

# Psychometric Properties of VESIP, a Social Information Processing Simulation Assessment for Children

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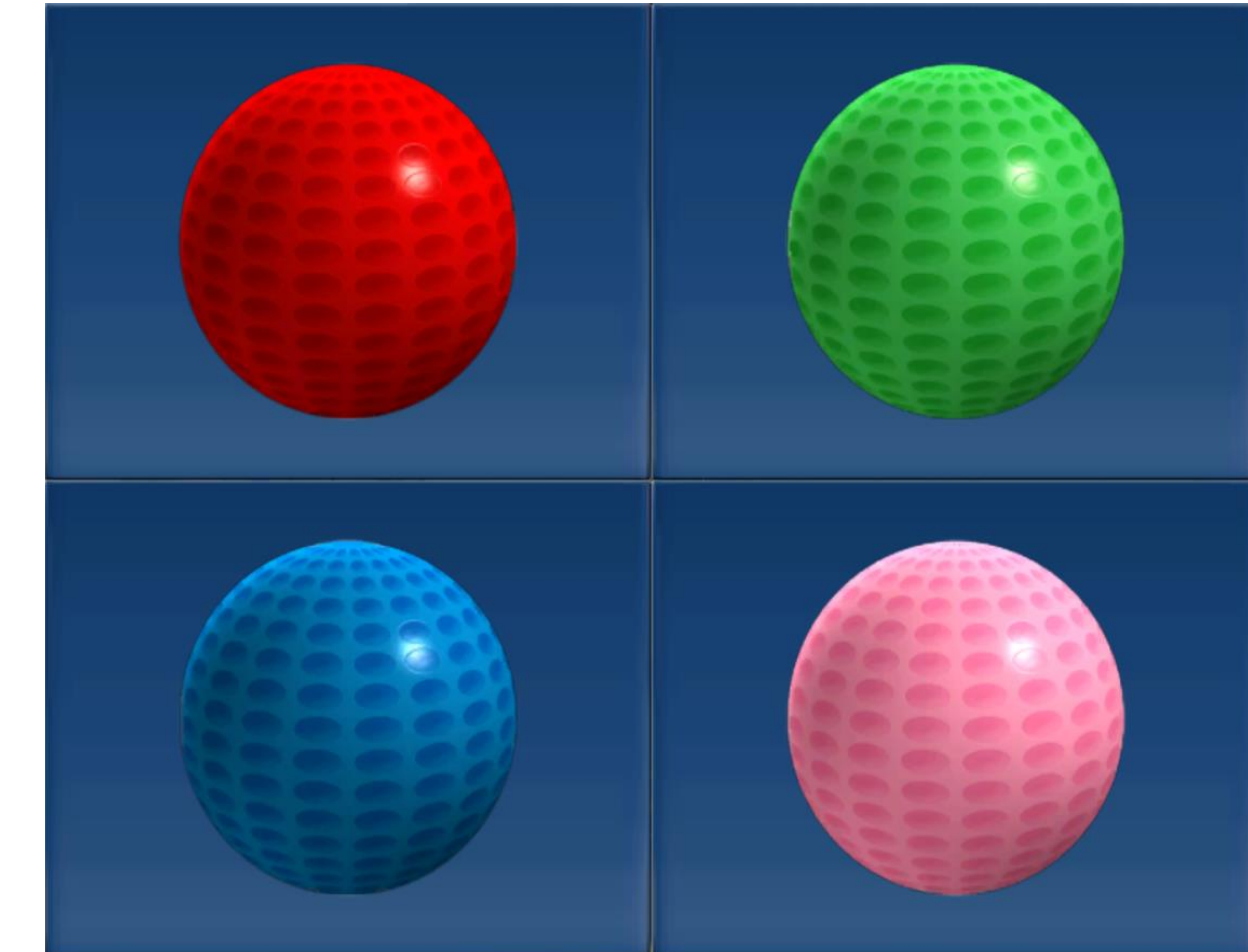
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- Virtual Environment for Social Information Processing (VESIP™), is a web-based virtual simulation through which 3<sup>rd</sup> through 7<sup>th</sup> grade students view and engage in challenging social situations
- VESIP was developed to address a gap in scalable solutions to assess social-emotional competencies



The child user customizes his or her avatar before taking the assessment.

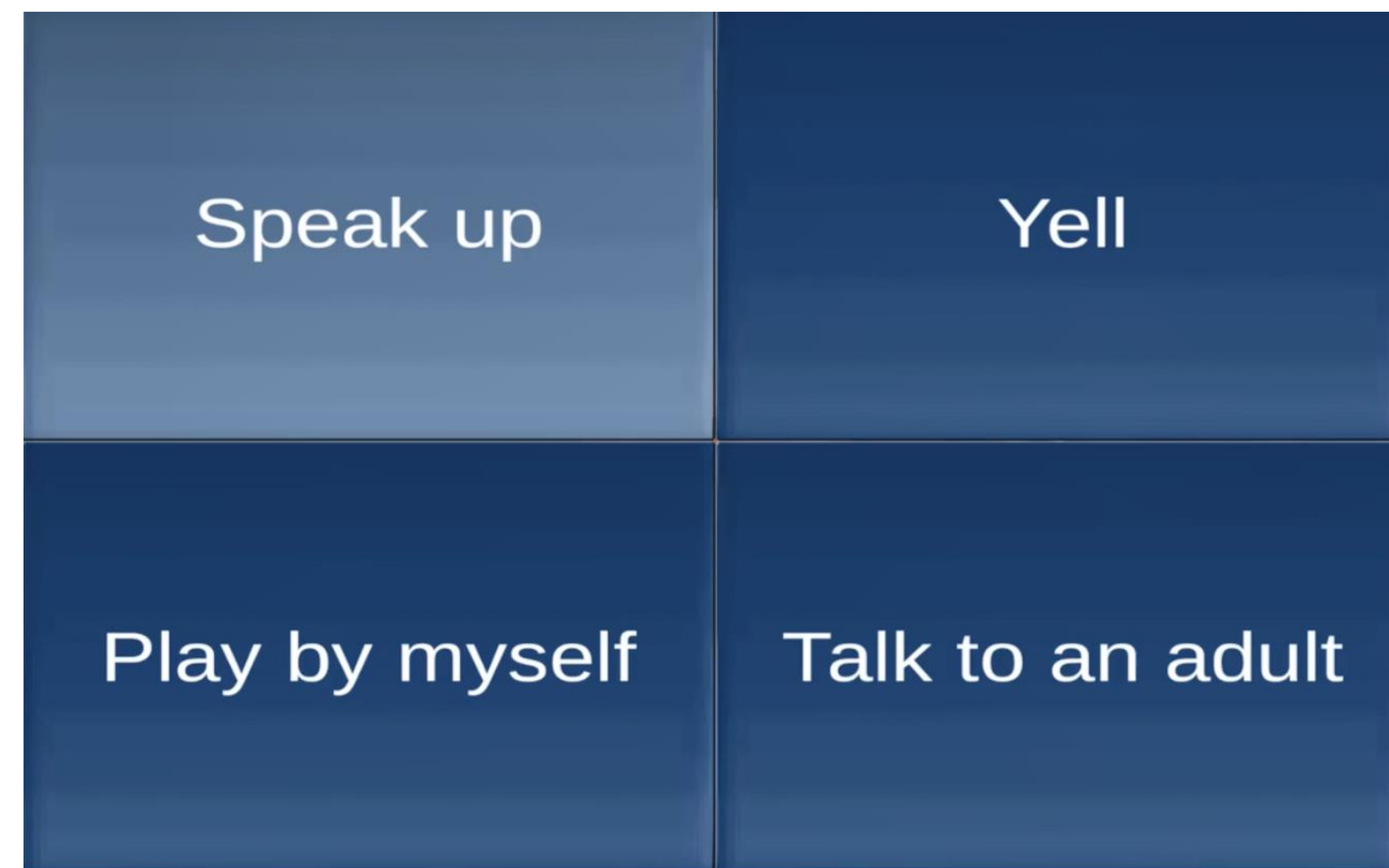


For half of the scenarios, the child will also pick a preferred option. In this case, they choose their preferred colored ball.



- After customizing the self-avatar and selecting any preferred options, a child user watches and listens as an animated scenario plays out.
- During this “peer entry into a group” scenario, the child (Alex) sees other students playing with a ball. He wants to join the group.
- Next, a series of theoretically-driven questions are posed.





Dana asks Alex, "What do you want to do?", and each option then plays out visually.



Dana follows up by asking Alex, "How sure are you that you could do that?"



The scene plays out a second time, and Dana asks Alex, "What just happened?"



Dana then asks Alex, "So how did you feel when [other child did/said what they did]?"



Dana asks Alex, "How mean was [the other child]?"



Finally, Dana asks Alex, "How do you want things to turn out?"





**Bullying:** Assessing a child's response to being ridiculed for talking about a preferred topic incessantly



**Compromise:** Assessing a child's ability to determine an after-school meal with their friend



**Friendship Initiation:** Assessing a child's ability to engage another child to sit with them at lunch



**Bullying:** Assessing a child's response to children laughing in child's direction



**Ambiguous Provocation:** Assessing a child's response to someone else taking the last slice of their favorite pizza at a party



**Friendship Initiation:** Assessing a child's skill at initiating contact with a peer, in this case, asking to walk home together



**Compromise:** Assessing whether a child can choose to talk about a non-preferred topic with a peer



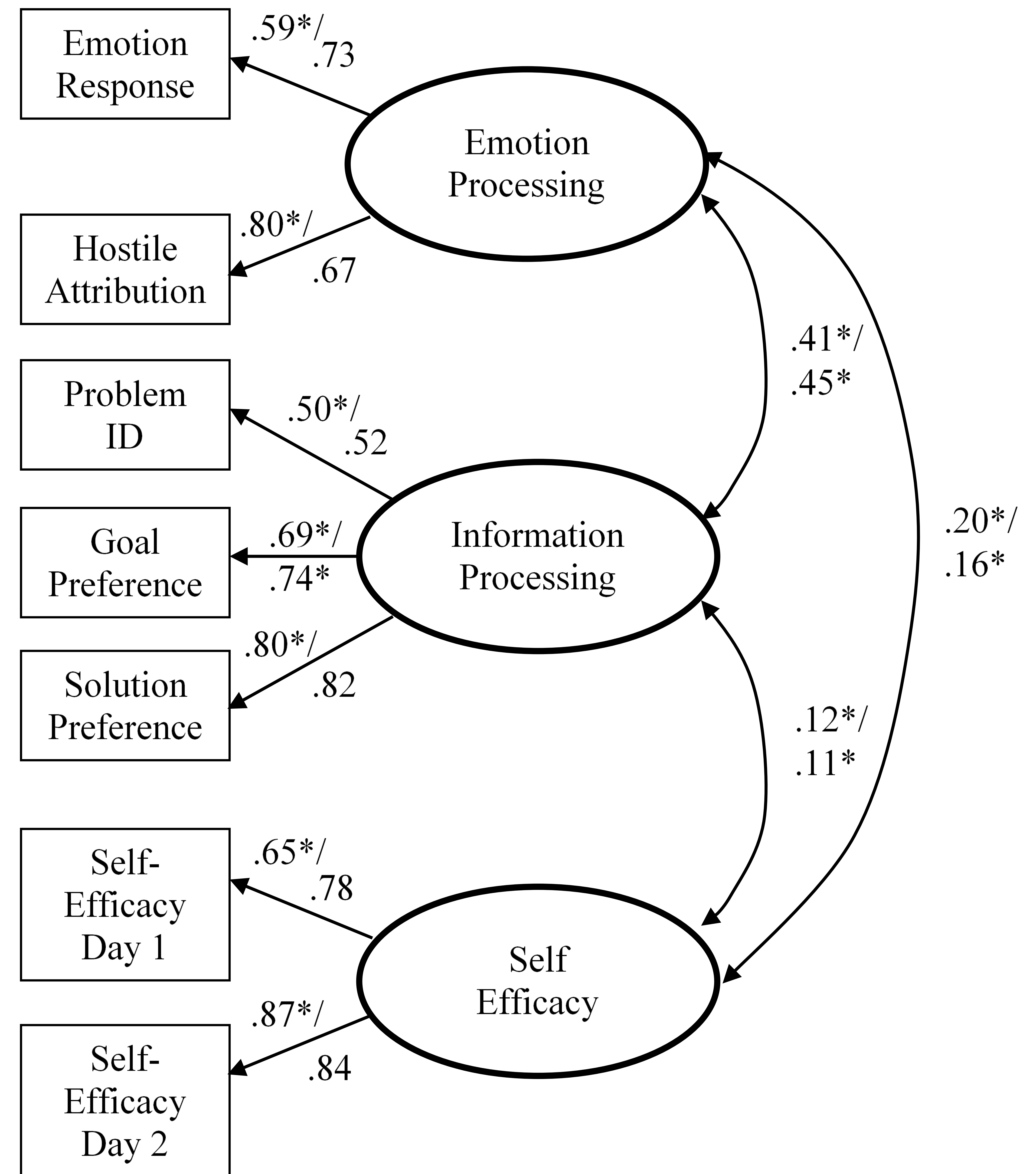
**Ambiguous Provocation:** Assessing a child's response to being bumped by another child in a crowded hallway



**Peer Entry:** Assessing a child's ability to join a group of peers who are already engaged in an activity



- The purpose of this study is to report the psychometric properties of VESIP for use by general education students in 3<sup>rd</sup> through 7<sup>th</sup> grades
- Factor structure, internal consistency reliability, and evidence of criterion-related validity are reported



Notes. Figures before the / are from the field trial; after the / are from the norming study. IFI = .95/.94 ; CFI = .95/.94 ; RMSEA = .082/.095

VESIP domains (score ranges)	Norming Study (n=1069, 565 male)		Field Trial (n=1321, 691 male)		Add-On Study (n=334, 164 male)	
	$\alpha$	<i>M (SD)</i>	$\alpha$	<i>M (SD)</i>	$\alpha$	<i>M (SD)</i>
Solution preference (0-2)	0.79	1.51 (.37)	0.71	1.60 (.30)	0.66	1.61 (.27)
Problem identification (0-2)	0.62	1.46 (.29)	0.60	1.54 (.26)	0.56	1.59 (.23)
Goal preference (0-3)	0.77	1.79 (.73)	0.75	2.01 (.66)	0.70	2.07 (.59)
Emotion encoding (0-3)	0.76	2.13 (.50)	0.69	2.16 (.43)	0.67	2.15 (.41)
Degree of hostile intent (0-5)	0.75	3.10 (.87)	0.71	3.14 (.81)	0.72	3.19 (.79)
Self-efficacy (0-5)	0.77	3.94 (.80)	0.73	3.95 (.74)	0.75	3.95 (.77)
SIP composite	0.87		0.80		0.79	
EP composite	0.83		0.84		0.78	

Notes. Raw score averages and standard deviations are shown.



# Relationship between VESIP scores and criterion measures, controlling for age and estimated IQ

Predictors	Criterion Measures												
	SIP-AP						SSBS		Peer Nominations			AIMSweb	
	Host	IR	Ang	Rvg	NoPr	Agg	SC	AB	ML	LL	SP	Math	Read
Age	.07	-.07	-.02	.07	.18**	.12*	.03	-.12*	.05	-.01	.03	.07	.12*
IQ	-.11*	-.05	-.01	-.14*	.06	-.12*	.20***	-.06	.15*	-.17*	.17*	.37***	.48***
Solution preference	-.12*	-.09	-.11*	-.18***	-.13*	-.22***	.12*	-.10	.07	-.14*	.11	.07	.06
Age	.04	-.05	-.04	.04	.15**	.11*	.02	-.12*	.05	-.02	.04	.07	.11*
IQ	-.12*	-.05	-.02	-.15**	.05	-.14**	.21***	-.06	.16*	-.17*	.17*	.37***	.48***
Problem ID	-.27***	.10	-.17**	-.30***	-.20***	-.19***	.01	-.05	.03	-.14*	.09	-.01	.00
Age	.07	-.07	-.01	.07	.17**	.12*	.03	-.12*	.05	-.01	.03	.07	.12*
IQ	-.11*	-.05	-.02	-.14**	.06	-.13*	.20***	-.06	.16*	-.18*	.18*	.37***	.48***
Goal preference	-.14**	-.10	-.04	-.15**	-.20***	-.20***	.14*	-.07	.04	-.10	.07	.08	.05
Age	-.11*	-.08	-.04	.11*	.20***	.16**	.01	-.10	.05	-.01	.03	.07	.10*
IQ	-.08	-.08	.05	-.12*	.07	-.11*	.20***	-.04	.16*	-.17*	.18*	.38***	.46***
Emotion response	-.18***	.11	-.36***	-.15**	-.11	-.15**	.07	-.11*	-.01	-.07	.03	-.04	.09
Age	.12*	-.08	.04	.12*	.20***	.16**	.02	-.12*	.05	-.00	.03	.05	.11*
IQ	-.05	-.09	.05	-.09	.07	-.10	.21***	-.07	.16*	-.17*	.18*	.35***	.47***
Hostile Intent	-.33***	.15**	-.35***	-.26***	-.08	-.16**	-.02	.01	-.03	-.08	.03	.10	.02
Age	.08	-.06	-.01	.09	.19***	.14*	.02	-.11*	.03	.01	.01	.07	.11*
IQ	-.11*	-.05	-.01	-.14*	.06	-.13*	.21***	-.06	.14	-.16*	.16*	.37***	.48***
Self-efficacy	-.09	-.03	-.11	-.15**	-.12*	-.10	.05	-.04	.15*	-.20**	.19**	.07	.04
Age	.05	-.07	-.03	.05	.15**	.10	.03	-.13*	.05	-.01	.03	.08	.12*
IQ	-.10	-.05	-.01	-.13*	.07	-.12*	.20***	-.06	.15*	-.17*	.17*	.37***	.48***
SIP composite	-.23***	-.04	-.14*	-.28***	-.24***	-.27***	.12*	-.10	.06	-.17*	.13	.07	.05
Age	.13*	-.09	.06	.13*	.20***	.17**	.01	-.10	.05	-.00	.03	.06	.10*
IQ	-.04	-.09	.08	-.09	.08	-.09	.20***	-.05	.16*	-.17*	.18*	.36***	.46***
EP composite	-.31***	.15**	-.42***	-.24***	-.11*	-.18***	.03	-.06	-.02	-.09	.04	.04	.07

*Notes.* Table shows standardized regression coefficients. VESIP scores: Problem ID = Problem identification; Hostile Intent = Degree of hostile intent; SIP composite = Social information processing composite score; EP composite = Emotion response composite score; SIP-AP scores: Host = hostile attributional bias, IR = intentionality attribution readiness, Ang = Angry emotion, Rvg = Revenge goal, NoPr = Prosocial goal (reverse scored), Agg = Aggressive solution; SSBS scores: SC = Social competency, AB = Antisocial behavior; Peer Nominations: ML = nominated most-liked, LL = nominated least-liked, SP = social preference; AIMSweb scores: Math = M-CAP, Read = R-CBM.

\* p<.05, \*\* p<.01, \*\*\* p<.001.