

The Temperament in Middle Childhood Questionnaire (TMCQ): A Computerized Self-Report Instrument for Ages 7-10



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Study Aims

- Establish valid, reliable self-report measure of temperament in middle childhood;
- Allow for multi-informant report with accompanying parent questionnaire;
- Develop efficient, age-appropriate method for administration of questionnaire.

Samples (N=193) Elementary Schools in Seattle, WA area (n=99) & Lane County, OR (n=43); UO Laboratory (n=51).
Sex 44% Male, 55% Female. **Age** 30 7 y.o., 30 8 y.o., 44 9 y.o., 89 10 y.o.
Race/Ethnicity 68% White/Caucasian, 14% Hispanic, 3% African-American, 7% Asian/Pacific Islander, 6% Mixed Race, 3% Other.

Item Development

- 13 out of 16 temperament scales and definitions from Children's Behavior Questionnaire (CBQ) (Rothbart, Ahadi, Hershey & Fisher, 2001).
- Majority of items adapted from CBQ
- Original items developed
- Other items from Hampton Individual Differences Questionnaire (Victor & Baker, 2001), Childhood Temperament and Personality Questionnaire (CTPQ; Victor, Rothbart & Baker, 2003), CBQ-BPI (Ablow & Measelle, 1993; Hwang 2002)

	Affil.	Anger/ Frustr.	Assrt/ Dom	Attn Focs	Dis- comf	Fant/ Opn	Fear	High Intns Pls.	Im- pls	Inhib Cntrl	Low Intns Pls	Perc Sens	Sad	Shy	Sooth
Activity	.28**	.13	-.19**	-.05	-.01	-.19**	.06	.38**	.21**	-.02	.21**	.27**	.03	-.11	.02
Affiliation		-.34**	.08	-.10	.19	.46**	.12	-.16*	.14	.26**	.43**	.50**	.26**	-.18*	.13
Anger/Frustr.			-.02	.14	.03	-.20**	.09	-.09	-.07	-.20**	.06	-.20**	.02	-.03	-.22**
Assert./Domin.				-.11	.13	.05	.12	.28**	.38**	-.04	.12	.51**	.24**	.01	-.05
Attention Focus.					-.18*	-.18*	-.15*	-.29**	-.30**	.49**	.00	-.25**	-.23**	-.16*	.48**
Discomfort						.39	.67**	-.03	.15*	-.05	.22**	.35**	.73**	-.03	-.14
Fantasy/Openn.							.29	.24**	.17	.24**	.49**	.49**	.40**	-.10	.13
Fear								-.12	-.11	-.10	.14	.29**	.62**	-.06	-.17*
High Intns. Pleas.									.45**	-.06	.08	.35**	.06	.02	.01
Impulsivity										-.15*	.10	.37**	.32**	-.07	-.13
Inhibitory Cntrl.											.16*	.16*	-.07	-.26**	.50**
Low Intns. Pleas.												.50**	.21**	.01	.07
Percept. Sens.													.55**	-.20**	-.05
Sadness														-.05	-.13
Shyness															-.26**

Administration

- Computerized presentation
- 157 Items on 5-pt. Likert Scale (Version 3.0)
- 3 Practice Items
- Instructions and items read to children by "Ducky"
- Administration time approximately 20 minutes
- Answers collected in text files
- Parent version of items in paper-and-pencil format



Version 1 & 2 Reliability / Parent Child Agreement

Scale (Version)	Sample Self-Report Items	Cronbach's α Self-Report (n=193)	Cronbach's α Parent-Report (n=95)	Parent-Child Agmt (n=95) Common Items/ Max Reliability
Activation Control (3)	"It's hard for me to keep working on an assignment when it gets boring." (Reverse)	N/A ¹	N/A ¹	N/A ¹
Activity Level [#] (1,2,3)	"I like to run." "I have lots of energy." "I like PE."	.50	.63	.33**/.22*
Affiliation [#] (1,2,3)	"I like to feel close to other people."	.57	.83	.28**/.25*
Anger/Frustration [#] (1,2,3)	"I get mad when recess is over."	.78	.83	.01/-.05
Assertiveness/Dominance (1,2,3)	"Other kids do what I do." "I like to be in charge."	.76	.83	.15/.15
Attention [#] (1,2,3)	"My teacher tells me to pay attention." (Reverse)	.76	.90	.22*/.18
Discomfort [#] (1,2,3)	"I feel uncomfortable when I'm cold or wet."	.77	.76	.29**/.21*
Fantasy/Openness (1, 2, 3)	"I have a big imagination." "I like to make things."	.78	.86	.54**/.55**
Fear [#] (1, 2, 3)	"I'm afraid of the dark." "I get scared by nightmares."	.78	.78	.38**/.32**
High Intensity Pleasure [#] (1, 2, 3)	"I like to ride my bike really fast down hills."	.61	.79	.37**/.43**
Impulsivity [#] (1, 2, 3)	"I do things without thinking about them first."	.53	.71	.16/.18
Inhibitory Control [#] (1, 2, 3)	"I can stop myself from doing things too quickly."	.56	.75	.30**/.36**
Low Intensity Pleasure [#] (1, 2, 3)	"I like playing quiet games." "I like to look at trees."	.77	.83	.36**/.35**
Perceptual Sensitivity [#] (2,3)	"I notice things that other people don't notice."	.80	.85	.11/.11
Sadness [#] (1, 2, 3)	"Sometimes I feel sad for no reason."	.81	.74	.17/.26*
Shyness [#] (1, 2, 3)	"I feel shy around new people."	.51	.70	.28*/.33**
Smiling/Laughter [#] (1)	"I laugh a lot when silly things happen."	N/A ²	N/A ²	N/A ²
Soothability/Falling Reactivity [#] (1, 2, 3)	"I go from being upset to feeling better in a few minutes."	.60	.69	.02/.22*

Key: [#] - Based on corresponding CBQ Scale; [#] - Substantial revisions for Version 3. ** = p < .01, * = p < .05, + = p < .10, ¹ - Scale not included in Versions 1 & 2. ² - Scale not included in Versions 2 & 3.

Preliminary Conclusions

- 11 out of 16 self-report scales reached alphas > .60. Indicates fairly reliable self-report.
- With one exception (activity), parent scale alphas range from .69 to .90.
- Significant parent/child agreement on 11 out of 16 scales.
- Factor analysis with current sample data is inconclusive.
- Computerized questionnaire method effective (157 items/20 mins. vs. 65 items/1 hour for pencil-paper instruments; children report liking the activity).

Current Studies

- Validation of Effortful Control scales via Temperament & Executive Attention Study - Ducky 2.0, Computerized Executive Attention Tasks, Mistaken Gift Task, EEG/ERPs. Data collection concluded.
- Psychometric testing of Version 3.0 with improved scales and addition of new Activation Control scale.