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ABSTRACT

Type T personality is a personality dimension which characterizes individuals along a continuum ranging from those who are stimulated by risk-taking, stimulation-seeking and thrill-seeking (Big T) to those who are risk, stimulation, and thrill-avoiding (Little t). This study was designed to assess the relationship between Type T personality and the use of learning strategies. Because the use of learning strategies has been demonstrated to impact educational achievement, there are educational implications for this research. A sample of college students (n=256) was administered a measure of Type T personality and a measure of learning strategy use. Results did not indicate that Big T and Little T use of learning strategies was related to academic achievement, but did suggest that differences exist in strategy use in the short-term versus the long-term. Study results provided a clearer picture of females than males. Finally, factor and regression analysis resulted in the identification of Big T and Little t profiles of learning strategy use. Educational implications are offered. Five tables account for approximately one-third of the document. (Author/BJJ)

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TYPE T PERSONALITY AND LEARNING STRATEGIES

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ABSTRACT

Type T personality is a personality dimension which characterizes individuals along a continuum ranging from those who are stimulated by risk-taking, stimulation-seeking and thrill-seeking (Big T) to those who are risk, stimulation, and thrill-avoiding (Little t). The following study was designed to assess the relationship between Type T personality and the use of learning strategies. Because the use of learning strategies has been demonstrated to impact educational achievement, there are educational implications for this research. A sample of college students was administered a measure of Type T personality and a measure of learning strategy use. Factor and regression analysis resulted in the identification of Big T and Little t profiles of learning strategy use. Educational implications are offered.

This project examined the relationship between student personality and student use of learning strategies. It was hypothesized that personality differences, in this case, those between students characterized as Big T's, high stimulation-seeking, thrill-seeking, risk-taking individuals, and students characterized as Little t's, stimulation, thrill, and risk-avoiders (Farley, 1986) would be related to different patterns of learning strategy use. This exploratory study attempts to identify learning strategy "profiles" for Big T and Little t students. Big T and Little t students are motivated by different mechanisms to achieve differing ends. It was therefore expected that they would be differentially motivated in the selection and use of learning strategies.

Although a relatively large number of research studies have examined the use of learning strategies, few have focused on the relationship between personality and learning strategy use. Since the literature on learning strategies has generally supported a positive relationship between strategy use and academic achievement, e.g., Weinstein, Goetz, and Alexander (1988), an understanding of individual differences in strategy use also has implications for educational practice and student achievement. Student use of particular strategies may have implications for task success as well. For example, if the goal of an assignment is critical thinking or creative output, elaboration strategies may be more appropriate, whereas if the goal of an assignment is for students to remember some exact facts as provided by a teacher, strategies such as rehearsal and organization may be more effective.

It is assumed that a primary function of education is to provide the most appropriate schooling and opportunities for each student. Though this is difficult in practice, an understanding of the relationship between student

personality and the use of various learning tools allows educators to improve service-delivery to more effectively meet the needs of each individual in their classroom. With an awareness of the strategies students are motivated to use, educators have the opportunity to encourage strategy use by suggesting those more naturally acceptable to particular students. It also allows educators to examine the relationship between the strategies students are using and task demands. Students may benefit by suggestions to adapt strategies for task demands or by being aware of alternative strategies. Students should be conscious of these issues so that they can be more effective, self-regulating learners.

The literature examined for this study reviews previous research on Type T personality and the relationship between personality and learning strategy use. The Type T Personality, as described by Farley (1980), characterizes individuals along a continuum ranging from those motivated by risk-taking and thrill-seeking (Big T) to those who are risk and thrill avoiders (Little t). Big T individuals are hypothesized to prefer high levels of stimulation, complexity, and are distinguished by flexibility in thinking styles. Little t individuals, in contrast, appear overwhelmed by high levels of stimulation, desiring routine, simplicity, certainty, and predictability.

Findings from previously conducted studies and theoretical papers on Type T Personality which have direct relevance for the present examination include implications of this theory for the classroom and research directed at cognitive processing. Classroom implications of Type T suggest dramatically different environments for Big T and Little t students. For Big T students, all aspects of the learning environment should be highly stimulating, while the learning environment of Little t students should be highly structured and



low in stimulation. Big T students will most likely be very resistant to regimented or rote learning, they will be much more responsive in a learning environment with variety and stimulation. Little t students, on the other hand, prefer a highly structured environment. They feel uncomfortable or anxious in a "high-stimulation" environment (Farley, 1986). Suggestions for adaptive education for Big T and Little t students are provided by Farley (1986, p. 50) in Table 1.

Research conducted by Farley (1985) also suggests differences between Big T and Little t students in cognitive processing. Farley proposed that Big T's are more transmutative thinkers, that is, they are more able to transform or transmute one cognitive process into another with ease and flexibility. Little t's, in contrast, are more disassociative in thinking, less able to readily transform one way of seeing things into another. It was hypothesized that Big T individuals demonstrate more interrelatedness of cognitive processing and have a more highly related associative net in memory. Little t individuals, on the other hand, were hypothesized to have lesser interrelatedness of cognitive processing and less interrelated associative nets in memory.

Investigators who have examined the link between personality and learning strategies have found relationships between personality and the following factors:

- 1) Study environment management.
Extroverts chose study locations that provided high levels of external stimulation (Campbell & Hawley, 1982);
- 2) Study methods and stability.
Introversions related to study methods and stability (Entwistle & Entwistle, 1970);
- 3) Academic performance.
Performance on academic tasks presumed influenced by personality factors via the study process, including the use of learning strategies (Biggs, 1978);

4) Strategy choices.

Perceptive types did not prefer a structured learning environment, but rather preferred a noisy environment where they could manipulate objects. Introverts preferred learning through lecture. Extroverts did not prefer to learn or study independently (Fourqurean, Meisgeier, & Swank, 1990). Feeling types were better at verbal based strategies and at concepts related to people. Perceivers were better at tasks requiring cognitive control and attention. Thinking types demonstrated a greater rate of logical thinking (Ferguson & Fletcher, 1987).

Introverts use more independent and self-management strategies (Ehrman & Oxford, 1988).

Judgers reported more use of study strategies and attitudes than perceivers (Robyak & Patton, 1977).

This literature provides a background rationale for the four research questions that are addressed in this study:

1. Do student personality differences in stimulation-seeking/reducing or risk-taking/reducing correlate with differences in student use of learning strategies.
2. Are individual differences in learning strategy use related to individual differences in academic achievement?
3. Do differences exist in student use of learning strategies for a particular course versus courses in general?
4. Do gender differences exist in the use of learning strategies?

To evaluate these questions, subjects were asked to complete the T-17 Scale (reported by Farley) and the Motivated Strategies for Learning Questionnaire (MSLQ), developed by a team of researchers at the University of Michigan to assess motivation and the use of learning strategies. The T-17 Scale contains 17 questions designed to assess thrill-seeking, stimulation-seeking, and risk-taking. The MSLQ, originally consisting of one form, was adapted to add a Form B. The original form, for the present study labeled Form A, was designed to measure student use of learning strategies as

they pertain to particular courses students were enrolled in. The adapted form, Form B, was designed to measure the use of learning strategies as they pertained to students' courses *in general*. Because Type T is considered a personality trait (Farley, 1986, 1991) and traits are long-term stable phenomena, it was necessary to look at long-term strategy use as well as the short-term for which the MSLQ was originally designed. A complete listing of MSLQ sub-scales is provided in Table 2. In addition, subjects were asked to report their age, gender, and grade point averages. Grade point averages were used to represent academic achievement. The subjects involved in the analyses included 256 undergraduate students enrolled in an introductory educational psychology course at a large midwestern university.

To evaluate the relationship between Type T Personality and the use of learning strategies, primary and secondary analyses were examined. The primary analysis consisted of two principle components factor analyses with varimax rotations. The first factor analysis was computed to address the T, SEX, GPA, and 29 MSLQ subscale variables associated with Form A. The second factor analysis computed was to determine the relationship of the T, SEX, GPA and 29 MSLQ subscale variables associated with Form B. With Form A, eight factors with eigenvalues greater than one emerged from the factor analysis; with Form B, nine factors emerged from the analysis with eigenvalues greater than one. Of primary concern was the loading of the T variable on factors emerging from the analyses.

For the secondary analysis, a principle components factor analysis with varimax rotation was first computed using only the 29 MSLQ subscale averages (both forms). This analysis resulted in the arrangement of the 29 MSLQ subscales into a smaller number of factors. The factor analysis resulted in

the identification of seven factors with eigenvalues greater than one. Four regressions were then run (male, female, Form A, and Form B) in order to interpret how T predicted the MSLQ factors.

The results of the primary analysis suggested that there are differences in learning strategy use based on personality type. Big T students both in the short-term (this course) and in the long-term (all courses) were more likely to use high-level cognitive strategies. These strategies were considered to be relatively high-level because they included critical thinking, original thinking, elaboration, and metacognitive strategies. In contrast, in the short-term, Little t was related to external attribution, test anxiety, and selection strategies, considered relatively low-level strategies. (See Table 3.) The secondary analysis also supported these findings. Again, in both the short- and long-terms, Big T was related to the use of high-level cognitive strategies. (See Table 4.)

The results of this study did not indicate that Big T and Little t use of learning strategies was related to academic achievement. At no point did Type T and GPA load together, nor did correlational analysis reach significance. This may be a result of the sample selected for this study. Because all subjects are students at a large, fairly selective university, it is necessary for them to carry a certain minimum GPA in order to be admitted into the programs of study they desire.

The results of the primary analysis did suggest that differences exist in strategy use in the short-term versus the long-term. While in both the short- and long-terms, Big T was related to the use of high-level cognitive strategies and intrinsic motivation, Little t was related to external attribution and test-anxiety in the short-term only. In the secondary

analysis, Big T was related to the use of high-level cognitive strategies in the short- and long-terms. The most interesting differences found in the secondary analysis was that Little t loaded on Factor 2, labeled as lower-level cognitive strategies in the *long-term only*. The strategies which loaded with Little t on Factor 2 included rehearsal strategies, surface processing, environment management, and extrinsic goal orientation. One possibility for this is that it is the result of the long-term, stable personality trait of Little t emerging when questions are also related to long-term, over course, strategy use.

Finally, the results of this study provided a more clear picture of females than males. In the primary factor analysis, a factor emerged providing information relating to femaleness. In both the long- and short-terms, female was related to Little t, time and study management, selection strategies and help-seeking not seen as a threat to self esteem. Maleness did not load as a factor or with T in the primary analysis. The secondary analysis also provided a more clear picture of female/T use of strategies than male/T use. In the regression analysis, Factor 1, high-level cognitive strategies, entered for both female and male Big T's, In addition, Factor 5, internal attribution, entered for Big T females, and Factor T, external attribution, entered for Little t females. No relationship was found between males and attribution.

The present study helps to identify a "learning strategy profile" for Big T and Little t students (summarized in Table 5). The profile appears stronger in long-term, multi-course strategy use than in short-term, one-course strategy use. By examining traits found primarily in long-term, multi-course strategy use, we see Big T students emphasize high-level

cognitive strategies, including flexible thinking, original thinking, critical thinking, and are intrinsically motivated. Further studies may strengthen the finding that Little t students, in contrast, use more lower-level cognitive strategies including rehearsal, surface procession, and environment management, and are extrinsically motivated.

The establishment of learning strategy profiles helps to draw implications for educational practice. For students to be successful and effective in the use of learning strategies, they must know when, as well as how, to use them. Teachers, in turn, must be aware of the strategies students are most likely to use and the extent to which the strategies will meet the demands of the learning criteria. This examination of Type T Personality and the use of learning strategies suggests a learning strategy profile which specifically addresses the match between strategy use and individual learners. This information may enhance the ability of educators to effectively meet the needs of all students in their classrooms.

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Table 1

Adaptive Education for Big T and Small t Students¹

Treatment	Big T	Small t
Instruction	Inductive Instruction	Deductive Instruction
	Discovery Learning	Expository Learning
	Fast Pace	Slow Pace
	Variable Pace	Fixed Pace
	Discussion Format	Lecture Format
	Student-Centered	Teacher-Centered
	Color Media	Black and White Media
	Environment	Open Space
High Variety		Low Variety
Complexity		Simplicity
Bright Colors		Soft Colors
High Activity		Low Activity
Noisy		Quiet
Teacher	Type T	Type t
	Dramatic	Undramatic
	Lively	Less Lively
	Extrovert	Introvert

¹From Farley, F. (1986). The big T in personality. *Psychology Today*, pp. 45-52.

Table 2

LISTING OF MSLQ SUB-SCALES

MOTIVATION SCALES

- 1 Intrinsic goal orientation
- 2 Extrinsic goal orientation
- 3 Task value-interest
- 4 Task value-importance
- 5 Task value-utility
- 6 Internal-success control belief
- 7 Internal-failure control belief
- 8 External-success control belief
- 9 External-failure control belief
- 10 Perceived competence as a student
- 11 Self-efficacy for learning
- 12 Expectancy for success
- 13 Test anxiety-cognitive interference
- 14 Test anxiety-emotionality

COGNITIVE SCALES

- 15 Rehearsal strategies
- 16 Selection strategies

Table 2 (continued)

- 17 Organization strategies
- 18 Elaboration strategies
- 19 Metacognition-planning
- 20 Metacognition-monitoring
- 21 Metacognition-regulating
- 22 Surface processing
- 23 Critical thinking
- 24 Original thinking

RESOURCE MANAGEMENT SCALES

- 25 Time and study management
- 26 Study environment management
- 27 Effort management
- 28 Help-seeking behavior
- 29 Help-seeking threat to self-esteem

Table 3

Factors on Which Type T Loaded in Primary Analysis: Principal Components
Factor Analysis with Varimax Rotation

FORM A		FORM B	
Associated Variables	Loading	Associated Variables	Loading
FACTOR 1		FACTOR 1	
MSLQ23	.848	MSLQ19	.800
MSLQ19	.776	MSLQ18	.800
MSLQ24	.745	MSLQ24	.777
MSLQ18	.669	MSLQ23	.748
MSLQ1	.610	MSLQ17	.716
MSLQ21	.590	MSLQ20	.662
MSLQ20	.533	MSLQ21	.642
MSLQ17	.525	MSLQ1	.481
MSLQ27	.484	MSLQ26	.414
MSLQ26	.440	MSLQ10	.392
MSLQ11	.385	T	.360
MSLQ10	.376	MSLQ27	.315
MSLQ12	.314		
MSLQ4	.307		
T	.310		

Table 3 (continued)

FORM A		FORM B	
Associated Variables	Loading	Associated Variables	Loading
FACTOR 4			
MSLQ8	.754		
MSLQ13	.598		
MSLQ9	.575		
MSLQ16	-.625		
MSLQ14	.390		
T	-.382		
MSLQ29	.307		
FACTOR 6		FACTOR 5	
SEX	.783	SEX	.705
T	-.583	T	-.560
MSLQ29	-.492	MSLQ29	-.433
MSLQ25	.460	MSLQ25	.402
MSLQ17	.433	MSLQ11	-.402
		MSLQ16	-.387

Table 4

Factors on Which Type T Loaded in Secondary Analysis: Principal Components
Factor Analysis with Varimax Rotation

Associated Variables	Loading	Associated Variables	Loading
FACTOR 1		FACTOR 2	
MSLQ23	.817	MSLQ15	.719
MSLQ19	.791	MSLQ2	.710
MSLQ24	.777	MSLQ22	.675
MSLQ18	.748	MSLQ26	.544
MSLQ17	.645	MSLQ27	.523
MSLQ21	.599	MSLQ25	.498
MSLQ20	.591	MSLQ14	.432
MSLQ1	.556	MSLQ12	.351
MSLQ26	.441	MSLQ17	.333
MSLQ10	.401		
MSLQ27	.396		
MSLQ11	.329		
MSLQ4	.316		

Table 4 (continued)

Associated Variables	Loading	Associated Variables	Loading
FACTOR 3		FACTOR 4	
MSLQ3	.847	MSLQ11	.672
MSLQ5	.845	MSLQ12	.645
MSLQ4	.672	MSLQ10	.593
MSLQ1	.493	MSLQ16	.579
MSLQ10	.393	MSLQ14	-.527
MSLQ25	.373	MSLQ13	-.497
MSLQ12	.321	MSLQ20	.327
FACTOR 5		FACTOR 6	
MSLQ7	.843	MSLQ8	.798
MSLQ6	.732	MSLQ9	.540
MSLQ9	-.504	MSLQ13	.426
		MSLQ2	.420
FACTOR 7			
MSLQ29	.828		
MSLQ28	-.601		

Table 5
Learning Strategy Profiles

Big T	Little t
Use higher level cognitive strategies	Use lower level cognitive strategies
Original thinking	Surface processing
Critical thinking	Rehearsal strategies
Metacognition	Environment management
Intrinsic goal orientation	External attribution
High self-efficacy for learning	Test anxiety
Help-seeking behavior seen as threat to self esteem	
Female Big T	Female Little t
Use higher level cognitive strategies	Use environment management strategies
Use selection strategies	Do not use selection strategies
Higher self-efficacy for learning	Lower self-efficacy for learning
	Help-seeking not seen as threat to self-esteem

Table 5 (continued)

Male Big T	Male Little t
Use higher level cognitive strategies	No information provided in this study about Male Little t strategy use
No information provided in this study about male attribution	