

**Comprehensive Web-based,
Virtual Assessment (SIP-AP) of
Social Information Processing
Strengths and Deficits in
Adolescent Boys**

Taylor Walicki

PI: Janis Kupersmidt, Ph.D.
Co-authors: Rebecca Stelter, Ph.D,
Alison Parker, Ph.D.

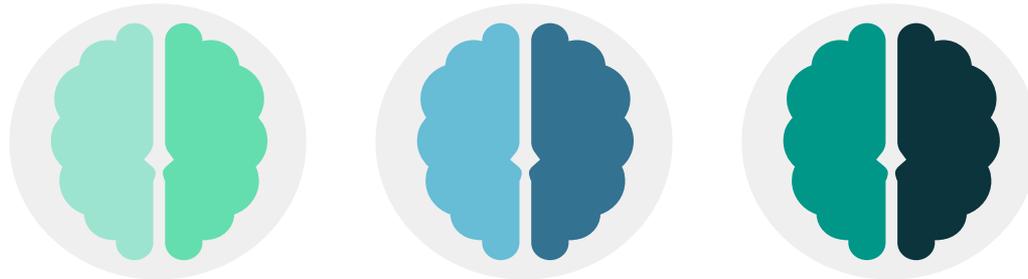
Abstract/Overview

- **Purpose:** Assess psychometric properties of a Web-based, virtual social information processing skills assessment tool, the **Social Information Processing Application (SIP-AP)**. Investigate the **relationship between SIP and aggression in adolescent boys**.
- Previously validated with **late elementary school-aged boys** (Kupersmidt, Stelter, & Dodge, 2011)
- Internal consistencies for SIP cognitions and for the cognitive mechanism scales were **high**; SIP mechanisms were **significantly correlated with each other**; **boys with elevated scores on the cognitive mechanisms were more aggressive than boys who were not elevated**.



Research Questions:

- Is the SIP-AP a reliable and valid tool to evaluate social information processing in adolescent boys?
- What is the relationship between SIP and aggression?
- Are extreme social cognitive deficits associated with aggressive behavior?



Social Information Processing Theory



01

Encoding

“Reading” a social situation;
seeing social cues



04

Response Access

Creating potential
responses to the situation



02

Cue Interpretation

Interpreting the cues
encoded in the first step



05

Response Evaluation

Evaluating responses in terms of
moral acceptability, ease of
execution, outcomes, etc.



03

Goals

Does the individual want
dominance, revenge, something
prosocial?



06

Prosocial

Wanting to get along, caring
about victim suffering, and
forgiveness

Types of Aggression

Aggression: The behavioral response of anger; places children at risk for delinquency and substance abuse



SIP-AP: Social Information Processing Application



01

Each participant viewed 10 vignettes depicting everyday social situations with peers (i.e. verbal aggression, relational aggression, physical aggression, etc.)

02

Vignettes are from perspective of the participant, who is provoked

03

For every video, the intent of the perpetrator is ambiguous, but the outcome for the viewer is always negative.

04

After viewing each video, participants answered a series of 18 questions (5-point Likert scales) that evaluated their social information processing skills.

Measuring SIP Example Questions

Encoding

Encoding Accuracy: “Did XYZ happen in the video?”

Encoding appraisal: “Do you have enough information to draw a conclusion about the intent of that person?”

01

Cue Interpretation

“Do you think the boy intended to be mean?”

02

Goals

“Would you want to get back at the boy or get the boy in trouble if this happened to you?”

03

Response Access

“Would you push, hit, call names, or insult the boy or try to hurt him in some other way?”

04

Response Evaluation

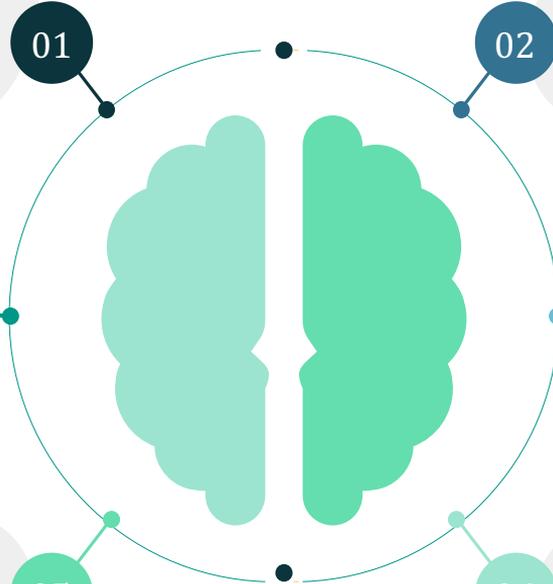
“How right or wrong would it be to get back at the boy?”

05

Prosocial

“If you got back at the boy, how much would you care if he got hurt?”

06



Methods

Participants: n=59, ages 12-18 (M=14.78, SD=1.35), in 6th through 12th grade. 57% Black/African American, 5% Hispanic, 33% White/Caucasian, 5% multiracial.

Participants

SIP-AP: Social Information Processing Application (Kupersmidt, J. B., Stelter, R., & Dodge, K. A. (2011))

Evaluating SIP

Aggression: Youth Self Report (Child), Child Behavior Checklist (Parent), Intent of Aggression Scale-Parent Form (Parent)

Evaluating Aggression



Results

Descriptive statistics and internal consistencies of SIP-AP item scales

Mean, standard deviation, skew, and kurtosis scores of responses for the SIP-AP cognitive mechanism scales (N=59)

Cognitive mechanism scale	Alpha	Mean	SD	Skew	Kurtosis
Encoding appraisal	.78	2.69	.85	.41	-.07
Encoding accuracy	.80	.79	.19	-1.50	3.59
Cue interpretation	.90	2.77	.73	.04	-.61
Goals	.94	2.69	.96	-.08	-.86
Response access	.91	2.27	.82	.44	.17
Response evaluation	.87	2.97	.89	-.23	-.01
Prosocial	.95	3.23	.78	.16	-.31

Note. SD=Standard deviation

Internal Consistency:

- Mean Cronbach's Alpha: **0.879**
- Lowest Cronbach's Alpha: **0.78** (Encoding Appraisal)
- Highest Cronbach's Alpha: **0.95** (Prosocial)

Skew:

- **Encoding Accuracy's negative skew:** Most teenage boys **encoded accurately.**

Results

Inter scale correlations among SIP-AP mechanisms

Interscale correlations for the SIP-AP mechanisms

	Encoding appraisal	Encoding accuracy	Cue interpretation	Goals	Response access	Response evaluation
Encoding appraisal	1					
Encoding accuracy	-.20	1				
Cue interpretation	-.07	-.50*	1			
Goals	-.10	-.47*	.81*	1		
Response access	.00	-.53*	.76*	.86*	1	
Response evaluation	-.08	-.51*	.68*	.75*	.71*	1
Prosocial	.16	.34*	-.62*	-.64*	-.61*	-.58*

- Encoding appraisal **uncorrelated** with every other SIP mechanism.
- Aside from encoding appraisal, **every other SIP mechanism is significantly correlated with each other.**

* $p < .05$.

Results

Inter scale correlations among individual SIP-AP Factors and Aggression

Social Information Processing Application (SIP-AP) Mechanisms and Aggressive Behavior Correlations

SIP-AP factor	Child report	Parent report		
	General aggression (n = 59)	General aggression (n = 56)	Proactive aggression (n = 56)	Reactive aggression (n = 56)
Encoding appraisal	-.13	-.06	-.10	-.16
Encoding accuracy	-.17	-.06	-.06	-.06
Cue interpretation	.27*	.12	.22 ⁺	.10
Goals	.47*	.14	.18	.20
Response access	.48*	.23 ⁺	.25 ⁺	.25 ⁺
Response evaluation	.44*	.13	.23 ⁺	.15
Prosocial	-.38*	-.16	-.12	-.15

* $p < .05$. ⁺ $p < .10$.

- **General aggression** (type not specified) from the **Youth Self Report** was the most significantly correlated with SIP-AP factors.
- The different types of aggression were only **marginally significantly** correlated with SIP-AP factors
- Difference between child report and parent reports?

Results

Comparisons between Acceptable and Deficit Social Information Processing (SIP) Groups on Aggressive Behavior Scores by Informant

SIP mechanism	Acceptable		Deficit		<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Informant							
Type of aggression	<i>N</i>	<i>M (SD)</i>	<i>N</i>	<i>M (SD)</i>			
Encoding accuracy							
Child-general	20	53.50 (4.84)	39	59.08 (8.50)	7.35	.01	.81
Parent-general	19	52.42 (3.76)	37	58.30 (9.46)	6.73	.01	.82
Parent-reactive	19	.87 (.69)	37	1.56 (1.02)	6.91	.01	.79
Parent-proactive	19	.46 (.59)	37	.99 (.83)	6.27	.02	.74
Encoding appraisals							
Child-general	26	56.04 (6.90)	33	58.09 (8.57)	.99	.32	.26
Parent-general	24	54.54 (6.47)	32	57.63 (9.53)	1.86	.18	.38
Parent-reactive	24	.96 (1.02)	32	1.60 (.85)	6.63	.01	.68
Parent-proactive	24	.57 (.65)	32	.99 (.86)	4.10	.05	.55
Prosocial							
Child-general	31	54.61 (6.56)	28	60.04 (8.33)	7.79	.01	.72
Parent-general	30	55.40 (7.30)	26	57.35 (9.61)	.74	.39	.23
Parent-reactive	30	1.20 (.96)	26	1.47 (.98)	1.08	.30	.28
Parent-proactive	30	.77 (.80)	26	.86 (.81)	.20	.66	.11

- Found significant differences in aggression between acceptable and deficit groups **for every SIP-AP mechanism**
- **Encoding accuracy:** Boys that were **deficient** in encoding accuracy **significantly differed** from the acceptable group with **every form of aggression.**
- **Encoding appraisal:** Type of aggression **matters.**
- **Prosocial:** Type of aggression **did not matter.**

Discussion

SIP-AP

Proved to be psychometrically strong in assessing social cognitions in adolescent boys.

Aggression

SIP-AP accurately found differences in levels of aggression in adolescent boys, depending on their SIP skills.



Types of Aggression

Reactive and proactive aggression played a role, depending on the SIP mechanism (all except cue interpretation and prosocial)

i.e. Goals and Reactive Aggression: Boys deficient in the goals SIP mechanism had significantly higher levels of reactive aggression.

Shortcomings

Small sample size, methodology for assessing encoding

Citations:

[slidesgo](#)

[Freepik](#)

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Dodge, K. A., & Crick, N. R. (1990). Social information-processing bases of aggressive behavior in children. *Personality and social psychology bulletin*, 16(1), 8-22.

Kupersmidt, J. B., Stelter, R., & Dodge, K. A. (2011). Development and validation of the social information processing application: a Web-based measure of social information processing patterns in elementary school-age boys. *Psychological assessment*, 23(4), 834.



Thank You!