



Inter-Rater Reliability of the EDI

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Purpose

The meaningfulness of the Early Development Instrument (EDI) rests on the consistency of ratings across teachers. The general purpose of this study was to investigate the consistency of teacher ratings by exploring the degree of inter-rater reliability between teachers who are rating the same students.

Sample

Twenty-one pairs of teachers who co-taught the same class from 20 schools in BC independently rated students using the EDI. The schools were located in 20 of HELP's unique neighbourhoods. Based on HELP's SES Index (quintiles), all types of SES were represented.

Approach

Inter-rater reliability was assessed by two-way random effects models of intraclass correlation coefficients (ICC) for individual teacher pairs and an overall reliability coefficient across all teacher pairs. Table 1 below shows the variability found in inter-rater reliability. The correlations between teacher characteristics, EDI training, and ICCs, shown in Tables 2 and 3 below, indicated teacher characteristics and EDI training interactions might explain the variability found in reliability. Weighted GLM models were conducted to explore teacher characteristics and EDI training effects that might account for the variability in the inter-rater reliability.

EDI Scale	Overall	Across Pairs	
		Min	Max
Physical	0.62	0.05	0.98
Social	0.76	0.39	0.98
Emotional	0.70	0.26	0.93
Language	0.80	0.00	0.97
Communication	0.71	0.20	0.99
Total	0.80	0.36	0.99

Teacher Characteristics	ICC (Fisher r to z transformed)					
	Phys	Soc	Emo	Lang	Com	TOT
age (20-60+ yrs)	0.37	0.29	0.38	0.51	0.39	0.46
experience: teaching (.5-27.4 yrs)	0.20	0.10	0.31	0.47	0.23	0.32
experience: grade level (.5-19.4 yrs)	0.22	-0.08	0.21	0.14	0.25	0.29
EDI Training Sessions (0 to 5+)	0.16	-0.06	0.04	-0.10	0.18	0.18

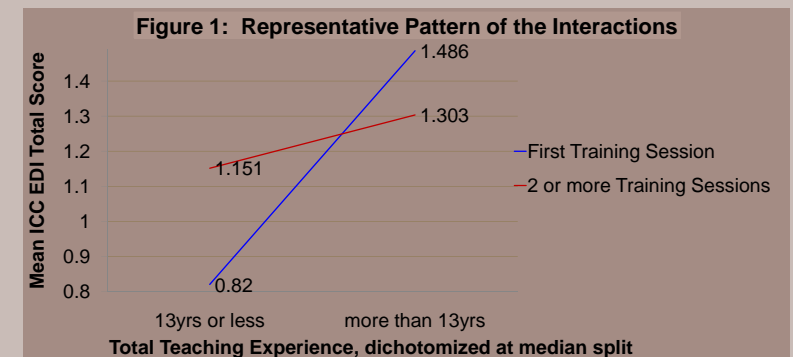
EDI Training: Session (0 to 5+)	Teacher Characteristics		
	Age	Teaching Experience	Grade Experience
EDI Training: Session (0 to 5+)	0.18	0.23	0.56

Results

Three teacher characteristics (age, experience teaching, experience at this grade level) and EDI training effects were investigated. As shown in Table 4, there were no effects for teacher age and EDI training. Anywhere from 24% to 34% of the variability in reliability, however, was accounted for by experience in teaching/experience at this grade level and EDI training effects.

The interaction effects suggest that the variability in reliability due to less experience decreases with additional EDI training. Specifically, reliability is lower for teachers with 13 years or less teaching experience, but those who attended 2 or more training sessions were as reliable as teachers with more than 13 years of experience. Similarly, reliability is lower for teachers with 3 years or less experience at this grade level, but those who attended 2 or more training sessions were as reliable as teachers with more than 3 years of experience. Figure 1 below represents all the interaction patterns found.

Teacher Characteristics x EDI Training Interactions	DV: Transformed (Fisher r to z) ICC Scores											
	Phys		Soc		Emo		Lan		Com		Tot	
	p	R ²	p	R ²	p	R ²	p	R ²	p	R ²		
age x training	ns	-	ns	-	ns	-	ns	-	ns	-	ns	-
experience teaching x training	sig	.26	ns	-	sig	.34	ns	-	ns	-	sig	.26
experience grade level x training	sig	.28	ns	-	sig	.24	ns	-	sig	.27	ns	-



Conclusions and Implications

Training plays an important role in obtaining consistent EDI ratings across teachers. Teachers with less experience provide less reliable ratings. However, ratings become more reliable after attending 2 or more EDI training sessions.