Teacher Observation of Child Adaptation-Revised (TOCA-R)
Kindergarten/Year 1
Fast Track Project Technical Report
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SAS scoring program

Citations
Instrument
        Werthamer-Larsson, L., Kellam, S.G., & Wheeler, L. (1991). Effect of first-grade classroom environment on shy behavior, aggressive behavior, and concentration problems. *American Journal of Community Psychology, 19,* 585-602.

Reports
        Rains, C. (2003). *Teacher Observation of Child Adaptation-Revised (TOCA-R)* (Fast Track Project Technical Report). Available from the Fast Track Project website: *http://www.fasttrackproject.org*

        Schwartz, D. (1991). *TOCA Summary Report* (Fast Track Project Technical Report). Nashville, TN: Vanderbilt University, Fast Track Project.

Data Sources
Raw: T1A

Scored: SHF1

I.   Scale Description

The Teacher Observation of Child Adaptation-Revised (TOCA-R) was actually one of the two parts of the Social Health Profile (the other part of the Social Health Profile was a Social Competence scale developed by the Conduct Problems Prevention Research Group). Only the TOCA-R was given to teachers by interviewers in the fall of 1991. The TOCA-R originally was a 16-item questionnaire. Teachers were asked to complete one for each student in their class as a way to identify high-risk children. Teachers were asked to describe, among other things, whether the child completed assignments, was friendly, broke rules, was disobedient, fought, yelled at others, or was liked or disliked. Teachers used a scale of 0 to 5, with responses including almost never (0), rarely (1), sometimes (2), often (3), very often (4), and almost always (5).

The TOCA-R was only administered during the fall of the first two years of the study, while the Social Health Profile was used in the spring during years 2 through 6 of the study. In the second year of the study, the TOCA-R was changed, dropping two items ('liked,' 'disliked') and adding 21 new items. The scale remained the same in these later years, although a number of items still needed to be reverse-scored.

II.   Report Sample

These exploratory analyses were conducted with the first cohort on the high-risk sample (n=310) and on the normative sample (n=387, N=618 with overlap) from the first year of administration of this study. No students were missing the measure.

III.   Scaling

Four of the 16 items needed to be reverse-scored so that the scoring for all of the items remained consistent, with a high score on any item indicating that the behavior occurred often. These four reversed items were: completes assignments (1), is friendly (2), is self-reliant (8), and is on task (13).

Four subscales were created for this measure for year 1. For each scale, the items were summed and then the mean was taken across the items in the scale. The first subscale was the *Overt Aggression Subscale*, which was made up of five items: 5 (harms others), 6 (breaks things), 9 (fights), 12 (teases), and 14 (yells at others).

The second subscale was the *Oppositional Subscale*, which was comprised of two items, 3 (stubborn) and 4 (breaks rules).

The third subscale, the *Covert Antisocial Subscale*, was composed of two items, 7 (takes others' property) and 10 (lies).

The last subscale, the *Authority Acceptance Subscale*, was composed of ten items: 3 (stubborn), 4 (breaks rules), 5 (harms others), 6 (breaks things), 7 (takes others' property), 9 (fights), 10 (lies), 11 (disobedient), 12 (teases), and 14 (yells at others). This subscale included all of the items from the other three subscales.

Cronbach's alphas were calculated for each subscale and are shown in the table below:

Subscales	Cronbach's Alpha	
	High-Risk Sample	Normative Sample
Overt Aggression Subscale (SHF1OAG)	.84	.89
Oppositional Subscale (SHF1OPP)	.63	.82
Covert Antisocial Subscale (SHF1CAS)	.73	.81
Authority Acceptance Subscale (SHF1AAC)	.89	.93

All of the subscales showed an adequate level of internal consistency for both the high-risk sample and the normative sample. Analysts should note, however, that the reliability for the *Oppositional Subscale* for the high-risk sample was lower than the reliability for the normative sample.

IV.   Differences between Groups

All four of the subscales showed significant differences between groups, with the high-risk group showing higher scores (more problem behaviors) than the normative group. No significant differences between the control and intervention samples were found for the scales.

A series of t-tests between the high-risk sample (not including the overlap) and the normative sample indicated significant differences for all of the items not included in the scales: completes assignments (T1A1R), friendly (T1A2R), self-reliant (T1A8R), on task (T1A13R), liked (T1A15), and disliked (T1A16). One item, friendly (T1A2R), showed a significant difference between the control and the intervention samples.

TOCA-R—Subscales, Normative vs. High-Risk: The TTEST Procedure

Variable	Normative Sample		High-Risk Sample		DF	t Value	Pr > |t|
	Mean	Std Dev	Mean	Std Dev			
Overt Aggression Subscale (SHF1OAG)	0.62	0.67	1.91	0.95	461	16.79	<.0001
Oppositional Subscale (SHF1OPP)	1.29	1.01	3.11	1.14	461	17.59	<.0001
Covert Antisocial Subscale (SHF1CAS)	0.48	0.66	1.67	1.13	461	14.27	<.0001
Authority Acceptance Subscale (SHF1AAC)	0.76	0.67	2.19	0.90	461	19.35	<.0001

TOCA-R—Subscales, Control vs. Intervention: The TTEST Procedure

Variable	Control Sample		Intervention Sample		DF	t Value	Pr > |t|
	Mean	Std Dev	Mean	Std Dev			
Overt Aggression Subscale (SHF1OAG)	1.91	0.95	1.84	0.98	308	0.59	0.5585
Oppositional Subscale (SHF1OPP)	3.11	1.14	3.01	1.04	308	0.84	0.4039
Covert Antisocial Subscale (SHF1CAS)	1.67	1.13	1.66	1.11	308	0.05	0.9596
Authority Acceptance Subscale (SHF1AAC)	2.19	0.90	2.14	0.88	308	0.55	0.5852

TOCA-R—Items, Normative vs. High-Risk: The TTEST Procedure

Variable	Normative Sample		High-Risk Sample		DF	t Value	Pr > |t|
	Mean	Std Dev	Mean	Std Dev			
Completes Assignments (T1A1R)	1.20	1.31	2.36	1.57	616	9.96	<.0001
Friendly (T1A2R)	1.03	1.06	1.91	1.16	616	9.88	<.0001
Self-Reliant (T1A8R)	1.69	1.26	2.56	1.35	616	8.33	<.0001
On Task (T1A13R)	1.53	1.30	2.72	1.41	616	10.93	<.0001
Liked (T1A15)	3.91	1.06	2.74	1.04	616	-13.86	<.0001
Disliked (T1A16)	0.66	0.81	1.70	1.04	616	13.97	<.0001

Variable	Control Sample		Intervention Sample		DF	t Value	Pr > |t|
	Mean	Std Dev	Mean	Std Dev			
Completes Assignments (T1A1R)	2.48	1.49	2.23	1.64	308	1.41	0.1591
Friendly (T1A2R)	2.09	1.19	1.74	1.11	308	2.72	0.0068
Self-Reliant (T1A8R)	2.59	1.31	2.53	1.39	308	0.42	0.6744
On Task (T1A13R)	2.68	1.40	2.75	1.42	308	-0.44	0.6590
Liked (T1A15)	2.74	1.12	2.74	0.96	308	0.00	1.0000
Disliked (T1A16)	1.60	1.08	1.81	0.98	308	-1.76	0.0798

V.   Recommendations for Use

Analysts should note that two of the subscales showed a fairly normal distribution for both the normative and high-risk samples. These subscales were the *Oppositional Subscale* and the *Authority Acceptance Subscale*. The *Overt Aggression Subscale* was normally distributed for the high-risk sample but was positively skewed for the normative sample.

Finally, the subscale *Covert Antisocial Subscale* showed a floor effect for the normative sample, with 45% of the children scoring a 0 on this scale, which was the lowest possible score. Another 23% of the children in the normative sample scored between a zero and 1 on the scale.

VI.   Item and Scale Means and SDs

TOCA-R Items Normative Sample

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
T1A1R	(RS) COMPLETES ASSIGNMENTS	387	1.460	1.445	0.000	5.000
T1A2R	(RS) FRIENDLY	387	1.253	1.158	0.000	5.000
T1A3	STUBBORN	387	1.685	1.448	0.000	5.000
T1A4	BREAKS RULES	387	1.594	1.293	0.000	5.000
T1A5	HARMS OTHERS	387	0.755	1.005	0.000	5.000
T1A6	BREAKS THINGS	387	0.519	0.783	0.000	4.000
T1A7	TAKES OTHERS PROPERTY	387	0.599	0.871	0.000	5.000
T1A8R	(RS) SELF-RELIANT	387	1.853	1.308	0.000	5.000
T1A9	FIGHTS	387	1.059	1.265	0.000	5.000
T1A10	LIES	387	0.817	1.043	0.000	5.000
T1A11	DISOBEDIENT	387	1.292	1.385	0.000	5.000
T1A12	TEASES	387	1.031	1.096	0.000	5.000
T1A13R	(RS) ON TASK	387	1.757	1.374	0.000	5.000
T1A14	YELLS AT OTHERS	387	1.000	1.149	0.000	5.000
T1A15	LIKED	387	3.685	1.147	0.000	5.000
T1A16	DISLIKED	387	0.819	0.910	0.000	5.000

TOCA-R Items Control Sample

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
T1A1R	(RS) COMPLETES ASSIGNMENTS	155	2.484	1.492	0.000	5.000
T1A2R	(RS) FRIENDLY	155	2.090	1.186	0.000	5.000
T1A3	STUBBORN	155	3.187	1.352	0.000	5.000
T1A4	BREAKS RULES	155	3.032	1.245	0.000	5.000
T1A5	HARMS OTHERS	155	1.794	1.236	0.000	5.000
T1A6	BREAKS THINGS	155	1.226	1.048	0.000	5.000
T1A7	TAKES OTHERS PROPERTY	155	1.413	1.199	0.000	5.000
T1A8R	(RS) SELF-RELIANT	155	2.594	1.308	0.000	5.000
T1A9	FIGHTS	155	2.335	1.378	0.000	5.000
T1A10	LIES	155	1.929	1.305	0.000	5.000
T1A11	DISOBEDIENT	155	2.819	1.322	0.000	5.000
T1A12	TEASES	155	2.065	1.155	0.000	5.000
T1A13R	(RS) ON TASK	155	2.684	1.404	0.000	5.000
T1A14	YELLS AT OTHERS	155	2.110	1.220	0.000	5.000
T1A15	LIKED	155	2.735	1.117	0.000	5.000
T1A16	DISLIKED	155	1.600	1.085	0.000	5.000

TOCA-R Items Intervention Sample

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
T1A1R	(RS) COMPLETES ASSIGNMENTS	155	2.232	1.643	0.000	5.000
T1A2R	(RS) FRIENDLY	155	1.735	1.105	0.000	5.000
T1A3	STUBBORN	155	3.019	1.287	0.000	5.000
T1A4	BREAKS RULES	155	2.994	1.198	0.000	5.000
T1A5	HARMS OTHERS	155	1.690	1.230	0.000	5.000
T1A6	BREAKS THINGS	155	1.097	1.049	0.000	5.000
T1A7	TAKES OTHERS PROPERTY	155	1.406	1.283	0.000	5.000
T1A8R	(RS) SELF-RELIANT	155	2.529	1.393	0.000	5.000
T1A9	FIGHTS	155	2.245	1.271	0.000	5.000
T1A10	LIES	155	1.923	1.246	0.000	5.000
T1A11	DISOBEDIENT	155	2.806	1.373	0.000	5.000
T1A12	TEASES	155	2.181	1.412	0.000	5.000
T1A13R	(RS) ON TASK	155	2.755	1.425	0.000	5.000
T1A14	YELLS AT OTHERS	155	1.994	1.317	0.000	5.000
T1A15	LIKED	155	2.735	0.961	0.000	5.000
T1A16	DISLIKED	155	1.806	0.981	0.000	5.000

TOCA-R Subscales Normative Sample

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
SHF1AAC	Authority Acceptance SHP	387	1.035	0.910	0.000	4.400
SHF1OAG	Overt Aggression SHP Narrow Band	387	0.873	0.895	0.000	4.000
SHF1OPP	Oppositional SHP Narrow Band	387	1.640	1.262	0.000	5.000
SHF1CAS	Covert Antisocial SHP Narrow Band	387	0.708	0.882	0.000	4.500

TOCA-R Subscales Control Sample

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
SHF1AAC	Authority Acceptance SHP	155	2.191	0.903	0.000	5.000
SHF1OAG	Overt Aggression SHP Narrow Band	155	1.906	0.955	0.000	5.000
SHF1OPP	Oppositional SHP Narrow Band	155	3.110	1.137	0.000	5.000
SHF1CAS	Covert Antisocial SHP Narrow Band	155	1.671	1.129	0.000	5.000

TOCA-R Subscales Intervention Sample

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
SHF1AAC	Authority Acceptance SHP	155	2.135	0.885	0.300	4.100
SHF1OAG	Overt Aggression SHP Narrow Band	155	1.841	0.984	0.000	4.200
SHF1OPP	Oppositional SHP Narrow Band	155	3.006	1.035	1.000	5.000
SHF1CAS	Covert Antisocial SHP Narrow Band	155	1.665	1.109	0.000	5.000

VII. Item and Scale Correlations

TOCA-R Item Correlations Report Sample

Pearson Correlation Coefficients, N = 618 Prob > |r| under H0: Rho=0									
	T1A1R	**T1A2R**	**T1A3**	**T1A4**	**T1A5**	**T1A6**	**T1A7**	**T1A8R**	**T1A9**
T1A1R **(RS) COMPLETES ASSIGNMENTS**	1.00000	0.33754 <.0001	0.28158 <.0001	0.33241 <.0001	0.20048 <.0001	0.24877 <.0001	0.26996 <.0001	0.71360 <.0001	0.18295 <.0001
T1A2R **(RS) FRIENDLY**	0.33754 <.0001	1.00000	0.43052 <.0001	0.31517 <.0001	0.38483 <.0001	0.33964 <.0001	0.29078 <.0001	0.38822 <.0001	0.35203 <.0001
T1A3 **STUBBORN**	0.28158 <.0001	0.43052 <.0001	1.00000	0.67859 <.0001	0.53618 <.0001	0.43015 <.0001	0.44498 <.0001	0.25866 <.0001	0.58792 <.0001
T1A4 **BREAKS RULES**	0.33241 <.0001	0.31517 <.0001	0.67859 <.0001	1.00000	0.66225 <.0001	0.52110 <.0001	0.54224 <.0001	0.26377 <.0001	0.69450 <.0001
T1A5 **HARMS OTHERS**	0.20048 <.0001	0.38483 <.0001	0.53618 <.0001	0.66225 <.0001	1.00000	0.65381 <.0001	0.56505 <.0001	0.17479 <.0001	0.75985 <.0001
T1A6 **BREAKS THINGS**	0.24877 <.0001	0.33964 <.0001	0.43015 <.0001	0.52110 <.0001	0.65381 <.0001	1.00000	0.63377 <.0001	0.20475 <.0001	0.57184 <.0001
T1A7 **TAKES OTHERS PROPERTY**	0.26996 <.0001	0.29078 <.0001	0.44498 <.0001	0.54224 <.0001	0.56505 <.0001	0.63377 <.0001	1.00000	0.24929 <.0001	0.53874 <.0001
T1A8R **(RS) SELF-RELIANT**	0.71360 <.0001	0.38822 <.0001	0.25866 <.0001	0.26377 <.0001	0.17479 <.0001	0.20475 <.0001	0.24929 <.0001	1.00000	0.12998 0.0012
T1A9 **FIGHTS**	0.18295 <.0001	0.35203 <.0001	0.58792 <.0001	0.69450 <.0001	0.75985 <.0001	0.57184 <.0001	0.53874 <.0001	0.12998 0.0012	1.00000
T1A10 **LIES**	0.25168 <.0001	0.35573 <.0001	0.56449 <.0001	0.62959 <.0001	0.61028 <.0001	0.60202 <.0001	0.68483 <.0001	0.21464 <.0001	0.66492 <.0001
T1A11 **DISOBEDIENT**	0.28464 <.0001	0.42467 <.0001	0.78012 <.0001	0.77630 <.0001	0.60523 <.0001	0.50810 <.0001	0.50463 <.0001	0.23320 <.0001	0.67712 <.0001
T1A12 **TEASES**	0.14517 0.0003	0.24872 <.0001	0.52616 <.0001	0.64970 <.0001	0.65194 <.0001	0.54860 <.0001	0.54533 <.0001	0.14702 0.0002	0.67868 <.0001
T1A13R **(RS) ON TASK**	0.84153 <.0001	0.36091 <.0001	0.32828 <.0001	0.39963 <.0001	0.25259 <.0001	0.25142 <.0001	0.30819 <.0001	0.70823 <.0001	0.24177 <.0001
T1A14 **YELLS AT OTHERS**	0.09209 0.0220	0.30954 <.0001	0.59495 <.0001	0.60683 <.0001	0.62254 <.0001	0.51030 <.0001	0.45030 <.0001	0.11164 0.0055	0.70124 <.0001
T1A15 **LIKED**	-0.42459 <.0001	-0.57677 <.0001	-0.49855 <.0001	-0.52545 <.0001	-0.53034 <.0001	-0.46767 <.0001	-0.45091 <.0001	-0.43925 <.0001	-0.53011 <.0001
T1A16 **DISLIKED**	0.22915 <.0001	0.38502 <.0001	0.52346 <.0001	0.57549 <.0001	0.59017 <.0001	0.50522 <.0001	0.46078 <.0001	0.24060 <.0001	0.64299 <.0001

Pearson Correlation Coefficients, N = 618 Prob > |r| under H0: Rho=0							
	T1A10	**T1A11**	**T1A12**	**T1A13R**	**T1A14**	**T1A15**	**T1A16**
T1A1R **(RS) COMPLETES ASSIGNMENTS**	0.25168 <.0001	0.28464 <.0001	0.14517 0.0003	0.84153 <.0001	0.09209 0.0220	-0.42459 <.0001	0.22915 <.0001
T1A2R **(RS) FRIENDLY**	0.35573 <.0001	0.42467 <.0001	0.24872 <.0001	0.36091 <.0001	0.30954 <.0001	-0.57677 <.0001	0.38502 <.0001
T1A3 **STUBBORN**	0.56449 <.0001	0.78012 <.0001	0.52616 <.0001	0.32828 <.0001	0.59495 <.0001	-0.49855 <.0001	0.52346 <.0001
T1A4 **BREAKS RULES**	0.62959 <.0001	0.77630 <.0001	0.64970 <.0001	0.39963 <.0001	0.60683 <.0001	-0.52545 <.0001	0.57549 <.0001

Pearson Correlation Coefficients, N = 618 Prob > |r| under H0: Rho=0							
	T1A10	**T1A11**	**T1A12**	**T1A13R**	**T1A14**	**T1A15**	**T1A16**
T1A5 **HARMS OTHERS**	0.61028 <.0001	0.60523 <.0001	0.65194 <.0001	0.25259 <.0001	0.62254 <.0001	-0.53034 <.0001	0.59017 <.0001
T1A6 **BREAKS THINGS**	0.60202 <.0001	0.50810 <.0001	0.54860 <.0001	0.25142 <.0001	0.51030 <.0001	-0.46767 <.0001	0.50522 <.0001
T1A7 **TAKES OTHERS PROPERTY**	0.68483 <.0001	0.50463 <.0001	0.54533 <.0001	0.30819 <.0001	0.45030 <.0001	-0.45091 <.0001	0.46078 <.0001
T1A8R **(RS) SELF-RELIANT**	0.21464 <.0001	0.23320 <.0001	0.14702 0.0002	0.70823 <.0001	0.11164 0.0055	-0.43925 <.0001	0.24060 <.0001
T1A9 **FIGHTS**	0.66492 <.0001	0.67712 <.0001	0.67868 <.0001	0.24177 <.0001	0.70124 <.0001	-0.53011 <.0001	0.64299 <.0001
T1A10 **LIES**	1.00000	0.64417 <.0001	0.61292 <.0001	0.29122 <.0001	0.55864 <.0001	-0.51168 <.0001	0.54469 <.0001
T1A11 **DISOBEDIENT**	0.64417 <.0001	1.00000	0.62693 <.0001	0.35022 <.0001	0.64429 <.0001	-0.55418 <.0001	0.60086 <.0001
T1A12 **TEASES**	0.61292 <.0001	0.62693 <.0001	1.00000	0.21995 <.0001	0.66709 <.0001	-0.47867 <.0001	0.57041 <.0001
T1A13R **(RS) ON TASK**	0.29122 <.0001	0.35022 <.0001	0.21995 <.0001	1.00000	0.17026 <.0001	-0.48300 <.0001	0.31194 <.0001
T1A14 **YELLS AT OTHERS**	0.55864 <.0001	0.64429 <.0001	0.66709 <.0001	0.17026 <.0001	1.00000	-0.44481 <.0001	0.56072 <.0001
T1A15 **LIKED**	-0.51168 <.0001	-0.55418 <.0001	-0.47867 <.0001	-0.48300 <.0001	-0.44481 <.0001	1.00000	-0.72826 <.0001
T1A16 **DISLIKED**	0.54469 <.0001	0.60086 <.0001	0.57041 <.0001	0.31194 <.0001	0.56072 <.0001	-0.72826 <.0001	1.00000

TOCA-R Subscales Correlations Report Sample

Pearson Correlation Coefficients, N = 618 Prob > |r| under H0: Rho=0				
	SHF1AAC	**SHF1OAG**	**SHF1OPP**	**SHF1CAS**
SHF1AAC **Authority Acceptance SHP**	1.00000	0.95108 <.0001	0.89198 <.0001	0.83554 <.0001
SHF1OAG **Overt Aggression SHP Narrow Band**	0.95108 <.0001	1.00000	0.75564 <.0001	0.74390 <.0001
SHF1OPP **Oppositional SHP Narrow Band**	0.89198 <.0001	0.75564 <.0001	1.00000	0.65061 <.0001
SHF1CAS **Covert Antisocial SHP Narrow Band**	0.83554 <.0001	0.74390 <.0001	0.65061 <.0001	1.00000