">■ PPVT (E)■ EVIP (F)■ WRAT-3 (E&F; letter naming, word reading)■ Audiometric Screening■ Rosenbaum's Pocket Vision Screener■ Raven's CPM (cog. abilities)■ Parent Questionnaire (development, language)■ Teacher questionnaire (language used, literacy instruction)

Principal Components Analysis: Kindergarten

Fall

	Component		
	"Lang/IQ"	"Lit"	"Age"
Age	.077	-.058	.931
Blending	.148	.891	.051
Letter sound knowledge	.349	.867	-.016
WRAT-3	.303	.814	-.087
RAN/RAS objects	-.666	-.193	-.121
CNRep	.569	.273	.059
CELF-4 cfd	.678	.312	.146
CELF-4 rs	.699	.305	.318
RAVEN's CPM	.598	-.025	-.319
TEGI screening test	.669	.241	-.113

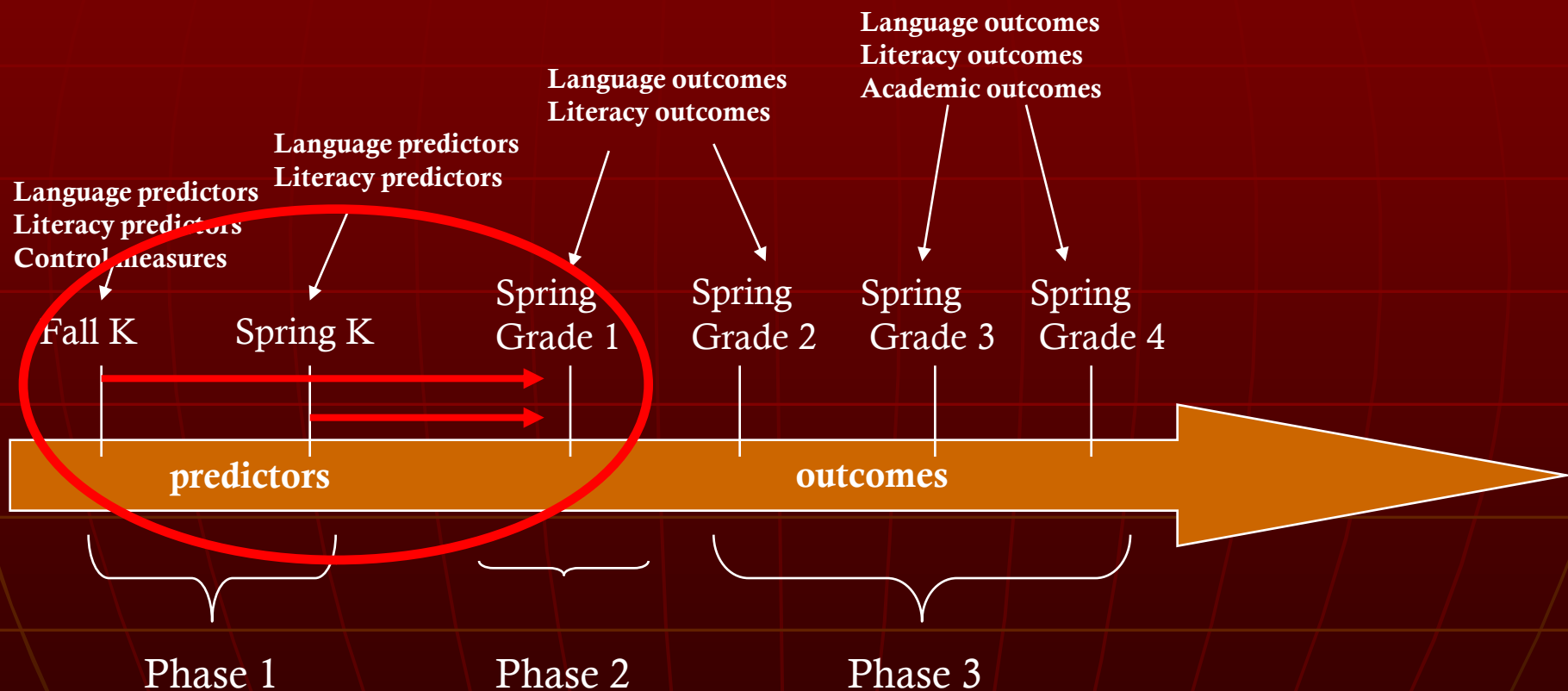
Spring

	Component		
	"Lit"	"Lang"	"Age/IQ"
Age	-.092	.305	.678
Blending	.834	.239	.157
Letter sound knowledge	.878	.164	.014
WRAT-3	.811	.116	-.152
RANRAS objects	-.472	-.424	.036
CNREP	.207	.384	.388
CELF-4 cfd	.363	.703	.028
CELF-4 rs	.193	.837	.078
RAVEN's CPM	.033	.453	.728
TEGI screening test	.103	.716	.049

Unique variance: **28%** **26%** **11%**

Unique variance: **26%** **24%** **12%**

Predicting Early Outcomes



Spring of Grade 1 Test Battery

LANGUAGE

- **CELF-4: (F&E)**
- **TEGI**
(E; exp. gram. morphology. grammaticality judgement)
- **French Past Tense Elicitation**
- **French Clitic Elicitation**
- **Truth Value: Clitics**
- **EOWPVT**
(F&E)

LITERACY

- **WRAT-3 (F&E)**
- **WIAT-2^{CDN}**
(F; word reading, nonsense word reading)
- **WJACH-3**
(E; nonsense word reading, word reading comp., sentence reading comp.)
- **BEMEL**
(F; word reading comp., sentence reading comp.)

MEMORY

- **WMTB-C (E)**
(working memory: central executive & phonological loop)

Kindergarten Predictors of Grade 1 L2 Decoding

Fall K			Spring K		
	Adjusted R ²			Adjusted R ²	
	Word	Pseudowd		Word	Pseudowd
ENTER			ENTER		
1.Age, IQ	.016	.011	1.Age, IQ	.026	.012
STEPWISE			STEPWISE		
2.Letter names	.190*	.216*	2.Blending	.440*	.370*
3.EVIP	.237*	.245*	3.EVIP	.527*	.431*

Complete set of regression variables: Age, non-verbal IQ, EVIP, PPVT, letter names, letter sounds, blending (vc), RAN/RAS-objects, word decoding, CELF-4 CFD, CELF-4 RS.

Kindergarten Predictors of Grade 1 L2 Oral Language

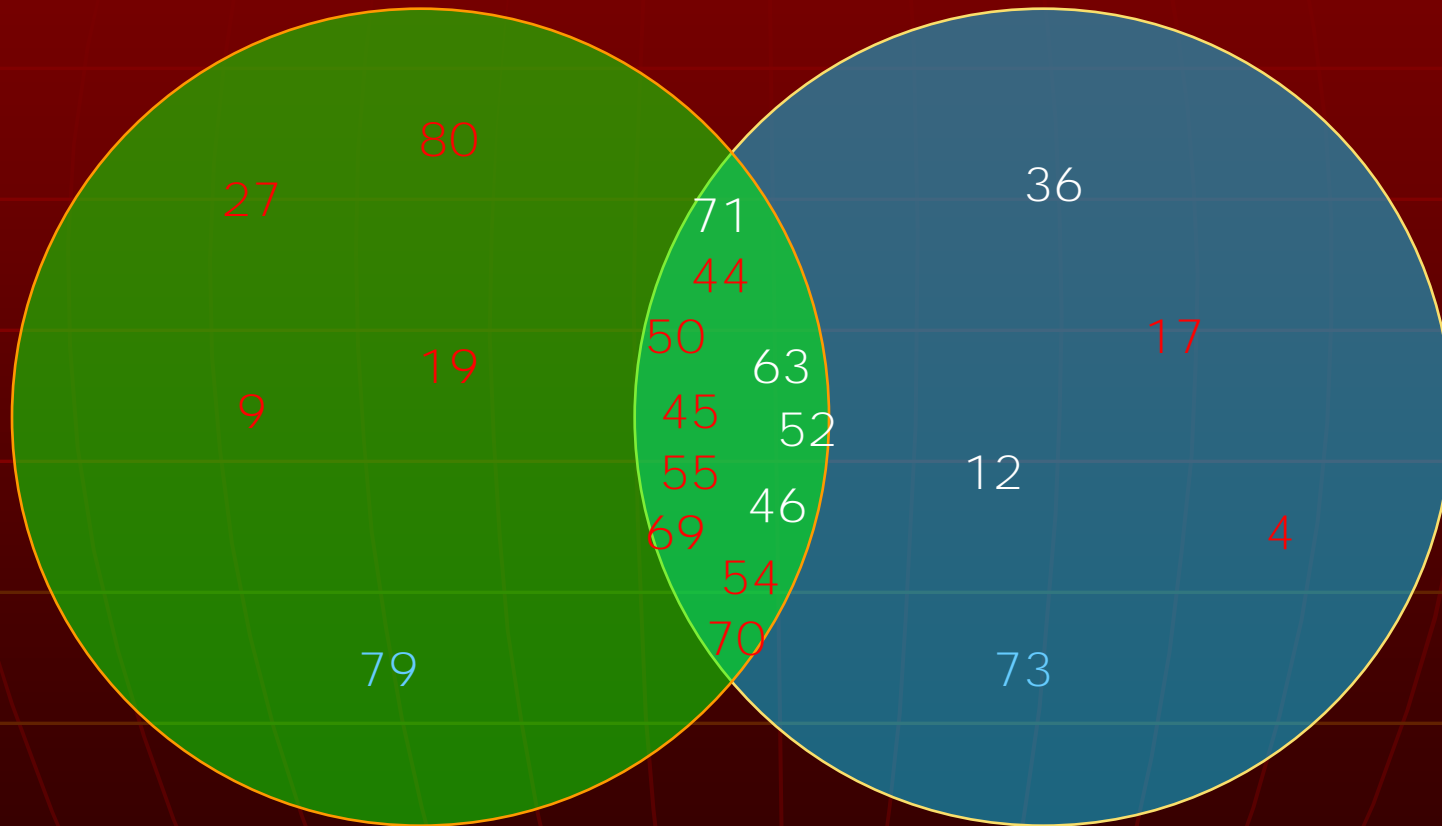
Fall of K		Spring of K	
	Adjusted R ²		Adjusted R ²
ENTER		ENTER	
1.Age, IQ,	.041	1.Age, IQ,	.104
STEPWISE		STEPWISE	
2.CELF-RS	.270*	2.CELF-RS	.494*
3.EVIP	.449*	3.RAN/RAS	.555*
4.Letter names	.575*	objects	
5.PPVT	.595*		

Complete set of regression variables: Age, non-verbal IQ, PPVT, EVIP, blending, TEGI-3rd person, TEGI-past tense, CELF-RS, letter names, word decoding, RAN/RAS-objects, CNRep.

Distribution of Profiles: K to Gr 1

Risk for LI

Risk for RI



First identified in Fall K
First identified in Spring K
First identified in Spring Grade 1

Predicting High and Low Risk for L2 Reading Impairment in Grade 1

Fall of K

	Function
Blending	.442
TEGI-3rd person	.238
TEGI-past tense	-.871
CELF-4 rs	.385
WRAT-3: Letters	.515
WRAT-3: Words	-.344
RAN/RAS objects	-.352
CNRep	.370

Spring of K

	Function
Blending	.702
TEGI-3rd person	-.179
TEGI-past tense	.068
CELF-4 rs	.420
WRAT-3: Letters	.217
WRAT-3: Words	-.096
RAN/RAS objects	.048
CNREP	.261

Predicted group membership:

At-risk: 88%

Not at-risk: 78%

Predicted group membership:

At-risk: 88.2 %

Not at-risk: 81%

Predicting High and Low Risk for L1 Language Impairment in Grade 1

Fall of K

	Function
Blending	.223
TE GI-3rd person	-.113
TE GI-past tense	.360
CELF-4 rs	.595
WRAT-3: Letters	-.051
WRAT-3: Words	-.009
RANRAS-Objects	-.438
CNRep	-.155

Spring of K

	Function
Blending	.197
TE GI-3rd person	-.145
TE GI-past tense	.155
CELF-4 rs	.868
WRAT-3: Letters	.086
WRAT-3: Words	.005
RANRAS objects	-.068
CNREP	-.121

Predicted group membership:

At-risk: 71.4%

Not at-risk: 75%

Predicted group membership:

At-risk: 86.4%

Not at-risk: 75%

Summary

- ✓ Small unit phonological awareness (blending) and knowledge of the alphabetic principle (letter sound knowledge, letter-name knowledge) are the best unique L1 predictors of L2 reading outcomes in FI
- ✓ Knowledge of French at kindergarten entry appears to be an additional unique predictor of reading outcome
- ✓ Risk for difficulty in L2 reading development can be identified in FI students using L1 predictor measures as early as the end of kindergarten

- ✓ Sentence repetition is the best unique L1 predictor of L2 oral language outcome; letter-name knowledge, and RAN/RAS are additional significant predictors
- ✓ Risk for difficulty in L2 oral language development can be identified in FI students using L1 predictor measures as early as the beginning of kindergarten
- ✓ Oral and written language difficulty appear to be distinct risk profiles

Thank you