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ABSTRACT

A research study investigated the relationship of stress in teachers' work environment to teachers' level of cognitive complexity (level of thinking) and their career maturity, and the relationship of stress, cognitive complexity, and career maturity to teaching experience. Participants were teaching elementary school in an urban environment: 23 education students, 32 student teachers, 30 beginning teachers, 12 intermediate teachers, and 15 experienced teachers. The conceptual complexity of subjects was measured by the Paragraph Completion Test (Phares & Schroder). Subjects' career maturity was assessed using Crites' Career Maturity Inventory-Adult Form, Attitudes Scale, and Competence Test. The Teacher Work-Life Inventory measured stress in teachers' work environments. The data provide support for the view that stress in the work environment of urban elementary school teachers is associated with their cognitive complexity. Results also suggest that elementary school teachers may tend to make better career decisions under less stressful work conditions and that the career maturity of teachers appears to increase with added experience. Issues for further research are considered. (JD)

The Role of Teacher Stress, Cognitive Complexity, and Career Maturity in Teacher Socialization[1]

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Abstract

The purpose of this investigation was to examine the relationship among teacher stress, cognitive complexity and career maturity for teachers in different career stages. Stress was related to cognitive complexity in a curvilinear fashion, though not in the specific quadratic manner proposed by Conceptual Systems Theory (Schroder et al., 1967). Stress was related to teachers' career maturity in a linear manner, providing support for Crites' (1965) developmental explanation of career maturity. Specific trends for each variable are reported for teachers in different career stages.

The Role of Teacher Stress, Cognitive Complexity, and Career Maturity in Teacher Socialization

Teacher socialization concerns the process of cognitive and behavioral change through which individuals acquire the values, attitudes, and behaviors associated with the profession. Research in the field has examined the influence of work and training environments on teachers' behaviors and attitudes. The central question to which much of this research has been addressed is "What does teaching do to teachers?" (McArthur, 1978).

Recent research investigations in this area have focused on the nature and influence of stress on teachers (eg. Feitler & Tokar, 1982; Kaiser & Polezynski, 1982; Pettegrew & Wolf, 1982). Stress has been shown to have adverse effects on teachers' cognitive functioning (Austin, 1981; Block, 1977, 1978), classroom performance (Kaizer & Polezynski, 1982), commitment to teaching (Kyriacou & Sutcliffe, 1979; Ornstein, 1981) and career change (Bardo, 1979; Lyons, 1981). These findings indicate there may be a relationship among stress, cognitive complexity and career maturity in teachers. The purpose of this investigation is to examine the relationship among these variables.

Schroder, Driver and Streufert (1967) developed a theory of conceptual systems based on four levels of information processing from low complexity or concrete thinking to high complexity or abstract thinking. These researchers theorized that certain

environmental conditions are responsible for temporary or long-term structural change in cognition. These conditions include the degree of environmental complexity, noxity (the number, duration and severity of noxious inputs in the environment and frustration) and eucity (the amount, degree or frequency of reward or promise in the environment). Thus, environmental complexity, noxity and eucity operate both separately and in combination to influence the conceptual complexity of individuals. Schroder et al. (1967) hypothesized that there exists a curvilinear relationship between the three aspects of the environment and an individual's level of information processing. Thus, increasing or decreasing environmental complexity, noxity or eucity from some optimal point, a condition defined as stress, will lower an individual's conceptual level.

Career maturity is defined as the ability to cope with the vocational or career development tasks appropriate to one's life stage (Super, 1977). Career maturity has been linked to cognitive complexity (Winer, Cesari, Haase & Bodden, 1979) and environmental influences (Crites, 1976; Super, 1980). Winer and associates (1979) suggested that cognitive complexity may help to explain the ognitive aspects of Crites' (1976) career maturity concept.

Crites (1965) originally suggested that a developmental variable such as career maturity should be systemmatically related to time. While there is some evidence that career maturity scores show regular increases (ie. a linear pattern) for elementary and

secondary school individuals (Crites, 1965, 1978; Super & Forrest, 1972), inconclusive findings with college age and adult subjects (Sheppard, 1971; Tilden, 1978) have led Super and Hall (1978) to conclude that, "Crites may have adhered too rigidly to the age-increase requirements; development may not proceed as evenly as he has postulated" (page 330). Thus, the developmental nature of career maturity needed to be resolved.

The present investigation addressed the following research questions: Is stress in teachers' work environment related to their level of thinking (ie. cognitive complexity) in the curvilinear manner suggested by Schroder and associates (1967)? How is stress related to the construct of teachers' career maturity? What is the relationship of stress, cognitive complexity and career maturity to teaching experience?

METHOD

Subjects

One hundred twelve volunteers participated in the investigation. The participants included students and alumni of the University of Southern California's teacher education program who were teaching elementary school in an urban environment: 23 education students, 32 student teachers, 30 beginning teachers (0-3 years), 12 intermediate teachers (4-7 years) and 15 experienced teachers 8 or more years). This population was selected in order to provide a partial control for differences in

formal socialization effects and self-selection into a particular teacher education program.

The education students included both traditional-aged and older, so-called "reentry" volunteers from educational psychology classes required by the teacher education program. The student teachers were volunteers from an elementary education methods seminar, who were doing their student teaching in various schools in Los Angeles. The inservice volunteers were teachers with six months to over twenty years of experience were obtained from nine elementary schools in the greater Los Angeles area. Demographic data were obtained including teachers' gender, age, race, school size and setting, SES and race of students.

Instruments

The conceptual complexity of subjects was measured by the Paragraph Completion Test (PCT) (Phares & Schroder, 1969) which was designed to provide a "content free" measure of integrative complexity, primarily in the area of interpersonal affairs (Gardiner & Schroder, 1972). This measure is comprised of five sentence stems. For example, "When I am in doubt . . .", "Rules . . ." Subjects are asked to complete a stem for each item and to write an additional three sentences in response to it, within a 130 second time limit.

According to Gardiner and Schroder (1972), the validity of the Paragraph Completion Test has been well established. Correlation studies have shown low but significant relationships

with other measures of complexity (Schroder, et al., 1967), as well as measures of intellectual flexibility, openness and differentiation (Bottenberg, 1969). Conceptual complexity as measured by the PCT has been found to be largely unrelated to intelligence test scores, social desirability and verbal fluency, particularly in educated populations (Bottenberg, 1969; Schroder, 1971). Interrater reliabilities of .80 to .95 and test-retest reliabilities of .52 to .67 have been reported (Gardiner & Schroder, 1972).

The Paragraph Completion Test has largely escaped the scoring and interpretation criticism directed to other, related measures of complexity such as Harvey's (1966) This I Believe Test, and the Conceptual Systems Test (Harvey & Hoffmeister, 1971), emerging as the dominent approach to the assessment of cognitive complexity in recent research (Miller, 1981).

The career maturity of subjects was assessed using Crites' (1978c; 1978d) Career Maturity Inventory-Adult Form, Attitude Scale (CMI-AS) and Competence Test (CMI-CT). The Attitude Scale consists of 75 attitudinal statements related to vocational choice, yielding one score which purports to measure five factors: involvement in, orientation toward, independence in, understanding of and preference for factors in the process of career choice. Internal consistency estimates are reported to be in the .70s and test-retest reliability is reported as .71 (Crites, 1978b).

The Competency Test (CMI-CT) consists of five subtests of 20 multiple-choice items each, yielding five independent scores (Crites, 1978a). This test purports to measure five cognitive factors involved in career choice: Self-Appraisal (COMP1), Occupational Information (COMP2), Goal Selection (COMP3), Planning (COMP4), and Problem-Solving (COMP5). Stability estimates are not reported but internal consistency coefficients ranging from .72 to .90 are claimed by Crites (1978b). Westbrook and associates (1980) found some support from the internal validity of both the attitude and competency sections of the CMI but failed to find support for the external validity claimed by Crites (1978b) due to high correlations of the CMI variables with intelligence, scholastic aptitude and school achievement.

The Quick Word Test (QWT) (Borgatta & Corsine, 1960) was used as a covariate to control for differences in mental ability among subjects. The QWT is a 100 item multiple-choice vocabulary measure which has been shown to have high reliability (.90s for split-halves and alternate forms) and correlates in the .80s with the Wechsler Adult Intelligence Scale and other measures of general ability (Groteleuschen & McQuarrie, 1970). It has been used as a covariate in recent teacher education research (Hughes & Hukill, 1982).

The Teacher Work-Life Inventory (TWLI) was chosen as a measure of stress in teachers' work environments consistent with the operational definition noted earlier. The TWLI was designed

to complement measures of organizational climate and to address the school as a work environment (Blumberg & Kleinke, 1981). The authors describe the instrument as providing information relevant to stress and "burnout" research, though they explicitly state that it may need further refinement as it is used in wider contexts.

A closer analysis of the 36 items in the Teacher Work Life Inventory indicated that all three of the environmental conditions defined as stress by Schroder and associates (1967) were represented in this instrument. For example, complexity (information load, diversity and change) may be reflected in stems such as "fast pace", "immediacy of demands", "busyness", and "repetitive activity." Noxity (threat) may be represented by items such as "tension", "frustrating circumstances", "feelings of failure", and "conflict." TWLI items such as "being appreciated", "fun", "opportunites for advancement", and "excitement" may reflect eucity (reward) in the school environment.

Procedures

The Career Maturity Inventory-Adult Form, together with a cover letter, instructions and a stamped envelope, were given to participants to complete at home and return by mail. The CMI took approximately one hour to fill out. All subjects were asked to complete a short questionnaire asking for background information, and were then given a test battery consisting of the Paragraph Completion Test, the Teacher Work Life Inventory and the Quick

Word Test. These materials took approximately forty minutes to complete.

Eighty-one (72%) useable CMI forms were returned, and hand scored from a key supplied by the publisher. Separate raw scores were obtained for the Attitude Scale (range = 0 - 75) and for each of the five Competency Scales (range = 0 - 20). Higher scores indicated greater career maturity in relation to the respective sales.

The Quick Word Test was also hand scored using a key supplied by the publisher. Raw scores (range = 0 - 100) were used as a covariate reflecting subjects' relative verbal ability.

Total scores from the Teacher Work Life Inventory were computed as the sum of the subjects' scored responses indicating how sharply (4 = very sharply, to 1 = not at all) the 36 individual items stood out as descriptors of subjects' worklife (range = 36 - 144). A higher score was assumed to reflect a greater amount of stress in a teacher's work environment. Both positive (eg. "being appreciated") and negative (eg. "feeling of failure") components of the TWLI were considered as potential contributors to stress, in accordance with the conceptualizations of Schroder and associates (1967), as well as stress theory (eg. Selye, 1974).

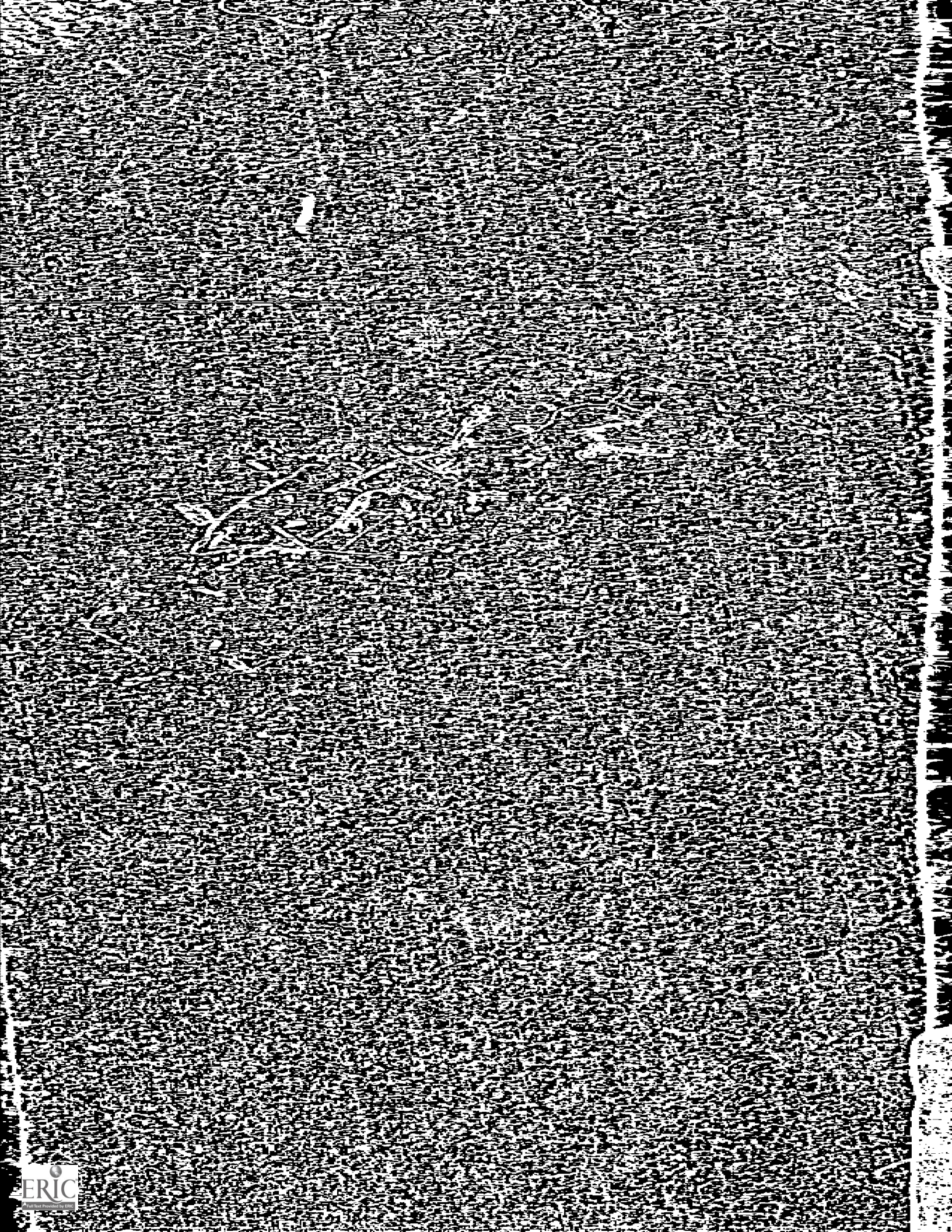
Scoring of the Paragraph Completion Test was done by two independent raters trained by the experimenter in the following manner. One didactic training session of two hours focused on the

central components of Conceptual Systems Theory, based largely on Schroder et al.'s (1967) structural analysis of verbal responses. The raters then practiced PCT scoring using a training manual developed for this purpose (adapted from Phares & Schroder, 1969). Finally, the raters were asked to independently score twenty PCT protocols. A second two hour session was held to examine discrepancies in their scoring and to allow for further practice until they reached the .80 criterion level for inter-rater reliability.

The 112 PCT protocols from this study were randomly mixed so no particular group would be consecutively rated. All PCTs were scored by both raters. Subjects' paragraph completions were rated on a scale from one (low complexity) to seven (high complexity) and their overall rating was equal to a sum of their two highest individual paragraph scores (see Gardiner & Schroder, 1972). The inter-rater reliability for this study was calculated by means of a Pearson correlation to be .92.

RESULTS AND DISCUSSION

The first two research questions in this investigation addressed the general relationship of cognitive complexity and career maturity to stress in teachers. These relationships were explored by means of multiple regression analysis to test for the presence of curvilinear trends (Pedhazur, 1982, p. 404).



The Teacher Work Life Inventory scores (the independent variable) were divided into a set of eight categories of approximately equal numbers and a series of seven dummy variables were created to represent the categories. A hierarchical regression was first performed with the Paragraph Completion Test scores as the dependent variable. The Quick Word Test scores (the covariate) were entered on the first step, and the Teacher Work Life Inventory scores were entered on the following step.

The squared multiple correlation obtained for the original continuous and dummy variables exceeded that of the original alone ($R^2 = .21 > R^2 = .06$), indicating a deviation from linearity. Evidence of curvilinearity was also reflected in further correlational tests which yielded an Eta statistic (curvilinearity test) of .65 between the complexity and stress measures, compared to a non-significant Pearson correlation (linearity test) of $r = -.10$. The significant F ratio, $F(7,99) = 2.7$, $p < .05$, indicated the variation in the teachers' Paragraph Completion Test scores, explanable by some curvilinear function was unlikely to have occurred by chance.

While not explicitly labelled as such, the diagrams and discussion by Schroder, Driver and Streufert (1967) clearly identify a quadratic-shaped curve as the pattern hypothesized to describe the influence of environmental stress on cognitive complexity (PCT scores). In the present investigation, however, a curvilinear regression analysis failed to yield a statistically

significant fit for even the highest degree (quadratic) polynomial, F (2,107) =.57, p > .05. A graph of the mean PCT (cognitive complexity) trends over the TWLI categories (stress) appears in Figure 1.

Insert Figure 1 About Here

Though a significant relationship was found, as predicted, a variety of possible confounds may have interfered with the presentation of a clear quadratic curve. The results of cross-sectional studies are often confounded by cohort differences in ability or personality. For example, it may be that USC students and alumni have, through self-selection or development, special abilities to deal with stress. Lack of randomization, the use of volunteers and the small sample size also illustrate possible confounds. Pedhazur (1982) suggests that low reliability of the independent variable (ie. the Teacher Work Life Inventory in this investigation) can also adversely affect curvilinearity.

The second research question concerned the relationship of teachers' career maturity to work environment stress. The Career Maturity Inventory and Teacher Work Life Inventory scores were analyzed by a series of multiple regression operations in the same manner as was described for the Paragraph Completion Test, only with the six respective Career Maturity Inventory scales serving

as the dependent variable each time. The Quick Word Test still served as the covariate.

Five of the six scales of the Career Maturity Inventory were found to be related to the Teacher Work Life Inventory in a significant linear fashion, including the scales for Attitudes (CMI-ATT), F (2,75) = 4.3, $p < .05$, Self-Appraisal (COMP1), F (2,75) = 4.7, $p < .05$, Occupational Information (COMP2), F (2,75) = 3.9, $p < .05$, Goal Selection (COMP3), F (2,75) = 3.8, $p < .05$, and Planning (COMP4), F (2,75) = 4.2, $p < .05$. Though the linear relationships were significant, the amount of variance in the five career maturity scales explained by stress was low, $r^2 = .09 - .11$, indicating stress has a relatively modest influence on career maturity.

The linear explanation in the present investigation suggests that higher career maturity is associated with lower levels of stress in teachers. Stated differently, the results of this investigation indicate that stress may adversely affect elementary teachers' capacity for career decision-making. If this relationship is confirmed in future investigations, career planning and decisions should be made at times other than when teachers are under stress or pressure in their work environment.

The career maturity competency scale for Problem Solving (COMP5) was not significantly related to stress, F (2,75) = .55, $p > .05$. However, the Problem-Solving scale also showed a much lower correlation with the Quick Word Test, the verbal ability

measure, than did the other four career maturity scales, (ie. r = .08, compared to r = .26 to .33 for the other scales). It may be that teachers do not use the same cognitive capacity in their career problem-solving as they do in other aspects of their career maturity. It may also be, however, that the subjects in this study became fatigued with the test instrument and hurried or guessed, rather than reasoning their responses to Problem Solving, the final scale.

The third research question concerned how stress, cognitive complexity and career maturity are related to teaching experience. The analysis of the cross-sectional data was performed by a series of covariance procedures with the Quick Word Test as a covariate, and by examining differences in mean scores over levels of teaching experience. Means and standard deviations for all of the measures are reported in Table 1.

Insert Table 1 About Here

The results of these analyses were hampered by the small cell sizes, especially in the intermediate and experienced teacher levels. Thus, analysis and interpetation of the teacher experience data is more speculative than conclusive, though it may have heuristic value.

Stress levels of preservice teachers were virtually the same (TWLI scores of 93.0 and 92.3) at what could be considered

moderate levels. A statistically significant increase, $t = -6.26$, $p < .05$, $df = 60$ (two-tailed), appeared in the mean stress scores of the beginning teachers (97.4). The intermediate teachers showed an even higher mean stress level (98.5). The mean stress score of the experienced teachers (91.9) was significantly lower than that of the intermediate group, $t = 5.08$, $p < .05$, $df = 25$ (two-tailed) in the same moderate range as the preservice subjects. These relationships are depicted in Figure 2.

Insert Figure 2 About Here

The moderate stress levels which the preservice and experienced teachers showed is a result consistent with teacher socialization explanations (Lortie, 1975). The finding that the work environment of education students was virtually no more stressful than that of experienced teachers suggests that different job conditions and challenges may be necessary in order to elicit a given level of "stress" or motivation at different ages and years of experience in the profession.

The increased stress levels found in the beginning teachers is a result which, like a good deal of other teacher education research, indicates that anxiety and stress commonly characterize the first years of teaching (eg. Fuller, 1969; Shelley, 1978; Pataniczek & Isaakson, 1981). The high mean scores of the intermediate teachers may reflect the confound of a small sample

size, as previously noted. It may also, however, reflect prolonged job stress (see Bloch, 1977, 1978) for the predominently urban teaching sample in this investigation.

The Paragraph Completion Test scores of education students, beginning and experienced teachers, were all at moderate levels (5.8, 6.0 and 6.1, respectively) but the scores of intermediate teachers were lower (5.3). A one-way analysis of covariance (QWT as covariate) showed a significant difference, F (4,107) = 4.8, $p < .05$. Figure 3 depicts these trends.

Insert Figure 3 About Here

When considered in relation to the mean stress scores discussed above, the increased stress level of beginning teachers was not associated with a drop in their cognitive complexity, as one might expect from the Schroder et al. (1967) hypothesis. However, the intermediate teachers showed both high stress and lower cognitive complexity scores. In addition to the confounds noted above, this may reflect a cumulative effect in response to prolonged job stress, as suggested by the stress literature (Block, 1977, 1978; Selye, 1974). Thus, it may not be job stress per se, but continued exposure to it that negatively impacts teachers' cognition.

A series of one-way analyses of variance (QWT as covariate) of the six Career Maturity Inventory scales over the five

experience levels yielded significant differences only on the competencies of Self-Appraisal (COMP1), F (4,75) = 5.8, $p < .05$, Occupational Information (COMP2), F (4,75 - 4.2, $p < .05$ and Goal Selection (COMP3), F (4,74) = 4.7, $p < .05$.

Post-hoc t-tests showed experienced teachers to be significantly higher than education students on Self Appraisal, $t = 2.50$, $p < .05$, df = 28 (two-tailed), and that they were more aware of relevant Occupational Information than education students, $t = 2.44$, $p < .05$, df = 28 (two-tailed) and beginning teachers, $t = 2.38$, $p < .05$, df = 36 (two-tailed). Examination of the mean scores of teachers on Self-Appraisal and Occupational Information indicated that only these two scales demonstrated the essentially monotonic (progressive increases) pattern which supported Crites' (1965) predictions. These two areas appear to be relatively unaffected by stress, and intuitively, might be expected to show increases with general life experience.

The competency of Goal Selection or "choosing a job" showed that experienced teachers were significantly more capable of making good job choices than education students, $t = 2.06$, $p < .05$, df = 28 (two-tailed). In addition, examination of mean scores indicated that Goal Selection was the only career maturity scale showing a pattern in relation to stress similar to that of the Paragraph Completion Test, ie. with lower scores in the intermediate teaching group. This pattern suggests that cognitive complexity (information processing) skills may be involved in

making job choices. Work environment stress may therefore have its greatest socializing impact, a modest one to be sure, on the actual job selection or career goal selection process employed by teachers.

Separate 2 (sex) X 4 (race) analysis of covariance procedures with the QWT as the covariate were performed on all three of the key measures used in the study (stress, cognitive complexity, career maturity). The only significant main effect for sex or race found for any of the measures was the higher score of whites than their non-white colleagues on the CMI competency of Planning or "looking ahead" (COMP4), F (3,78) = 3.3, $p < .05$. This finding is consistent with previous research (eg. Lawrence & Brown, 1976) in reflecting more of a present, rather than a future-oriented career perspective on the part of the minority participants.

An examination of the trends in the Quick Word Test scores showed consecutive increases in verbal ability from a low mean of 36.1 for the education students to a high mean of 60.5 for the experienced teachers. These results correspond with current educational research (eg. Kirst & Guthrie, 1983) which shows that those entering the profession score lower on various measures of ability then their predecessors. This finding is of concern to teacher educators since it suggests a decline in the quality of those entering the profession.

SUMMARY AND CONCLUSIONS

The data from this investigation provide support for the view that stress in the work environment of urban elementary teachers is associated with their way of thinking (cognitive complexity). The relationship may best be expressed in some sort of curvilinear fashion, though it remains for future research to confirm the exact nature of this pattern. The results failed to support the theoretical predictions of the Schroder, Driver and Streufert (1967) hypothesis.

The career maturity of elementary teachers also appears to be related to their work environment but a linear, rather than a curvilinear explanation better fit the overall data. That is, the results suggest that elementary teachers may tend to make better career decisions under less stressful work conditions. The career maturity of teachers also appears to increase with added experience, as Crites' (1965) predicts, especially in these aspects of it having to do with occupational information and self-knowledge. However, the absence of norms for different age and experience levels makes interpretation of the career maturity results difficult, especially in relation to work environment stress. Only in teachers' selecting of career goals or "choosing a job" does their response pattern in relation to stress and work experience appear to be similar to that of their cognitive complexity.

To be sure, correlation does not imply causation, but the findings of this study suggest that occupational conditions may impact the cognitive functioning of workers in particular career patterns. These patterns are of interest to researchers concerned with the teacher socialization process.

There are several possible socialization explanations for the results of this investigation. First, it may be that the patterns of responses are a result of age-linked patterns or clusters of similar personality types rather than differential responses to job stress. Then, they may be rather temporary changes in response to the expectations of others, especially during the beginning and intermediate years of teaching. This is Lortie's (1975) position--that socialization effects are largly completed before formal socialization begins. Thus, the similar scores found for education students and experienced teachers may merely demonstrate a return to an earlier position. Finally, the findings may be a result of the influence of the school environment on teachers' cognition.

The latter explanation suggests that increased stress stimulates cognitive complexity in beginning teachers, but prolonged job stress may be associated with a decline in complexity during the intermediate years. The data which described a decline in stress along with increased complexity and career maturity in experienced teachers may be attributed to a combination of career adaptations by persisters, and movement out

of the profession by those who fail to successfully cope with stress. Data from the present study support this explanation. They show progressive differences in school size and location, and ethnic and socioeconomic composition of students, favoring the more experienced teachers, ie. the younger teachers are more often found in large, inner-city schools. This suggests that teachers may move to less stressful work environments as they gain seniority and experience.

Much of the teacher socialization literature places primary emphasis on the adjustments of beginning teachers to their work environments (eg. Houston & Felder, 1982). The present study, however, suggests that the effects of prolonged job stress and the ability of the teacher to successfully adapt may be more important than the mere fact of high stress levels in beginning teachers. This investigation suggests that teachers and administrators concerned with the issues of efficacy and "burnout" would do well to target efforts to facilitate coping strategies and to reduce stress, on teachers in the intermediate years.

A number of important issues need to be investigated in future research. First, we need greater refinement in the measured constructs. For example, does the nature of stress have differential impact on teachers? While Schroder et al. (1967) hypothesized three types of environmental conditions influencing cognition, each of these conditions may have a differential impact on teachers. What is the optimal level of stress needed to

enhance cognitive functioning? How can different types and levels of stress best be measured? Miller (1981) notes that few studies in the cognitive complexity literature take into account the curvilinear hypothesis. The present finding of significant non-linear differences in the cognitive complexity-stress relationship suggests the need for further testing of the Schroder, Driver and Streufert (1967) hypothesis since it may well impact the interpretation of cognitive complexity research.

Second, research is needed to develop normative data on individual differences of teachers and school climates and the roles these characteristics play in understanding cognitive complexity, stress and career maturity. Relationships among these variables may be more complex than viewed by current investigators.

Lastly, causal relationships should be explored between the concepts of cognitive complexity and teacher stress. Longitudinal or path analysis research designs may assist in meeting this objective. Ethical considerations may virtually preclude the indication of stress on experimental groups, but it is possible to study the impact of naturally occuring stressors by, for example, comparing the cognitive complexity of random samples of teachers from comparable school districts one of which may be experiencing a significant financial crisis, necessitating cutbacks, crowded classes, layoffs, and other stress-related occurrences.

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Table 1

Means and Standard Deviations for Measures of Verbal Ability, Cognitive Complexity and Career Maturity

		Educ. Students		Student Teachers		Begin. Teachers (0-3 yrs)		Intermd. Teachers (4-7 yrs)		Exper. Teachers (8 + yrs)		Total	
		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Para. Compl. Test	PCT	5.6	1.4	5.8	1.5	6.1	1.2	5.3	1.6	6.0	1.8	5.8	1.4
	n	23		30		30		12		14		109	
Quick Word Test	QWT	36.1	11.0	40.0	11.3	45.6	14.1	46.7	11.8	60.6	14.6	44.1	14.4
	n	23		30		30		12		14		109	
Tch.Wrk.Life Inventory	TWLI	93.0	12.0	92.3	12.4	97.4	8.5	98.5	12.3	91.9	9.9	94.1	11.2
	n	23		32		30		12		15		112	
Career Maturity Attitude	CMIATT	56.7	5.4	58.4	3.6	56.8	5.8	56.8	7.1	62.1	2.9	58.0	5.3
	n	17		17		25		9		13		81	
Slf.Apprsl.	COMP1	14.6	2.4	15.9	1.7	15.4	1.8	15.6	2.9	16.5	1.5	15.5	2.0
	n	17		17		25		9		13		81	
Occup.Info.	COMP2	18.4	1.5	19.0	1.1	18.8	1.1	19.2	.7	19.6	.7	19.0	1.2
	n	17		17		25		9		13		81	
Goal Seltn.	COMP3	16.2	2.1	15.6	2.9	16.5	2.2	14.6	2.1	16.0	1.6	16.3	2.6
	n	17		17		24		9		13		80	
Planning	COMP4	14.1	2.6	14.7	2.4	14.0	2.2	14.6	2.1	16.0	1.6	14.6	2.3
	n	17		17		24		9		13		80	
Problm.Slv.	COMP5	11.0	2.1	11.0	2.1	11.4	2.8	12.2	1.8	11.1	2.4	11.3	2.4
	n	17		17		24		9		13		80	

Figure Caption

Figure 1. Mean cognitive complexity scores with teacher stress measure.

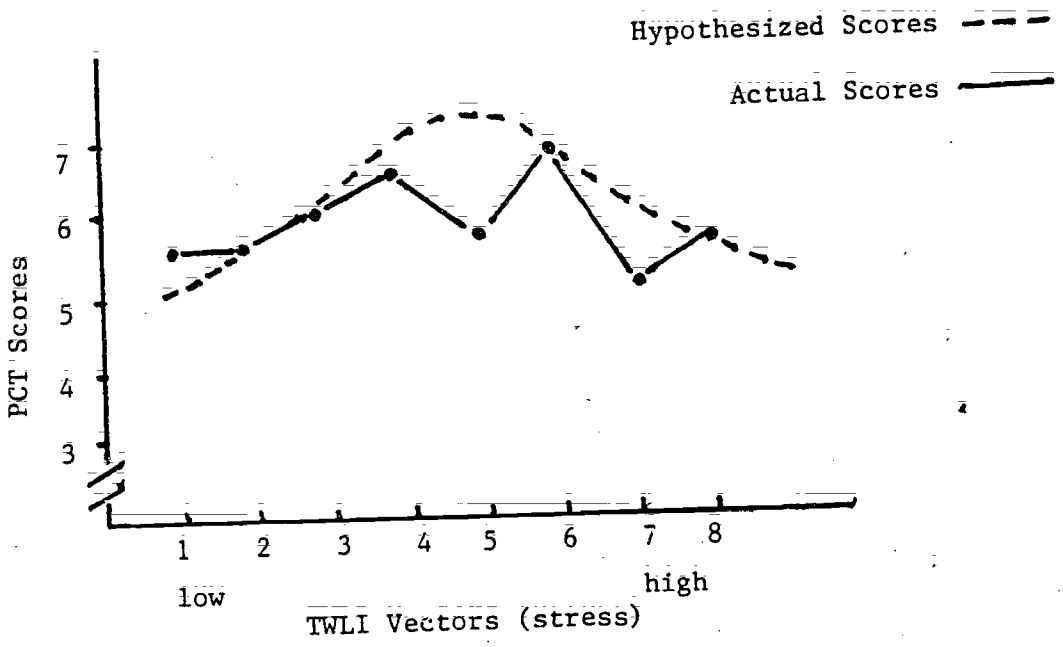

Figure Caption

Figure 2. Mean scores for work stress by teaching experience.

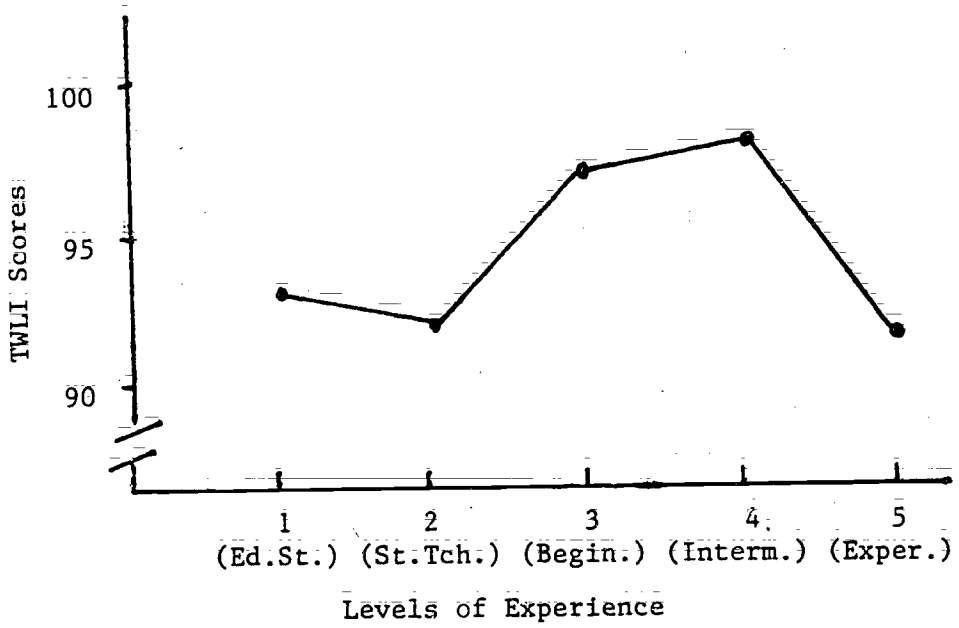

Figure Caption

Figure 3. Mean scores for cognitive complexity by teaching experience.