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Relationships Among Maternal Achievement Motive and Anxiety and Children's Academic Performance and Anxiety Levels

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ABSTRACT

Maternal achievement motivation and anxiety were evaluated in relation to fourth graders' performance on the English Language Arts Exam (ELA) and the children's anxiety. Forty-eight mother-child dyads were tested, with mothers completing the Motivational Trait Questionnaire (MTQ), the State Trait Anxiety Inventory trait anxiety scale (STAI-C2) and a demographics survey. Children took a practice New York State English Language Arts Exam and the Revised Children's Manifest Anxiety Scale (RCMAS). Positive correlations were expected among maternal MTQ, maternal STAI-C2 and children's RCMAS scores. Negative correlations were expected for above variables with ELA scores. Data support the relationship between maternal MTQ and STAI-C2. ELA scores were positively correlated with MTQ scores and no correlations were found among STAI-C2, RCMAS, and ELA scores. A post-hoc analysis among STAI-C2 and subscale scores of the RCMAS suggests that a closer examination of the relationships amongst the variables of maternal anxiety, child anxiety and ELA performance is warranted. As much relies on the interpretation of ELA scores, further research regarding influences on child performance as well as the usefulness of the ELA in general are necessary.

Relationships Among Maternal Achievement Motive and Anxiety and Children's Academic Performance and Anxiety Levels

Many psychologists have been interested in finding out what factors produce individual differences in a child's scholastic achievement. There is a growing body of research that indicates that personality factors of the parent may ultimately influence the child's performance both in school and on many nationally administered and norm-based exams. Achievement motivation and anxiety of the parent are now being looked at as possible factors that influence a child's academic ability. From the author's experience in working at Kumon Learning Centers, it became evident that mothers often seem to exhibit considerable anxiety with regard to their child's achievement in school. Most of these mothers were career women and appeared to be women who would rank high in measures of achievement motivation. Thus it appeared to the author that the variables of achievement motive and anxiety are related. The present study sought to examine the relationships among mother's achievement motivation and trait anxiety levels and children's anxiety and performance on the New York State English Language Arts (ELA) Exam.

At the turn of the nineteenth century there began to be many new forms of family relationships. One major change was the bond between a mother and her son. As opposed to how their relationship was in the eighteenth century, mothers were now encouraged to keep close ties with their sons for as long as they lived and were supposed to shape their sons' moral character. It was because of these changes that the relationship between a mother and son became more "intense and entangled" than the mother-son bonds of past centuries. Once the son began to enter a world where he had to be independent, his mother gave him a source of self-

confidence and moral strength. However, there was also a tendency to regress that produced difficult struggles for complete autonomy (Rotundo, 1995).

This struggle to break away from a symbiotic bond is also prevalent in the mother-daughter relationship. Some research even finds that the mother-child bond is even stronger in the mother-daughter dyad. Mahler, Pine, and Bergman (1975) feel that a boy has the ability to go through psychological differentiation and become autonomous, while the girl always holds on to the closeness to her mother. It is because of this that issues of dependency, attachment, and a lack of separateness from the mother emerge. As Parsons (1955) points out, a boy who is three-to-five-years-old must shift his gender identity from his mother onto the father. The boy must no longer be dependent on the mother. On the other hand, the girl is encouraged to hold on to this dependence to further adopt her gender identity and become more like her mother (in Cohler & Grunebaum, 1981). Crandall, Dewey, Katkovsky, and Preston (1964) also found that parent's attitudes and behaviors were associated with their daughters' performances on scholastic-achievement tests much more often than those with their sons. In addition, girls' achievement strivings were directly related to their evident yearning for approval from adults, while the boys' achievement behaviors were more autonomously developed.

Given that different researchers have reported strong symbiotic bonds in both the mother-son dyad and the mother-daughter dyad, the current study sought to investigate the relationship between maternal personality and child performance with respect to gender. One way to look at the mother child relationship is with regard to a mother's achievement motivation and the effect it has on her child's performance in school.

Achievement Motive

In the 1950's and 1960's a prominent theme in motivation research was Achievement motivation. This learned drive was first experimentally studied by McClelland, Atkinson, Clark and Lowell (1976, original publication date 1953), and Atkinson (1964) furthered this experimental tradition with a theory of motivation incorporating the achievement motive that was the main topic of motivation research throughout the 1960's. Achievement was defined as "the result of an emotional conflict between striving for success and avoiding failure" (Covington, 2000, p 173). Achievement motivation was looked at as a personality trait that distinguished persons based on their tendency or aspiration to do things well and compete against a standard of excellence (Wigfield & Eccles, 2002). As achievement motivation became the focus of a large body of research in personality studies, a means of measuring achievement motivation became a focal point for researchers investigating its prevalence in the population.

The Thematic Apperception Test (TAT) was created in 1935 by C.D. Morgan and Henry Murray. When using the TAT to measure motivation a subject looks at a group of pictures and is told to make up stories based on what they see. Because these pictures are so ambiguous, the subject tends to project his or her own conflicts and fears into the stories he/she creates. The systems that are used to score this test are time consuming and there is little evidence that the test makes a clinically significant contribution. Due to the fact that the clinicians have to interpret the stories the subjects tell, which is a highly subjective procedure, there is much room for error (Carson, Butcher & Mineka, 2000).

In 1997 Eric D. Heggestad and Ruth Kanfer developed the Motivational Trait Questionnaire (MTQ). This questionnaire was created to distinguish the differences between a person's motivational traits and motivational skills (Heggestad & Kanfer, 2000). A short form of

the MTQ was soon developed to measure an individual's personal mastery, competitive excellence, and motivation related to anxiety (Kanfer & Ackerman, 2000). This method of measuring a person's achievement motivation is much faster than the TAT and has very high validity and reliability because scoring is based on an objective procedure. Results of the MTQ are thus, not open to subjective interpretation, making the MTQ faster, easier and a more reliable method for estimating the level of achievement motivation of a group of individuals.

In 1985, B.S. Bloom found that children must have an extremely high level of motivation and support in order to develop exceptional expertise in school (in Wong & Csikszentmihalyi, 1991). Many studies have shown that people with outstanding accomplishments have a special attraction and participation in their own work (Barron, 1969; Bloom & Sosniak, 1981; see Renzulli, 1986, for a review; in Wong & Csikszentmihalyi, 1991). Renzulli (1986) named this characteristic "task commitment" (in Wong & Csikszentmihalyi, 1991). In their analysis of gifted people Feldhausen (1986) and Haensly, Reynolds, and Nash (1986) affirmed how important motivation and commitment are (in Wong & Csikszentmihalyi, 1991). Numerous studies have shown a positive relationship between scholastic performance and achievement motivation (Gough, 1964a, Gough & Fink, 1964; Harper, 1975; Keimowitz & Ansbacher, 1960; Mason, Adams, & Blood, 1966)

d'Heurle, Mellinger, and Haggard, in 1959, found, in their study of personality, intellectual, and achievement patterns of gifted third grade children that there is a positive relationship between parental pressures toward achievement and achievement test scores (in Callard, 1979). In other words, parental achievement leads to higher achievement in their children. In 1962, Argyle and Robinson looked at the relationship between a child's achievement motives and the achievement orientations of his or her parents. Their research

showed that high achievement scores from children had a positive correlation with parental demands (in Callard, 1979). In other words, the more that a parent expected his/her child to do well in school, the greater his/her level of academic achievement.

Trait Anxiety

In addition to research on the influence of parent achievement motivation on a child's performance, other studies have investigated the influence of parents' anxiety levels on academic performance of children. A person can be anxious in two different ways. S/he can either possess state anxiety or trait anxiety. State anxiety is a temporary emotional state or condition that varies in strength and fluctuates over time (Spielberger, 1972, 1980; Spielberger & Vagg, 1995; in Peleg-Popko, 2002). A person with trait anxiety is an anxious person all the time. It is a condition that does not have a time limit. As Spielberger (1966a, 1972a) points out, it is a stable personality trait (in Levitt, 1980).

Hedl, (1972), Sarason (1975), Spiegel (1972) (in Hancock, 2001), and Trent & Maxwell (1980) saw test anxiety as a trait that makes people react to frightening situations with sometimes debilitating psychological, physiological, and behavioral responses. This would lead us to infer that someone high in trait anxiety would be high in test anxiety. There is a good deal of evidence that states that test anxiety negatively effects test performance. One example is Hembree's research in 1988 in which he found that test anxiety regularly causes poor performance (in Hancock, 2001). In 1984, Hill and Wigfield reported studies with correlations up to -.60 between test anxiety and achievement (in Hancock, 2001). This makes the suggestion that anxiety and achievement share significant variance. Test anxious children are more likely to obtain poorer scores, repeat a grade, and perform more poorly on tasks that require new learning and on tasks given in an evaluative way (Beidel et al., 1994 in Peleg-Popko, 2001 and De Rosa

and Patalano, 1991). Test anxiety has also been related to low self-esteem, dependency, and passivity which all have a negative effect on academic achievement (Beidel and Turner, 1988; Zeidner, 1998; in Peleg-Popko, 2001). Thus, research has shown a relationship between achievement motivation and anxiety. While there was no direct examination of parental achievement motive combined with trait anxiety and their influence on test performance in children, the above studies suggest a potential influence which the current study sought to investigate.

Anxiety in Children

Not only is it important to see if a relationship exists between a mother's state anxiety and her child's test scores, but it is also pertinent to look at the relationship between a child's anxiety and his/her academic success. Scholwinski and Reynolds (1985) tested a child's anxiety with the Revised Children's Manifest Anxiety Scale (RCMAS) and reported that children with lower levels of anxiety had a higher IQ than those with high levels of anxiety. Research has gone on to look and see if there is a relationship between a child's ability to concentrate and his/her anxiety level. Perrin and Last (1992) found that boys with attention-deficit hyperactivity disorder (ADHD) had equal anxiety levels to boys with an anxiety disorder. It was also found that ADHD children had an elevated level of "concentration/social worry" on the RCMAS (Lufi and Parish-Plass, 1995). In addition, anxious children have increasing numbers of somatic complaints (Bernstein, Massie, Thuras, Perwien, Borchards and Crosby, 1997; Beidel, Christ, Long, 1991). In 1999, Egger, Costello, Erkanli, and Angold found that, for girls, stomachaches and headaches together and musculoskeletal pains alone were associated with anxiety disorders. However, for boys, stomachaches were associated with oppositional defiant disorder and ADHD. Thus, research has shown a negative correlation between anxiety and academic achievement, as

well as negative correlations between anxiety and concentration ability, attention ability and concentration/social worry, and anxiety and somatic complaints. Thus, it would be reasonable to examine the influence of the child's anxiety on performance on the ELA. It would also be interesting to investigate the relationship between maternal anxiety and child's anxiety.

Population of Interest

Mothers who are over protective, encourage dependency, and buffer autonomy, tend to have children who are anxious (Bowlby, 1980; see also Sullivan's 1953 pioneering work; in Peleg-Popko, 2001). In 1988 Spielberger linked the differences in a child's predisposition to anxiety and amount of trait anxiety to a parent's punishment, criticism, or disapproval (Peleg-Popko, 2001). Family interaction influences both a child's trait anxiety and his or her school performance (Peleg-Popko, 2001). It would be reasonable to suspect that children whose parents place them in special help programs would be children whose parents are high in achievement motivation and anxiety. This would then be reflected in poorer performance on the part of the children.

The Kumon Institute of Education is a math and reading after school program that is designed to help children improve on their math and reading skills as well as excel in these academic subjects. Kumon believes that every child can flourish academically with both a suitable learning method and a correct learning pace. This Japanese learning program was invented in 1958 by a Mr. Toru Kumon who believed that every child possesses infinite potential and the inborn desire and capability to learn. As soon as a child no longer feels that he or she has to keep up with his peers he can begin to make remarkable progress. A child must develop a secure foundation in both math and reading. In order to establish this, the Kumon method of learning starts a child at a comfortable starting point. This is when a child is able to answer

every problem Kumon gives them correctly during a given amount of time. This increases both the child's self confidence and allows the student to experience success right from the beginning. It is through independent learning that a student can advance according to his or her own individual ability rather than age level or grade. To achieve this, Kumon presents math and reading concepts in small increments, providing sufficient practice for each step. Through repeated practice, every student is able to master his/her skills before moving on to higher levels of study. The goal of Kumon is to make high school study easy and therefore the Kumon student is always encouraged to reach an advanced level of study. It can be hypothesized that a mother with high achievement motivation would send her child to Kumon since she would want her child to excel in his or her education. These mothers may also be anxious about their children doing well and therefore put their children in an after school program. Mothers' anxiety and desire to foster achievement in their children may also be leading to increased anxiety in children.

Fourth grade girls and boys in Kumon recently had to take the New York State English Language Arts (ELA) Exam, which is one reason why they may have initially joined an extra help program such as Kumon. This test assesses students' comprehension strategies as well as their ability to combine information from an assortment of sources. Students are required to read and analyze a broad range of genres, show comprehensive proficiency in listening (they must take notes on passages read out loud by their teacher), and create short and long answers to a variety of questions. Children answer multiple choice, short answer, and extended response questions. Some of the questions assess the literal or recall level of reading performance while others require higher order reading skills. Students receive either a 1 (lowest score), 2, 3, or 4 (highest score) on this exam. The ELA is a wonderful example of an exam that tests a child's

comprehension of the English language. A child's score on the ELA could have a negative relationship with his mother's achievement motivation and anxiety.

The present study was conducted to further study the effects of a mother's achievement motivation and anxiety on her child's academic success. The author initially conducted a pilot study which, although no significant correlations were found, served as a springboard for a more expansive and detailed investigation of the above variables (see appendix A for a copy of the pilot study). Expanding our knowledge of parent behaviors that foster improved academics would be beneficial to society in general. It was hypothesized that mothers who are high in achievement motivation, as measured by the Motivational Trait Questionnaire (MTQ), would also be high in trait anxiety, as measured by the State Trait Anxiety Inventory, form C-2 (STAI-C2). In other words, there would be a positive correlation between achievement motivation levels and trait anxiety levels for mothers surveyed. It was further postulated for the current study that a mother who has both high achievement motivation, as measured by the MTQ and high anxiety, as measured by the STAI-C2, would have a negative correlation on her child's New York State English Language Arts (ELA) exam scores. In other words, a negative correlation between maternal achievement motivation and child's ELA scores and maternal anxiety levels and child's ELA scores, was predicted. Demographic variables were examined as a research question, with the intent of looking for potential relationships between these variables and children's ELA performance. Children's anxiety was measured in a follow-up to the initial study, in response to questions raised by analysis of initial results

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Method

Participants

For this study 48 mothers and their 4th grade children from 5 New York Kumon Math and Reading centers in Elmhurst, Great Neck, East Flatbush, New City, and Nanuet were tested. Participants were from a variety of racial/ethnic and socioeconomic backgrounds.

Instruments

All mothers who volunteered signed a letter of consent. [See Appendix B] Mothers were given the State Trait Anxiety Inventory (STAI-C2) developed by Spielberger (1969), the Motivational Trait Questionnaire (MTQ) developed by Heggestad and Kanfer (2000) that can be obtained through Heggestad upon request, and a brief demographics form. Children were given the 2002 version of the New York State English Language Arts (ELA) Assessment as well as The Revised Children's Manifest Anxiety Scale (RCMAS) (Reynolds & Richmond, 1978).

The State-Trait Anxiety Inventory, trait form, measured a mother's anxiety level as a personality trait. The questions on this test used a Likert scale and were scored by adding up the Likert ratings. A sample item from this test asked individuals if they feel they worry too much. The subject would respond by checking "hardly ever", "sometimes", or "often". Spielberger reports reliability coefficients ranging from .65 to .86. With regard to validity, correlations are presented between the STAI-C2 and other measures of trait-anxiety: the Taylor Manifest Anxiety Scale, the IPAT Anxiety Scale, and the Multiple Affect Adjective Check List. These correlations are .80, .75, and .52, respectively. [See Appendix C for a copy of the STAI-C2.]

The MTQ measured a mother's personal mastery, competitive excellence, and motivation related to anxiety. This test also used a Likert scale and was scored by adding up the Likert ratings of the questions that corresponded with each category. A sample of a question: "When I

become interested in something, I try to learn as much about it as I can." The person would respond by writing the number one if it is very untrue of them, the number two if it is untrue of them, three if it is somewhat untrue of them, four if it is somewhat true of them, five if it is true of them, and six if it is very true of them. An example of a question looking at competitive excellence would be: "It really upsets me when someone does something better than I do." A sample question looking at motivation anxiety would be: "Before beginning an important project, I think of the consequences of failing." All MTQ questions would be answered using the same Likert scale as the one used in the personal mastery sample question. Heggestad and Kanfer report a test-retest reliability of .81 to .96 and a Cronbach alpha of .82 to .90 indicating a high level of internal consistency. [See Appendix D for a copy of the MTQ- short form.]

The demographics form asked for the mother's sex, age, race, level of education, reason for joining Kumon, child's ELA exam score and average in his/her English class, number of children she has, birth order of the child attending Kumon, and the amount of time, if any, that mothers spend doing school work with their children. The questions were either multiple choice or open ended. [See Appendix E for a copy of the demographics form.]

The RCMAS looks at a child's anxiety level by having the child answer "yes" or "no" to 37 questions that ask about a feeling or action that reflects an aspect of anxiety. The subscales of this survey looked at the child's physiological signs of anxiety, worry/oversensitivity factor, and concentration anxiety factor. This test is scored by adding up all the "yes" answers for each scale. An example of a question looking at the physiological factor is "Often I feel sick in the stomach". An example of the worry/oversensitivity factor is "I worry a lot of the time" and an example of the concentration anxiety factor is "It is hard for me to keep my mind on my

schoolwork". Reynolds and Richmond report a Cronbach alpha of .78 indicating a high level of internal consistency. Concurrent validity estimates range from r = .78 to .85. [See Appendix F]

Procedure

At various times during the month of October, on two days within the same week, a practice ELA assessment was administered at each of the participating Kumon centers. Forty-eight mothers were each asked to sign a standard written letter of consent to participate in this experiment. Once the consent forms were filled out each mother/child dyad was given a participant code to keep track of which mother belonged to which child. Surveys were then given out to each mother to fill out and bring back on the day of the assessment. During the first day of testing the researcher administered part 1 (45 minutes) and half of part 2 (30 minutes) of the assessment. On the second day of testing the second half of part 2 (30 minutes) and part 3 (60 minutes) of the ELA were administered and at the end of the assessment each child received a pencil and bookmark to commend them for their excellent effort.

Shortly after test dates the surveys and exams were scored. The Director of Reading, English, and ESL Education for Nassau County scored all of the assessments. She oversees elementary literacy instruction, which includes preparation for all literacy assessments, including the Grade 4 ELA. She has served as a scoring leader (training between 40 and 200 people to score the ELA) for Nassau BOCES, Eastern Suffolk BOCES, Uniondale Schools, and Patchogue-Medford Schools since the first year the test was given. The author was trained in scoring procedures and then assisted the above Director and served as a second rater on all assessments. Each child then received a score for each section of the exam and a total score. A score was given for the multiple-choice section, listening/writing section, reading/writing section, independent writing section, and writing mechanics section. Each child received a

certificate congratulating him/her for participating in the study and for a job well done. A form with a request for future contact information was also given to each participating mother. One month after the administration of the ELA assessment, each Kumon instructor gave the RCMAS to the participating students with their code number on the top of the form when they returned to the center. The results of the surveys were then compared to each child's raw ELA score.

Results

Means and SDs for the MTQ, STAI-C2, ELA, and RCMAS and their subscales are presented in Table 1, as well as the number of participants for each of these samples. Means and SDs for current subjects appeared consistent with past results for each scale used.

Table 1

Means and SD's for MTQ, STAI-C2, RCMAS and ELA.

SCALES/SUBSCALES	$\overline{X}$	SD
ELA* N = 48	28.12	6.23
ELAMC	20.35	4.96
ELALW	2.19	.64
ELARW	1.73	.57
ELAIW	1.79	.90
ELAWM	2.06	.63
MTQ N = 48	187.13	25.98
MTQPMD	37.31	5.79
MTQPMM	35.81	6.01
MTQCEO	19.08	5.23

Table 1 Continued

MTQMAW	36.85	8.80
MTQMAE	32.10	6.76
STAI-C2 N = 48	35.02	7.11
TOTANX N=40	8.38	5.10
WO	4.03	2.73
PF	2.63	1.94
CA	1.73	1.45

*Note – Key to scale acronyms

ELA SUBSCALES:
ELAMC: Multiple Choice
ELALW= Listening Writing
ELARW= Reading Writing
ELAIW= Independent Writing
ELAWM= Writing Mechanics

MTQ SUBSCALES:
MTQMAE: Motivation Anxiety: Emotionality
MTQCEC: Competitive Excellence: Competition Seeking
MTQMAW: Motivation Anxiety: Worry
MTQCEO: Competitive Excellence: Other Referenced Goals
MTQPMM: Personal Mastery: Mastery Goals
MTQPMD: Personal Mastery: Desire to Learn

TOTANX= Total score on the RCMAS
WO= Worry/Oversensitivity Factor
PF= Physiological Factor
CA= Concentration Anxiety Factor

Hypothesis one predicted that a positive correlation would be found between a mother's achievement motivation and her trait anxiety. This hypothesis was supported, $r(48) = .332$, $p < .05$. Thus, the greater the level of achievement motivation a mother has, the more trait anxiety she will have. In addition, mothers for this sample who were low in achievement motivation were also likely to be lower in trait anxiety. This is represented in Table 2.

Table 2

Pearson correlation values for scale and subscale STAI-C2, MTQ, and ELA tests.

SCALES/SUBSCALES	STAI-C2	ELA	MTQ
ELA	-.055		.341*
ELAMC	-.052		.324*
ELALW	.097		.200
ELARW	-.113		.212
ELAIW	.014		.171
ELAWM	-.147		.186
MTQ	.332*	.341*	
MTQMAE	.597*	.216	
MTQCEC	-.020	.005	
MTQMAW	.342*	.395*	
MTQCEO	.159	.155	
MTQPMM	-.020	.260	
MTQPMD	.076	.192	

* indicates significance at p≤ .05

** Notes:

ELA SUBSCALES:	MTQ SUBSCALES:
ELAMC: Multiple Choice	MTQMAE: Motivation Anxiety: Emotionality
ELALW= Listening Writing	MTQCEC: Competitive Excellence: Competition Seeking
ELARW= Reading Writing	MTQMAW: Motivation Anxiety: Worry
ELAIW= Independent Writing	MTQCEO: Competitive Excellence: Other Referenced Goals
ELAWM= Writing Mechanics	MTQPMM: Personal Mastery: Mastery Goals
	MTQPMD: Personal Mastery: Desire to Learn

The first part of hypothesis two stated that there would be a negative correlation between a mother's achievement motivation and her child's ELA score, i.e., the more achievement

motivated the mother is the lower her child's ELA score would be. This hypothesis was not supported, $r(48) = .341$, $p < .05$. In fact, results indicate that the more motivated the mother was, the better her child will do on the ELA assessment. Mothers who were low in achievement motive were more likely to have sons who scored lower on the ELA (see Table 2).

No correlation was found between STAI-C2 scores and ELA scores. Therefore, the second part of hypothesis two, which stated that there would be a negative correlation between mothers' STAI-C2 scores and their children's ELA scores, was also not supported, $r(48) = -.055$, $p > .05$. The mother's trait anxiety did not seem to be related to her child's ELA score (see Table 2).

In an effort to better understand the lack of significance for hypothesis 2, subscales for the MTQ were correlated with subscales for the ELA. As seen in table 2, there is a positive correlation between a mother's achievement motivation and child's score on the multiple choice part of the ELA exam, $r(48) = .324$, $p < .05$. There is also a positive correlation between a mother's trait anxiety and her motivation anxiety in regards to emotionality, $r(48) = .597$, $p < .05$, as well as a positive correlation between mother's trait anxiety motivation anxiety in regards to worry, $r(48) = .342$, $p < .05$. In addition, there is a positive correlation between a mother's motivation anxiety in regards to worry, and her child's ELA score, $r(48) = .395$, $p < .05$.

Table 3

Pearson correlation values for MTQ subscales and ELA subscales.

	MTQMAE	MTQCEC	MTQMAW	MTQCEO	MTQPMM	MTQPMD
ELAMC	.210	.029	.369*	.151	.234	.182
ELALW	.319*	-.227	.242	.067	.092	.121
ELARW	-.047	-.028	.291*	.106	.244	.167
ELAIW	.035	.022	.182	.048	.229	.103
ELAWM	.158	.043	.223	.112	.087	.047

* indicates significance at p≤ .05
** Notes:

ELA SUBSCALES:	MTQ SUBSCALES:
ELAMC: Multiple Choice	MTQMAE: Motivation Anxiety: Emotionality
ELALW= Listening Writing	MTQCEC: Competitive Excellence: Competition Seeking
ELARW= Reading Writing	MTQMAW: Motivation Anxiety: Worry
ELAIW= Independent Writing	MTQCEO: Competitive Excellence: Other Referenced Goals
ELAWM= Writing Mechanics	MTQPMM: Personal Mastery: Mastery Goals
	MTQPMD: Personal Mastery: Desire to Learn

As seen in Table 3, there is a positive correlation between a mother's motivation anxiety in regards to emotionality and her child's score on the Listening Writing section of the ELA exam, $r(48) = .319$, $p < .05$. There is also a positive correlation between a mother's motivation anxiety in regards to worry and her child's score on the Multiple Choice section of the ELA exam, $r(48) = .369$, $p < .05$, as well as a positive correlation between a mother's motivation anxiety in regards to worry and her child's score on the Reading -Writing section of the ELA exam, $r(48) = .291$, $p < .05$.

Table 4

Pearson correlation values for STAI-C2, ELA, MTQ, WO, PF, and CA, with total children's anxiety and anxiety subscales.

SCALE/SUBSCALE	STAI-C2	ELA	MTQ	WO	PF	CA
TOTANX	.240	-.241	.101			
WO	.099	-.154	.000		.586*	.461*
PF	.349*	-.167	.187			.499*
CA	.192	-.334*	.107			

* indicates significance at p≤ .05
**Notes:
TOTANX= Total score on the RCMAS
WO= Worry/Oversensitivity Factor
PF= Physiological Factor
CA= Concentration Anxiety Factor

Table 4 presents correlations with RCMAS scores and MTQ, ELA, and STAI-C2 scores. As seen in table 4, there is a positive correlation between a mother's trait anxiety and her child's physiological signs of anxiety, $r(40) = .349$, $p < .05$, as well as a negative correlation between a child's concentration anxiety and his/her score on the ELA exam, $r(40) = -.334$, $p < .05$. In addition, there are positive correlations between a child's physiological signs of anxiety and his/her worry/oversensitivity, $r(40) = .586$, $p < .05$, a child's concentration anxiety and his/her worry/oversensitivity, $r(40) = .461$, $p < .05$, and a child's physiological anxiety and his/her concentration anxiety, $r(40) = .499$, $p < .05$.

Table 5

Pearson correlation values for demographic variables with ELA, MTQ, and RCMAS #

	ELA	ELAMC	ELAWM	MTQPMM	MTQPMD	WO	CA
CHILDGR	-.428*	-.371*	-.562*	-.192	-.211	.331*	.211
NUMHRS	-.319*	-.363*	-.256	.165	.236	.020	.034
EDUC	.072	.053	-.019	.349*	.330*	-.142	-.366

only relationships which attained some levels of significance are shown
* indicates significance at p≤ .05
**Notes:
CHILDGR= Child's overall average in his/her English class
NUMHRS= Number of hours the mother spends studying/doing homework with the child each night
EDUC= Mother's level of education
ELAMC= English Language Arts Multiple Choice
ELAWM= English Language Arts Writing Mechanics
MTQPMM= Motivational Trait Questionnaire- Personal Mastery: Mastery Goals
MTQPMD= Motivational Trait Questionnaire- Personal Mastery: Desire to Learn
WO= Worry/Oversensitivity Factor
CA= Concentration Anxiety Factor

An additional area of interest was the possible relationship between ELA, MTQ, STAI-C2, and/or RCMAS scores and the various parenting variables reported on the demographics survey. As seen in table 5, there are negative correlations between a child's average in his/her English class and his/her total ELA score $r(45) = -.428$, $p < .05$, his/her ELA multiple choice score $r(45) = -.371$, $p < .05$, his/her ELA writing mechanics score $r(45) = -.562$, $p < .05$, and a positive correlation between the child's English average and his/her worry/oversensitivity in relation to anxiety $r(37) = .331$, $p < .05$. It was also found that there were negative correlations between the number of hours that the mother spent working on school work with her child and his/her total ELA score $r(48) = -.319$, $p < .05$ and with his/her score on

the multiple choice part of the ELA r (48) = -.363, $p < .05$. Lastly, positive correlations were found between the mother's level of education and her personal level of mastery in relation to master of goals r (48) = .349, $p < .05$, and her personal mastery in relation to desire to learn r (48) = .330, $p < .05$. However, a negative correlation was found between a mother's level of education and her child's concentration anxiety r (40) = -.366, $p < .05$.

In summary, it seems that the better a child does on the ELA, the worse the child's grade in English and vice versa. The better the child is doing in English in school, the greater the child's level of worry/oversensitivity. Surprisingly, the more time mothers report working with their children the worse their children perform on the ELA. Also, the higher the mother's level of education the better the greater her mastery and desire to learn, and in addition, the greater her child's difficulty with concentration.

Discussion

This study sought to investigate the relationship between a mother's achievement motivation and trait anxiety and her child's NY-ELA score as well as any relationship that exists between a child's anxiety and the above variables. It was found that the higher a mother's achievement motivation is the higher her trait anxiety will be. It was also found that the greater the mother's achievement motivation the higher her child's ELA score will be but there is no relationship between a mother's trait anxiety and her child's ELA score. In addition, no relationship was found between a child's trait anxiety and STAI-C2, MTQ, and ELA scores.

Hypothesis one indicated that mothers who are high in achievement motivation will also be high in trait anxiety. This hypothesis was supported. The more motivated a mother is, the higher her trait anxiety was found to be. However, if she is not highly motivated she will possess low trait anxiety. This corresponds to the author's personal experience with the Kumon mothers.

As stated earlier, these mothers appeared to be highly successful, leading one to believe that they would rank high in achievement motive. They also, however, appeared to be highly anxious.

Hypothesis number two stated that a mother who has both high achievement motivation and high trait anxiety would have a negative effect on her child's ELA grade. There was a positive correlation between a mother's achievement motivation and her child's ELA score. Contrary to what was expected, results show that the more motivated the mother is, the higher her child's ELA score. The above finding supports d'Heurle, Mellinger, and Haggard's 1959 findings that a positive relationship exists between parental pressures toward achievement and their child's achievement test scores (in Callard, 1979). In addition, there was no relationship between a mother's trait anxiety and her child's ELA score. Thus, hypothesis 2 was not supported. While past research (Hedl, 1972, Sarason, 1975, Spiegel, 1972, (in Hancock, 2001), and Trent & Maxwell, 1980) indicates a negative relationship between test anxiety and performance, the current study actually measured trait anxiety. It may be that trait anxiety and test anxiety are different and are not necessarily related. Therefore, the second hypothesis was not supported because achievement motivation had a positive relationship and trait anxiety had no relationship to ELA scores. A negative relationship had been expected for both. It is possible that maternal anxiety does not come into play as an influential factor until the child is older. The mother's achievement motivation may play a more prominent role when the child is young and the mother is a strong role model and anxiety may play more of a role when the child begins to get older and move away from parental influence. This would be an interesting factor to examine longitudinally.

With regard to ELA subscales, a positive relationship was found between the mother's achievement motivation and the child's score on the multiple choice part of the ELA. The more

motivated the mother is, the better her child will do on the ELA. This is another interesting relationship to examine further in future studies.

A few very interesting relationships were found between MTQ subscales and STAI-C2 scores as well as MTQ subscales and total ELA scores. A positive relationship was found between a mother's emotionality (MTQMAE) and her trait anxiety, as well as between a mother's worry (MTQMAW) and her trait anxiety. These two motivation subscales are the ones on the MTQ that look at anxiety. Knowing that the STAI-C2 has high reliability and validity and given that a significant positive relationship was found between these two MTQ subscales and the STAI-C2, we can conclude that these two subscales give a valid measure of one's anxiety. A positive relationship was also found between a mother's worry (MTQMAW) and a child's ELA score. The higher a mother's level of worry, the better her child performed on the ELA. This is a very interesting finding since trait anxiety was found to have no relationship with ELA score. Maybe we need to look at different types of anxiety in the mother to see if certain forms of anxiety play a greater role in determining a child's academic success. At this point in the child's life a mother's level of trait anxiety does not seem to have a relationship with academics but another type of anxiety might. In addition, it is interesting that the ELA grade is better when the mothers have greater levels of worry (MTQMAW). It is possible that this form of anxiety in the mother will motivate the child to do well. However, it is also possible that this relationship will change as the child gets older, thus further investigation seems warranted.

When looking at the subscales of the MTQ and subscales of the ELA it was found that positive relationships exist between worry (MTQMAW) and a child's score on the multiple choice and reading/writing sections on the ELA. The greater the mother's worry (MTQMAW), the higher the child's score on these two sections of the exam. In addition, a positive

relationship was found between a mother's worry (MTQMAW) and the child's score on the listening/writing section of the exam. It is difficult to speculate as to a reason for this relationship. It may simply be a spurious finding, therefore further research focused on the various aspects of anxiety in mothers may shed further light on the above finding.

Significant findings were also reported for relationships between a child's anxiety subscales and a mother's MTQ and STAI-C2 score, as well as between a child's concentration anxiety and ELA score. Results indicate that there is a positive relationship between a mother's trait anxiety and her child's physiological signs of anxiety. The higher a mother's trait anxiety, the greater the child's physiological signs of anxiety (i.e. sweaty hands, stomach aches). The child may sense the mother's anxiety and respond to it in the form of physiological complaints. As reported earlier, Bernstein, Massie, Thuras, Perwien, Borchards and Crosby, 1997; and Beidel, Christ, and Long, 1991, found that anxious children have greater numbers of somatic complaints. Scholwinski and Reynolds (1985) report lower IQ scores for children with high levels of anxiety. It therefore seems that there is potentially an indirect relationship between maternal anxiety and child ELA performance, even though data show no significance. In addition, a negative relationship was found between a child's concentration anxiety and his/her overall ELA score. The higher the child's inability to concentrate due to anxiety, the lower the child's tests score. This ties in well with Perrin and Last's (1992) findings related to anxiety levels in ADHD boys and anxiety levels in boys with an anxiety disorder. It also relates well to Lufi and Parish-Plass' (1995) findings relating ADHD children with elevated level of "concentration/social worry" on the RCMAS.

Significance was also found between children's anxiety subscales. Positive relationships were found between a child's worry/oversensitivity and physiological effects due to anxiety as

well as between a child's worry/oversensitivity and his/her concentration anxiety. The greater the child's worry/oversensitivity due to anxiety, the greater his/her physiological effects and concentration anxiety. There was also a positive relationship between concentration anxiety and physiological effects. The harder it is for a child to concentrate the greater the child's chances of physiological problems or vice versa. As these subscales are significantly correlated with maternal anxiety, it again seems that a more detailed examination of maternal anxiety, child anxiety and child's ELA performance would be advisable. It may be that children's persistent physiological complaints are reflected in difficulty with concentration and poorer academic performance and that these factors in turn inspire anxiety in mothers. In any case, the complex interrelationships of the various aspects of anxiety appear to be worthy of much more detailed study.

Some fascinating findings were reported when looking at the demographic information that was collected. The higher the child's average in his/her English class the lower the child's overall ELA score and score on the multiple choice and writing mechanics part of the ELA. This leads us to question the accuracy of the ELA as a predictor of a child's English Language Arts skill. Many educators frequently complain that the advent of standardized testing has caused a focus on "teaching to the test" for a substantial portion of the school year. While children are becoming good test-takers, they are not necessarily improving in their mastery of English language arts. The current findings, in fact, support this claim making replication of the finding a valuable goal of future research.

It would also be interesting to see if any type of testing and preparation is being done in class for the multiple choice English questions and writing mechanics. It is possible that these two skills are not tested in class and therefore do not become a part of the child's English class

average. In addition, the higher the child's English average, the higher the child's worry/oversensitivity. Actual performance in school may be more closely tied to levels of anxiety than performance on a practice test as children may not have been worried about taking an exam that did not seem of importance to them.

With regard to the number of hours that a mother spends doing school work with her child, the greater the number of hours she works with her son/daughter the lower the child's score on the overall ELA, and in particular, the multiple choice section of the ELA. If the mother is anxious she may not be able to deliver information to her child in a beneficial and calm way and therefore the child may not benefit from this extra help from the mother. It was also found that the higher the mother's level of education the greater her personal mastery with regard to mastery of goals and desire to learn. This would make sense given that a person must be motivated in order for him/her to go on to higher levels of education. However, while they are motivated and perform well themselves, they seem unable to enhance learning in their children. Mothers may be well educated and high achievers, but they are not necessarily skilled at imparting their knowledge to their children.

One limitation for the present study is that the high positive correlation for the MTQ and the STAI may be partially explained by the fact that these are both self-report measures. The greatest limitation with this study was the way that the ELA assessment was administered. The ELA is normally given over the course of three consecutive days with the children only taking one part of the assessment each day. Unfortunately, I was only able to see the same group of children at each center twice, thus the three part assessment had to be administered over two days. The children thus had to concentrate and work longer than they would normally have had to. If a child has trouble concentrating, having to sit even longer than normal for a test may have

made the test more difficult. My assessment was also different than the actual ELA due to the fact that it was not possible to administer the sections of the test on consecutive days. The practice ELA was also given either at the end of the school day or on a weekend. These are two times when it can be more difficult for a child to concentrate on school matters and therefore a child may not be able to put forth his/her full ability. Having said this, however, the children did not score substantially lower than the children from the pilot study who reported actual ELA scores. It is also important to keep in mind that participants in this study were a selected sample. This study only looked at students who are enrolled in Kumon Learning Centers' extra help programs and their parents, therefore, results are not generalizeable to the population at large. It would be advisable for future studies to exam the above relationships within the general education population.

It is important that research in this area continue, as it would be helpful for parents to know how much of an influence their own personality traits have on their children's academic success. This study showed that overall trait anxiety of the mother did not influence a child's overall ELA score. It would be interesting to look at different types of anxiety to see if a particular type of anxiety in a mother may have a relationship to a child's academic success since trait anxiety appeared to have no relationship but the anxiety subscale on the MTQ did correlate negatively with the overall ELA and some parts of the ELA.

The current study found no overall link between maternal anxiety and child's performance, while an investigation of subscales tells a different story. This alone is reason to further investigate parent anxiety and child performance. However, a conversation with a parent at Kumon provides additional incentive. Upon the researcher's return to one of the Kumon centers after the actual ELA was administered to the fourth graders throughout New York, a

parent began discussing her personal experience with her child taking the ELA, her own anxiety, and how she felt her anxiety affected her child's anxiety while taking the exam. In her school district past exams were constantly being sent home for the children to do practice. In other school districts all review was done in class. This mother felt that having these tests sent home made her feel the need to be the one to make sure her child did well on the actual test and caused her great anxiety as she perceived it to be much more important for her child to do well on the exam. If all practice was done in school she felt that she would have been confident that enough was being done in school to make sure that her child was prepared and that the teacher had the essential role in make sure the child did well. By the time the actual test date arrived the mother felt that she was incredibly anxious about her child. The child went ahead to take the exam and at the beginning of the test the teacher had to come over to him and place her hand over his to stop him from shaking as he was experiencing considerable anxiety about the test and his performance. The mother believed that her anxiety about her son doing well created anxiety in him and therefore on the day of the exam he was physically shaking because he was so worried. In her opinion the best thing would have been for her to have been involved with her child's preparation for this exam as little as possible. Thus, anecdotal reports appear to support initial hypotheses.

In addition to anxiety, it would be a good idea to look at the child's achievement motivation to see if his/her motivation is the same as the mother's and if there is a correlation between the child's motivation and his/her ELA score. An investigation of all of the above factors with respect to how they relate to the father-child dyad would be of interest as well. Expansion of testing to a broader and more diverse sample that is not restricted to children in an after school enrichment program would be useful. Longitudinal research to look at the child's

final English average at the end of the year, score on the actual ELA exam, and an examination of long-term effects of parental personality factors would be yet another avenue for exploration. It is necessary to see if the significant relationships found continue when the child gets older or if the relationships change in any way.

This study should also be replicated with eighth graders when they take the ELA again and it would be of interest to also look at the children's scores on the NY State math test in fourth and eighth grade to see what relationships exist. Lastly, to really see how a mother's personality influences her child academically we must do this study with children in high school and college. A mother's trait anxiety currently did not play a part in determining a child's academic success but this may be different when the child is older. In addition, the role of the mother's achievement motivation and how the child expresses his/her anxiety later in life may be different than what was currently found with fourth graders. From the results of the present study it is obvious that a profound and complex relationship exists between maternal achievement, maternal anxiety, child anxiety, and a child's performance on the ELA. Thus additional research is essential to clarify the equivocal nature of the above findings.

All parents want the best for their children and want to maximize their children's academic performance. By expanding our knowledge of what role parent personality traits play on children's scholastic ability we will be better informed as to the best means of enabling children to reach their full academic potential.

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Appendix A: The Pilot Study

Running Head: Effects of Mothers' Achievement Motivation and Anxiety on their Sons

The Influence of Maternal Trait Anxiety and Achievement Motivation on NY-ELA performance of Sons

Nicole Friedman

ABSTRACT

Many psychologists have been interested in finding out what factors produce individual differences in a child's scholastic achievements. Achievement motivation and anxiety in the parent are now being looked at as possible factors that influence a child's academic ability. To further study the effects of a parent's personality traits on her child's test scores, an experiment was done to investigate the relationship between the level of a mother's achievement motivation and anxiety on her son's test results on the fourth grade New York State English Language Arts Exam. It was postulated that a mother who has both high achievement motivation and high anxiety will have a negative effect on her son's ELA (English Language Arts) exam scores. The mothers of 17 fifth grade boys who take an after school reading program through Kumon Math and Reading Learning Centers in New York were given both the Trait Anxiety Inventory (STAIC – Form C-2) as well as the Motivational Trait Questionnaire (MTQ). Data analysis indicates that there is no relationship between a mother's trait anxiety and achievement motivation on her child's ELA scores.

The Influence of Maternal Trait Anxiety and Achievement Motivation on NY-ELA performance of Sons

Many psychologists have been interested in finding out what factors produce individual differences in a child's scholastic achievement. There is a growing body of research that indicates that personality factors of the parent may ultimately influence the child's performance both in school and on many nationally administered and norm-based exams. Achievement motivation and anxiety of the parent are now being looked at as possible factors that influence a child's academic ability. The present study sought to examine the influence of mother's achievement motivation and trait anxiety levels on sons' performance on the New York State English Language Arts (ELA) Exam.

At the turn of the nineteenth century there began to be many new forms of family relationships. One major change was the bond between a mother and her son. As opposed to how their relationship was in the eighteenth century, mothers were now encouraged to keep close ties with their sons for as long as they lived and were supposed to shape their sons' moral character. It was because of these changes that the relationship between a mother and son became more "intense and entangled" than the mother-son bonds of past centuries. Once the son began to enter a world where he had to be independent, his mother gave him a source of self-confidence and moral strength. However, there was also a regressive pull that produced difficult struggles for complete autonomy (Rotundo, 1995). For these reasons the current study sought to focus solely on the mother/son dyad in regard to investigating the degree of influence a parent's personality traits have on their child's performance. One way to look at the mother son relationship is with regard to a mother's achievement motivation and the effect it has on her son in school.

In the 1950's and 1960's a prominent theme in motivation research was Achievement motivation. This learned drive was first experimentally studied by David McClelland, and John Atkinson furthered this experimental tradition with a theory of motivation incorporating the achievement motive that was the main topic of motivation research throughout the 1960's (Wigfield & Eccles, 2002). Achievement was defined as "the result of an emotional conflict between striving for success and avoiding failure" (Covington, 2000, p 173). Achievement motivation was looked at as a personality trait that distinguished persons based on their tendency or aspiration to do things well and compete against a standard of excellence (Wigfield & Eccles, 2002). As achievement motivation became the focus of a large body of research in personality studies, a means of measuring achievement motivation became a focal point for researchers investigating its prevalence in the population.

The Thematic Apperception Test (TAT) was created in 1935 by C.D. Morgan and Henry Murray. When using the TAT to measure motivation a subject looks at a group of pictures and is told to make up stories based on what they see. Because these pictures are so ambiguous, the subject tends to project his or her own conflicts and fears into the stories he/she creates. The systems that are used to score this test are time consuming and there is little evidence that the test makes a clinically significant contribution. Due to the fact that the clinicians have to interpret the stories the subjects tell, which is a highly subjective procedure, there is much room for error (Carson, Butcher & Mineka, 2000).

In 1997 Eric D. Heggestad and Ruth Kanfer developed the Motivational Trait Questionnaire (MTQ). This questionnaire was created to distinguish the differences between a person's motivational traits and motivational skills (Heggestad & Kanfer, 2000). A short form of the MTQ was soon developed to measure an individual's personal mastery, competitive

excellence, and motivation related to anxiety (Kanfer & Ackerman, 2000). This method of measuring a person's achievement motivation is much faster than the TAT and has very high validity and reliability because scoring is based on an objective procedure. Results of the MTQ are thus, not open to subjective interpretation, making the MTQ faster, easier and a more reliable method for estimating the level of achievement motivation of a group of individuals.

In 1985, B.S. Bloom found that children must have an extremely high level of motivation and support in order to develop exceptional expertise in school (in Wong & Csikszentmihalyi, 1991). Many studies have shown that people with outstanding accomplishments have a special attraction and participation to their own work (Barron, 1969; Bloom & Sosniak, 1981; see Renzulli, 1986, for a review; in Wong & Csikszentmihalyi, 1991). Renzulli (1986) named this characteristic "task commitment" (in Wong & Csikszentmihalyi, 1991). In their analysis of gifted people Feldhausen (1986) and Haensly, Reynolds, and Nash (1986) affirmed how important motivation and commitment are (in Wong & Csikszentmihalyi, 1991). Numerous studies have shown a positive relationship between scholastic performance and achievement motivation (Demos & Weijola, 1966; Fink, 1962; Gough, 1964a, 1964b, 1968; Gough & Fink, 1964; Harper, 1975; Keimowitz & Ansbacher, 1960; Koenig & McKeachie, 1959; Mason, Adams, & Blood, 1966; Schneider & Green, 1977; in Wong & Csikszentmihalyi, 1991)

d'Heurle, Mellinger, and Haggard, in 1959, found, in their study of personality, intellectual, and achievement patterns of gifted third grade children that there is a positive relationship between parental pressures toward achievement and achievement test scores (in Callard, 1979). In other words, parental achievement leads to higher achievement in their children. In 1962, Argyle and Robinson looked at the relationship between a child's achievement motives and the achievement orientations of his or her parents. Their research

showed that high achievement scores from children had a positive correlation with parental demands (in Callard, 1979). In other words, the more that a parent expected his/her child to do well in school the greater his/her level of academic achievement.

In addition to research on the influence of parent achievement motivation on a child's performance, other studies have investigated the influence of parents' anxiety levels on academic performance of children. A person can be anxious in two different ways. They can either possess state anxiety or trait anxiety. State anxiety is a temporary emotional state or condition that varies in strength and fluctuates over time (Spielberger, 1972, 1980; Spielberger & Vagg, 1995; in Peleg-Popko, 2002). A person with trait anxiety is an anxious person all the time. It is a condition that does not have a time limit. As Spielberger (1966a, 1972a) points out, it is a stable personality trait (in Levitt, 1980).

Hedl, (1972), Sarason (1975), Spiegel (1972), and Trent & Maxwell (1980) saw test anxiety as a trait that makes people react to frightening situations with sometimes debilitating psychological, physiological, and behavioral responses (in Hancock, 2001). This would lead us to infer that someone high in trait anxiety would be high in test anxiety. There is a good deal of evidence that states that test anxiety negatively effects test performance. One example is Hembree's research in 1988 in which he found that test anxiety regularly causes poor performance (in Hancock, 2001). In 1984, Hill and Wigfield reported studies with correlations up to -60 between test anxiety and achievement (in Hancock, 2001). This makes the suggestion that anxiety and achievement share significant variance. Test anxious children are more likely to obtain poorer scores, repeat a grade, and perform more poorly on tasks that require new learning and those given in an evaluative way (Beidel et al., 1994; De Rosa and Patalano, 1991; in Peleg-Popko, 2001). Test anxiety has also been related to low self-esteem, dependency, and passivity

which all have a negative effect on academic achievement (Beidel and Turner, 1988; Zeidner, 1998; in Peleg-Popko, 2001). Thus, research has shown a relationship between achievement motivation and anxiety.

Mothers, who are over protective, encourage dependency, and buffer autonomy, tend to have children who are anxious (Bowlby, 1980; see also Sullivan's 1953 pioneering work; in Peleg-Popko, 2001). In 1988 Spielberger linked the differences in a child's predisposition to anxiety and amount of trait anxiety to a parent's punishment, criticism, or disapproval (Peleg-Popko, 2001). Family interaction influences both a child's trait anxiety and his or her school performance (Peleg-Popko, 2001). It would be reasonable to suspect that children whose parents place them in special help programs would be children whose parents are high in achievement motivation and anxiety. This would then be reflected in poorer performance on the part of the children.

The Kumon Institute of Education is a math and reading after school program that allows children to improve on their math and reading skills as well as excel in these academic subjects. Kumon believes that every child can flourish academically with both a suitable learning method and a correct learning pace. This Japanese learning program was invented in 1958 by a Mr. Toru Kumon who believed that every child possesses infinite potential and the inborn desire and capability to learn. As soon as a child no longer feels that he or she has to keep up with his peers he can begin to make remarkable progress. A child must develop a secure foundation in both math and reading. In order to establish this, the Kumon method of learning starts a child at a comfortable starting point. This is when a child is able to answer every problem Kumon gives them correctly during a given amount of time. This increases both the child's self confidence and allows the student to experience success right from the beginning. It

is through independent learning that a student can advance according to his or her own individual ability rather than age level or grade. To achieve this, Kumon presents math and reading concepts in small increments, providing sufficient practice for each step. Through repeated practice, every student is able to master their skills before moving on to higher levels of study. The goal of Kumon is to make high school study easy and therefore the Kumon student is always encouraged to reach an advanced level of study. It can be hypothesized that a mother with high achievement motivation would send her child to Kumon since she would want her child to excel in his education. These mothers may also be anxious about their children doing well and therefore put their sons in an after school program.

Fifth grade boys in Kumon recently had to take the New York State English Language Arts (ELA) Exam, which is one reason why they may have initially joined an extra help program such as Kumon. This test assesses students' comprehension strategies as well as their ability to combine information from an assortment of sources. Students are required to read and analyze a broad range of genres, show comprehensive proficiency in listening (they must take notes on passages read out load by their teacher), and create short and long answers to a variety of questions. Children answer multiple choice, short answer, and extended response questions. Some of the questions assess the literal or recall level of reading performance while others require higher order reading skills. Students receive either a 1 (lowest score), 2, 3, or 4 (highest score) on this exam. The ELA is a wonderful example of an exam that tests a child's comprehension of the English language. A boy's score on the ELA could have a negative relationship with his mother's achievement motivation and anxiety.

The present study was conducted to further study the effects of a mother's achievement motivation and anxiety on her son's academic success. By expanding our knowledge of this

subject we will be better able to help parents by showing them what type of mother-son relationship will enable their children to do well in school. It was hypothesized that mothers who are high in achievement motivation, as measured by the MTQ, will also be high in trait anxiety, as measured by the STAIC-C-2. In other words, there would be a positive correlation between achievement motivation levels and trait anxiety levels for mothers surveyed. It was further postulated for the current study that a mother who has both high achievement motivation, as measured by the MTQ and high anxiety, as measured by the State Trait Anxiety Inventory, form C-2, would have a negative effect on her son's New York State English Language Arts (ELA) exam scores. In other words, a negative correlation between maternal achievement motivation and sons' ELA scores and maternal anxiety levels and sons' ELA scores, was predicted.

Method

Participants

This experiment consisted of 17 pairs of mothers and their 5th grade sons from 10 different Kumon Math and Reading centers (a paid tutoring center for children in need of extra help or advanced study in math or reading comprehension) in New York.

Instruments

All mothers who volunteered signed a letter of consent. Mothers were given the Trait Anxiety Inventory (STAIC – Form C-2) by Speilberg [appendix A], the Motivational Trait Questionnaire (MTQ) developed by Heggestad and Kanfer that can be obtained through Heggestad upon request, and a brief demographics form [appendix B] .

The Trait Anxiety Inventory measured a mother's anxiety level as a personality trait.

The questions on this test used a Likert scale and were scored by adding up the Likert ratings. A sample item from this test asked the individual if they feel they worry too much. The subject would respond by checking "hardly ever", "sometimes", or "often".

The MTQ measured a mother's personal mastery, competitive excellence, and motivation related to anxiety. This test also used a Likert scale and was scored by adding up the Likert ratings of the questions that corresponded with each category. A sample of a question: "When I become interested in something, I try to learn as much about it as I can." The person would respond by writing the number one if it is very untrue of them, the number two if it is untrue of them, three if it is somewhat untrue of them, four if it is somewhat true of them, five if it is true of them, and six if it is very true of them. An example of a question looking at competitive excellence would be: "It really upsets me when someone does something better than I do." A sample question looking at motivation anxiety would be: "Before beginning an important project, I think of the consequences of failing." All MTQ questions would be answered using the same Likert scale as the one used in the personal mastery sample question.

The demographics form asked for the mother's sex, age, race, level of education, reason for joining Kumon, son's ELA exam score and average in his English class, number of children she has, birth order of the child attending Kumon, and the amount of time, if any, that they spend doing school work with their son. The questions were either multiple choice or open ended.

Procedure

Seventeen mothers were asked to sign a standard written letter of consent to participate in this experiment. Each mother/son dyad was then assigned a participant code to keep track of which son belonged with which mother. The surveys were then given out to each mother to fill out while she waited for her child to finish his Kumon lesson or she brought the surveys home

and returned them upon her next Kumon visit. The results of these surveys were then compared to each son's English Language Arts (ELA) exam scores. ELA scores were obtained with consent of the parents.

Results

Means and SDs of the MTQ and STAIC, C-2 are presented in Table 1. Pearson correlation values for the mother's MTQ and STAIC with the sons' ELA scores are presented in Table 2. The hypothesis of the study was not supported. As a mother's achievement motivation increases her son's ELA scores do not decrease. In addition, as her anxiety increases her son's ELA scores do not decrease. It was also found that there was no relationship between a mother's achievement motivation and anxiety level.

Table 1

Means and SD's for MTQ and STAIC, form C-2.

	$\overline{X}$	SD
ELA	3.18	0.64
MTQ	188.18	27.66
STAIC, C-2	36.41	7.18

Table 2

Pearson correlation values for mother's MTQ and STAIC, form C-2 scores with sons' ELA scores.

	MTQ	STAIC	ELA
MTQ	1.00	.248	.083
STAIC		1.00	.339
ELA			1.00

*Note: None of these were significant.

Discussion

The results of this study indicate no relationship between a mother's achievement motivation and anxiety on her son's ELA test scores. There was also no significant relationship between a mother's achievement motivation and anxiety. Based on results of the current study, personality traits of a mother do not have a negative effect on her son's academics.

The major limitation with this study is the fact that the sample is too limited. The majority of the subjects are Asian. Asian people on average have a much stronger approach to education than other cultures do. The parents of Asian children do not approach academics the same way as other cultures. These parents are very strict in making sure that their son or daughter's main focus is school and therefore children are brought up with school being their main concern in life. They are used to constantly trying to do well and even exceed expectations (Santrock, 2004). This is not usually the norm for other ethnicities. It is entirely possible that, with a more diverse sample, i.e. greater cultural and ethnic variation, the hypotheses would have

been supported. If the lack of support is not due to a sampling problem, and there is actually no influence of parental personality on child's performance, parents can be relieved to know that they don't have to worry about this effect. This would be in keeping with Sandra Scarr's (1994) theory that genetics are the key determinant in a child's performance and all parents need to worry about is being a "good enough" parent.

Other limitations of this study are the sample size and academic level of the students. A greater number of mothers with different ethnicities and more of a range of anxiety levels and achievement motivation could have made a difference in the results of this study. The majority of the students in this project scored average to above average on the ELA. Having more students who were below average would make this study more well rounded.

It is important that research in this area continue, as it would be helpful for parents to know how much of an influence their own personality traits have on their children's academic success. All parents want the best for their children and want to maximize their children's academic performance. Thus, further research should examine the influence of parental personality factors like achievement motivation and anxiety on children's school performance within a broad culture and socioeconomic framework.

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Appendix B: Informed Consent Forms

HOFSTRA UNIVERSITY

August 1, 2004

Dear Kumon Mother:

My name is Nicole Friedman and I am currently an undergraduate student in psychology at Hofstra University. I am working on my honors thesis with Dr. Cheryl Camenzuli at Hofstra. My project involves an investigation of the influence **of mothers'** achievement motivation on their children's performance on the NY State English Language Arts exam (ELA). The study will involve asking mothers to complete some brief surveys which will then be correlated with children's performance on the ELA. All surveys will be coded. Data will be anonymous, voluntary and looked at on a group basis only. Please do not put your name on the survey forms. The surveys take only a few minutes to complete.

I would like to ask your cooperation in completing my study. Please take a few minutes to complete the surveys and return them to your child's instructor on your next visit to the center. I would appreciate your forwarding these as soon as possible. If you have any questions about the study you may contact me at TiffWillow@aol.com.

Sincerely,

Nicole Friedman

Please sign here to indicate your consent to your participation in this study.

Signature: _____

Print Name:_____

Date:_____

Child's Name:_____

Code: _____

If you would like a summary of the final results of the study please contact me at the above e-mail address.

HOFSTRA UNIVERSITY

Dear Kumon Mother,

My name is Nicole Friedman and I am currently an undergraduate student in psychology at Hofstra University. I am working on my honors thesis with Dr. Cheryl Camenzuli at Hofstra. My project involves an investigation of the influence **of mothers'** achievement motivation on their child's performance on the New York State English Language Arts Assessment (ELA).

Fourth graders who go to school in New York take the NY state English Language Arts assessment during the week of January 31, 2005. It is a three part/three day exam. This test assesses a student's comprehension strategies, his/her proficiency in listening comprehension, and ability to prepare short and long written answers to different types of questions. The three parts of the assessment include a multiple choice section, a listening comprehension section/independent writing section, and a reading/writing section.

On _____ and _____ from ____ until _____I will be administering a practice ELA to any 4th grade Kumon reading students who are interesting in participating. The full assessment would be administered over the course of two days. On Day One, the children will be taking the first session and half of the second session. On Day Two they will be taking the second half of the second session as well as the third session. The assessments will then be scored and a few weeks later each child will get his/her score on the practice exam as well as an assessment of his/her strengths and weaknesses on each part of the exam. This information will provide valuable knowledge for targeted preparation for the real assessment, enabling your child to have the best opportunity to do his or her best. It will assist you in working with your Kumon instructor or fourth grade teacher in helping to prepare your child for this assessment.

If you and your child are interested in taking part in this study please ask your instructor for a packet that includes a consent form for you and your child as well as a short survey for you to fill out. These surveys will be correlated with children's performance on the practice ELA. All surveys will be coded and data will be anonymous, voluntary, and looked at on a group basis only. Once you have signed the consent form to participate, please hand it in to your instructor and take the survey home with you. On the first day of the ELA practice assessment you will hand in your completed survey and it will be coded by number with your child's exam.

If you have any questions about the study you may contact me at TiffWillow@aol.com. I have high hopes that this practice assessment will give both you and your child direction as to what he or she may need to work on to do the very best he or she can do on this New York State English Language Arts Assessment.

Sincerely,
Nicole Friedman

Appendix E: Demographics Form

Code Number: _____

Please circle your answers to the following questions:

Sex: Male Female

Age: 20-30 31-40 41-50 51-60 61+

Race: Caucasian African American Native American

Hispanic Latino Japanese

Korean Vietnamese Asian Indian

Chinese Filipino Other Asian

Native Hawaiian Other Pacific Islander

Your level of education:

Grade School

High School

College- Undergraduate Degree

College- Graduate Degree

Why did you decide to join Kumon? (You may circle more than one answer)

Basic Enrichment

Advanced Study

Extra Help

To do well on state exams

Overall, what would you say your child's average is in his English class?

A A- B B- C C-

D D- F

How many children do you have? _____

What is the birth order of the child attending Kumon?

Only Child

First Born

Youngest

Other

Do you spend time studying/doing homework with your child each day?

Yes No

If you answered "yes" to the above question, approximately how many hours per day do you spend studying/ working with this child? _____