

Psychometric Properties of Ketterman Temperament Personality Inventory – Students (KTPI-S)

Dong Xie, Ph.D.
University of Central Arkansas

Diana C. Ketterman, Ph.D. NCSP LEP
Character Champions Foundation

Cindy Y. Fu, M.A. M.Ed. LEP
Walnut Valley Unified School District

Lu Yu, Ph.D.
Hong Kong Polytechnic University

Results

Abstract

The purpose of the present study is to provide empirical support for the evidence of validity and reliability of Ketterman Temperament Personality Inventory – Student version (KTPI-S). KTPI-S was administered to a sample of 483 graders (4th - 12th). Its forty items were subject to principal axis analysis to test its theoretical factor structure. It was re-administered in two weeks to 73 4th and 5th graders to establish its test-retest reliabilities. In the meantime, students’ teachers were asked to rate each student according to description of the four types of temperament characters. Overall, the factor analysis results supported the four-factor model. Test-retest reliability coefficients ranged from .69 to .86. The internal consistency reliability coefficients were satisfactory (.69, .78, .81) except the Responsibility-Security scale (.57). The correlation between students self-reported scores and their teachers’ rating were significant except the Pleasure-Adventure scale. Overall, we believe KTPI-S is a reliable and valid inventory in identifying temperament traits among school children.

Introduction

- Limitations of existing measurements of temperaments among school children:
(1) Focus on psychopathological aspects of temperaments among school children
(2) Focus on identifying difficulty school children
(3) Do not pay much attention to the positive aspects and the strengths of their characters from a positive psychology perspective.
(4) Lack of empirical evidence
- Ketterman Temperament Personality Inventory – Student version (KTPI-S) was developed based on integration of Keirsey (1998)’s and Chess and Thomas (1996)’s frameworks and to identify character strength among school children.
- These characters are oriented toward: (a) Sensitivity-Harmony, (b) Pleasure-Adventure, (c) Responsibility-Security, and (d) Intellectual-Knowledge.
- The purpose of the present study is to provide empirical support for the evidence of KTPI-S validity and reliability



Method

- Participants:**
- For the factor analysis, participants were 483 graders (4th to 12th grade) (Mean Age = 12.5), 48.7% (51.3%) were boys (girls).
 - For the test-retest reliability, participants were 73 4th (n= 56) and 5th graders (n=17) graders, 56.2% (43.8%) were boys (girls).
- Instruments:**
- Ketterman Temperament Personality Inventory – Student version (KTPI-S) that measures (a) Sensitivity-Harmony, (b) Pleasure-Adventure, (c) Responsibility-Security, and (d) Intellectual-Knowledge.

Table 2. Psychometric Properties of KTPI-S

Color-Coded Characters	Test-Retest Reliability (two weeks)	Internal Consistency (Cronbach α) Coefficients	Self-Report and Teacher-Rating Correlation
Sensitivity-Harmony (Blue)	.72***	.79***	.30 **
Pleasure-Adventure (Orange)	.86***	.81***	.11 (ns)
Responsibility-Security (Gold)	.80***	.57***	.48***
Intellectual-Knowledge (Green)	.69***	.65***	.23*

Note. *** $p < .001$; ** $p < .01$; * $p < .05$. ns = not significant

Conclusion & Implication

- ❑ The present study supported the theoretical four-factor model of KTPI-S and provided empirical evidence for its validity and reliability
- ❑ Overall, we believe KTPI-S is a reliable and valid inventory in identifying temperament traits among school children. It will not only help teachers better understand and manage students’ behavior, and motivate them, but also help students better understand themselves in terms of their strengths and challenges in various school settings.
- ❑ Visit www.characterchampions.org to take the free Ketterman Temperament Preference Strengths Survey for Students and Adults.

Table 1. Pattern Matrix of Four-Factor Solution of KTPI-S on 35 Items

Items	Factor Loadings			
	Factor 1 Sensitivity-Harmony	Factor 2 Pleasure-Adventure	Factor 3 Responsibility-Security	Factor 4 Intellectual-Knowledge
Q29	.786	-.013	-.082	.102
Q26	.783	.021	.021	.026
Q18	.766	-.011	.045	-.013
Q11	.731	.058	.066	-.034
Q38	.586	.025	.128	.155
Q33	.534	.024	.055	.218
Q4	.452	.095	.255	.131
Q5	-.444	.160	-.023	.169
Q24	.438	-.105	-.051	.105
Q12	.421	-.035	.405	.075
Q31	.385	.132	.348	.156
Q37	-.038	.796	.045	-.174
Q27	-.143	.639	.092	.091
Q7	-.110	.618	-.025	-.012
Q2	.044	.578	.030	.065
Q22	-.095	.478	-.178	-.089
Q35	.199	.427	.047	.168
Q10	-.119	.412	-.258	-.126
Q30	.267	.366	-.074	.097
Q9	-.017	.332	-.153	.108
Q17	.109	.074	-.656	-.017
Q40	.060	-.089	.614	.118
Q8	.081	.061	.576	.070
Q23	.019	.131	-.534	.042
Q36	-.019	.003	.522	.296
Q1	.351	.036	.451	.095
Q15	-.163	-.060	-.417	.146
Q19	-.032	.229	-.285	-.213
Q32	.040	-.065	.236	.572
Q34	.040	.118	-.165	.551
Q6	-.051	-.042	.134	.475
Q3	.112	-.102	.262	.436
Q28	.112	.189	-.060	.435
Q16	.158	-.020	.001	.399
Q39	.118	.178	.098	.255