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ABSTRACT

The purpose of this longitudinal study was to investigate whether or not selected academic ability indices and personal characteristics of 117 teachers were associated with changes in their attitude toward their teaching as a career measured upon the commencement of training, the end of student teaching, and completion of their fifth year of teaching. Mixed model two-way ANOVA procedures revealed that the attitude toward teaching of the neophyte teachers remained stable and positive during teacher preparation but were less positive near the end of their fifth year of teaching; that ACT scores, Rotter's locus of control, Myers-Briggs Type Indicator preferences, gender, grade level of instruction, when the decision to teach was made, and initial degree of assurance about becoming teachers were associated with attitude toward teaching as a career; and that university and education grade point averages, Comprehensive Test of Basic Skills scores, and student teacher performance ratings were not associated with their attitude toward teaching. Significant time in career development, locus of control, and initial degree of assurance interactions were identified, revealing contrasting changes in attitude development during teacher preparation for candidates more and less certain about teaching and similar contrasting changes during the early years of teaching for candidates with internal and external control orientations. These two interactions indicated that the development of attitude toward teaching does not follow the same pattern for all teacher candidates and suggested a possible explanation for the sometimes apparent contradictions noted in the findings from previous research of teacher attitude development. (Contains 31 references.) (Author/ND)

Running head: LONGITUDINAL ATTITUDE DEVELOPMENT

Development of Attitude Toward Teaching Career in a Longitudinal Sample of Teacher Candidates Progressing Through Preparation and Five Years of Teaching

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Abstract

The purpose of this longitudinal study was to investigate whether or not selected academic ability indices and personal characteristics of 117 teachers were associated with changes in their attitude toward teaching as a career measured upon the commencement of training, the end of student teaching, and upon completion of their fifth year of teaching. Mixed model two-way ANOVA procedures revealed that the attitude toward teaching of the neophyte teachers remained stable and positive during teacher preparation but were less positive near the end of their fifth year of teaching; that ACT scores, Rotter's locus of control, Myers-Briggs Type Indicator preferences, gender, grade level of instruction, when the decision to teach was made, and initial degree of assurance about becoming teachers were associated with attitude toward teaching as a career; and that university and education grade point averages, Comprehensive Test of Basis Skills scores, and student teacher performance ratings were not associated with their attitude toward teaching. Significant time in career development x locus of control and initial degree of assurance interactions were identified, revealing contrasting changes in attitude development during teacher preparation for candidates more and less certain about teaching and similar contrasting changes during the early years of teaching for candidates with internal and external control orientations. These two interactions indicate that the development of attitude toward teaching does not follow the same pattern for all teacher candidates and, thereby, suggesting a possible explanation for the sometimes apparent contradictions noted in the findings from previous research of teacher attitude development.

Development of Attitude Toward Teaching Career in a Longitudinal Sample of Teacher Candidates Progressing Through Preparation and Five Years of Teaching

The continued emphasis upon accountability and pupil competence in public education increasingly raises concern about teacher quality and development. This concern has resulted in several recent efforts to consolidate and reassess existing theory and research on teacher development. For example, Firestone and Pennell (1993) reviewed approximately 30 studies investigating relationships between working conditions and the development of commitment to the teaching profession, Brookhart and Freeman (1992) analyzed more than 40 studies of the nature of entering teachers for common research themes and procedures, and Kagan (1992) examined 40-some studies of preservice and beginning teachers for relationships with various theoretical models of teacher development.

Among the common themes noted in the aforementioned integrative interpretations of the existing teacher development research literature were limited but growing numbers of studies evolving from theoretical models of teacher development, such as Fuller's (Fuller & Bown, 1975) model of the development of teaching concerns and Berliner's (1988) model of teacher cognitive development; a need for but relative absence of longitudinal studies of teacher development; and the growing acceptance of the presence of and understanding of stages in teacher career development. Within these studies teacher career development has been viewed as changes in teachers' job skills, knowledge, and behaviors; changes in attitude and outlooks; and changes in job events (Burden, 1982). And evidence indicates that these changes follow a developmental pattern and interact with teachers' beliefs, prior experiences, and personality (Bendixen-Noe & Redick, 1995; Kagan, 1992).

In the present study attitude toward teaching as a career was investigated within a longitudinal sample of teacher candidates as they progressed through teacher preparation and the early years of their classroom teaching. Research of attitude development in teacher candidates suggests a pattern of change from early formalized and rigid attitudes toward teaching to a more liberal, democratic, and humanistic attitude about teaching in mid teacher preparation and returning to the former rigid control of pupils orientation following student teaching and early teaching responsibilities (Callahan, 1980; Hogben & Lawson, 1984; Hoy & Woolfolk, 1990; Lyka & Garlet, 1981). Hoy and Rees (1977) suggest that this regression to an earlier attitudinal position following early teaching experiences may simply result from the teacher candidates' return to the conformity of the conservative, bureaucratic behavior norms of the public schools. In contrast to these research findings, some cross-sectional studies of preservice and inservice teachers have revealed stable attitudes, or even positive changes, rather than negative changes in attitude toward teaching during the transition from students to teachers (Marso & Pigge, 1989; Paschal & Treloar, 1979; Sandgren & Schmidt, 1956). The danger inherent in these studies of cross-sectional samples of preservice-inservice teachers is that many teacher candidates who had experienced an abrupt decline in attitude toward teaching may have already left the profession before the various cross-sectional sampling and measurement points and, therefore, do not appear in the later inservice samples of teachers.

The aforementioned discrepancies in research findings in part also may be explained by suggestions that attitude development, like more general teacher development, is influenced by prior personal experiences and individual characteristics of the prospective teachers and by characteristics of the employing school (Tabachnick & Zeichner, 1984; Zeichner, 1980). Some empirical evidence exists which supports this explanation. For example, Villeme and Hall (1980) and Pigge and Marso (1987) reported that candidate gender and grade level of instruction are related to their attitude toward teaching. Also, Byler and Byler (1984) revealed relationships between extent of student teachers' prior field experience, student teachers' own expectations of their experience, and characteristics of cooperating teachers and the attitudes and morale of student teachers.

Relative to a broader view of the relationships between teacher attitudes and success in the transition from students to teachers as well as between attitudes and classroom teaching behaviors,

Villeme and Hall (1980) reported that candidates with more positive attitudes toward teaching and with higher grade point averages were more likely to actually enter the teaching field; Ramsay and Rensley (1986) found that teacher attitudes influenced the achievement of their pupils; Sorenson, Schaefer, and Nyman (1966) reported that teacher attitude was related to teacher persistence in the profession; Bunting (1988) noted a relationship between teacher attitudes and choice of instructional procedures; Friesen, Prokop, and Sarros (1988) reported a relationship between negative attitudes (e.g., depersonalization) and teacher burnout; and Noad (1979) identified a relationship between teacher attitudes and their pupils' ratings of their teaching performance.

In summation, the developmental perspective of teacher evolution suggests that attitude toward teaching will change during teacher preparation and the initial years of teaching, and research findings indicate that teacher attitudes may be related to both teacher attrition and pupil performance. The research literature also suggests that various academic and personal attributes of teacher candidates, as well as the nature of the teaching setting itself, may interact with the development of teacher attitudes. The purpose of the present study was to further investigate selected academic ability indices and personal characteristics of teachers that may be associated with changes in attitude toward teaching for a longitudinal sample of teacher candidates as they progressed through preparation and the initial years of teaching. More specifically, this study was designed to test the following general hypotheses: 1) Attitude toward teaching as a career will change as the teacher candidates progress from the commencement of preparation, to the completion of student teaching, and to the culmination of their first five years of classroom teaching. 2) Attitude toward teaching as a career will be related to the academic ability of the teacher candidates as indicated by their student teaching performance ratings, university and education grade point averages, American College Test scores, and Comprehensive Test of Basic Skills scores. 3) Attitude toward teaching as a career will be related to the personal attributes of teacher candidates as indicated by their gender, grade level of instruction/major (elementary and secondary), earliness of their decision to choose teaching as a career (prior to, during, or after high school), the presence or absence of teachers in their family, their personality preferences (Myers-Briggs Type Indicator), and to their locus of control orientations (Rotter's externality scale).

Method

The longitudinal sample for this study was comprised of 117 neophyte teachers who completed the Attitude Toward Teaching as a Career measure at the commencement of teacher preparation, near the end of their student teaching practicum, and again near the end of their fifth year of teaching. This attitude scale provides a single score from 11 items responded to on a continuum from strongly disagree '1' to strongly agree '6'; thus, a score of 66 represents the maximum positive attitude score from this instrument. Merwin and DiVesta (1959) reported a test-retest coefficient of reliability of .79 for the scale and construct validity evidence in the form of a significant difference in attitude between students having and not having selected teaching as a career. This instrument is unique in the measurement field in that it provides discriminant validity related to career choice, and more recent research (Pigge & Marso, 1992) has indicated that the scale differentiates between teacher candidates persisting or not persisting through preparation.

This attitude toward teaching instrument is a situation specific scale based upon need theory and the attitude-concept view of attitude structure. Scores from the scale are conceptualized as a function of the individual-belief value matrix wherein attitudes evolve from perceptions that the attitude objects block (negative) or facilitate (positive) need satisfaction. Teachers, therefore, would have a positive attitude toward teaching as a career if they perceived teaching as satisfying their underlying needs. From a teacher development perspective, one could hypothesize that teacher candidates should show an increasingly positive attitude toward teaching as a career as their knowledge and skills develop during teacher preparation and that this positive attitude should remain stable during the initial years of teaching.

The following data also were gathered from the subjects during teacher preparation: American College Test (ACT) and Comprehensive Test of Basic Skills (CTBS) composite scores, university and education grade point averages, Rotter's (1966) externality locus of control scores, university supervisors' ratings of their student teaching performance, Myers-Briggs Type Indicator personal preference classifications (Myers & McCaulley, 1985), gender, grade level of instruction, presence or absence of teachers in their family, and when the decision to teach had been made.

The CTBS is one of the most frequently used K-14 grades standardized achievement batteries with a focus upon assessment of reading skills, language acquisition, and mathematical computations and concepts. The ACT was developed by the American College Testing Program, and it has been one of the two major undergraduate college admissions tests used in the country over the past three decades. The Rotter and Myers-Briggs instruments have been heavily used for various research purposes over a period of many years. The researcher developed university supervisors' scale for rating student teachers' performance encompasses assessments in six performance categories: presents content effectively; effectively plans, prepares, and organizes instructional activities; maintains a positive learning climate; maintains appropriate student behavior; displays professional knowledge and behavior; and shows fairness, tact, compassion, and good judgment. Each of these performance categories is accompanied by behavior descriptions of the types of student teachers' performance to be assessed. The six items are responded to on an eight-point scale from the worst '0' to truly exceptional '7', yielding a total score from zero to 42. The scale directs the university supervisor to rate the current student teacher relative to the typical performance of all student teachers supervised over the prior five years.

This sample of teacher candidates beginning their teacher preparation at a large midwestern teacher preparation institution were predominately White (98%), female (81%), elementary (57%) and secondary (43%) majors, very certain or almost certain about teaching (88%), from families with teachers in the present or prior generation (60%), children of parent or parents not holding four-year college degrees (67%), from somewhat larger families (46% with three or more siblings), second or later birth order (77%), with some or considerable prior teaching-like experiences (73%), very confident about becoming unusually good to exceptionally effective future teachers (78%), from rural (33%) or suburban (54%) high schools of moderate to small size (61% with high school graduating classes of 300 or less), and most had first decided to teach when in their elementary school years (24%) or when in their high school years (50%).

Mixed-model two-factor ANOVA procedures with one repeated measures factor were used to analyze the collected data. The three points of time in teacher development (prior to and following teacher preparation and at the end of the fifth year of teaching), which comprised the repeated measures factor, were used as the first (column classification) independent variable, and the various academic ability indice and personal attribute classifications of the teachers were used as the second (row classification) independent variable. In all analyses the attitude scores were used as the dependent variable.

The specific row classifications used in the 3x2 and 3x3 ANOVA procedures for the academic ability and personal attribute classifications were approximate high and low halves of the academic ability indices derived from the ACT and CTBS composite scores, the university and education grade point averages, and the student teaching performance ratings; the dichotomous personal classifications of gender, grade level of instruction (elementary and secondary), Myers-Briggs' personal preference types (extraversion-introversion, sensing-intuition, thinking-feeling, and judging-perceptive); and three level classifications from Rotter's locus of control (approximate top, mid, and low one-thirds of the externality scores) and from when the teacher candidates first decided to become teachers (prior to, during, or following the high school years).

Results

The ANOVA procedures completed on the data obtained just prior to the beginning of teacher training, near the end of student teaching, and near the completion of the fifth year of teaching indicated that the teachers' attitude toward teaching as a career changed during this period of teacher development. The overall attitude means for these three points in career development were almost identical from pre- to post-teacher preparation (means of 52.24 and 52.26, respectively), but by the fifth year after graduation (M = 49.47) the teachers' attitude toward teaching as a career had become less positive ($F = 5.06$, $p = .0071$) as shown in the top portion of Table 1 when the degree of assurance about teaching was used as the second independent variable. The series of ANOVAs also revealed significant row main effect or interaction F ratios for a total of 7 of the 15 subject academic and personal classifications. It can also be observed in Table 1 that the time variable (column repeated measures), regardless of row variable, was significant each of the seven instances (p's from .0004 to .0122). Post-hoc pair-wise mean comparisons via a Scheffé test ($\propto .10$) revealed no significant differences between the sophomore and senior means but that both of these means were higher than the means after the fifth year of teaching.

Insert Table 1 about here

Assurance About Teaching Classification

The assurance classification revealed an overall attitude mean difference among the very certain ($\underline{M} = 52.67$), certain ($\underline{M} = 50.84$), and uncertain about teaching ($\underline{M} = 48.07$) candidates, $F = 5.82$, $p = .0039$ as shown in Table 1. The post-hoc pair-wise mean comparisons indicated no difference between the very certain and certain candidates, but the uncertain candidates differed from both the certain and very certain candidates. Those teachers who were more assured of their decision to become teachers upon commencement of preparation reported more positive attitudes toward teaching at all three measurement points as can be seen in Table 2. It can also be seen in Table 2 that the standard deviations for the attitude scores for the assurance, and all other significant classifications, were most diverse at the end of the fifth year of teaching. This increased diversity in attitude toward teaching suggests that the classroom teaching experience may have been satisfying the needs of some candidates but perhaps not for other candidates. It also can be noted that attitude diversity was greater within the groups of teachers who had been uncertain (SD = 10.47) and certain (SD = 9.03) than within the very certain (SD = 7.94) about teaching classification upon commencement of teacher preparation.

Insert Table 2 about here

The degree of assurance x time in career development interaction just approached statistical significance ($F = 2.17$, $p = .0737$) for the attitude scores (see Table 1), but the researchers chose to examine this mean pattern more closely as this probability value may have been unduly influenced by the small sample size for the uncertain group (N = 14). These means are presented in Table 2 and are depicted graphically in Figure 1. This interaction indicates that the uncertain candidates initially reported a relatively much less positive attitude toward teaching upon commencement of preparation, followed by a sharply more positive post-preparation attitude near the end of the student teaching practicum, and then followed by the common to all groups decline in positive attitude from the end of teacher preparation to the fifth year of teaching. In addition to depicting the interactions of the three points of development and the three levels of assurance on the attitude scores, Figure 1 also presents selected effect size (E.S.) estimates of the differences between means. Basically these E.S.'s are proportions of an estimated common standard deviation (square root of the mean square error in the

related ANOVA analysis). Typically S.E.'s from .20 to .50 are classified as small, S.E.'s from .50 to .80 as medium, and S.E.'s of .80 and above as large.

Insert Figure 1 about here

The very certain and certain candidates reported little or no attitude change from pre- to post-preparation followed by a decline in positiveness from the end of teacher preparation to the fifth year of teaching. Just the uncertain about teaching candidates reported an increase in positive attitude during teacher preparation and all groups reported a decline in positiveness of attitude toward teaching from the end of teacher preparation to the end of the first five years of teaching (effect size of .27, .59, and .65 for the very certain, certain, and uncertain candidates, see Figure 1). Although the uncertain about-teaching individuals reported the least positive attitude at all three career points, they were the only group of the three reporting a slightly more positive attitude following their inservice teaching than they had upon commencement of teacher preparation.

Locus of Control Classification

The locus of control main effect did not reach statistical significance ($F = 2.05$, $p = .1364$); however, the locus of control x time in career interaction effect was significant ($F = 2.64$, $p = .0359$) as reported in Table 1. The pattern of these means as shown in Table 2 and Figure 2 indicates the high externality teachers, those teachers feeling they had little control over their environment, reported less positive pre- and post-preparation attitudes but somewhat more positive attitudes after teaching as compared to the low and mid externality teachers. The low and mid externality candidates reported higher attitudes during teacher preparation followed by declines in positive attitude from end of preparation to the fifth year of teaching (effect size declines of 1.10 and .49, respectively, see Figure 2) while just the opposite occurred for the high externality group (effect size increase of .27) . The end of teacher preparation to fifth year of teaching decline in attitude toward teaching was particularly sharp for the low externality (effect size of 1.10), those internally oriented teachers who felt they had considerable control over their environment, candidates. This interaction may suggest that the high externals found classroom teaching to be a more need satisfying experience than what was expected; whereas the low externality candidates in particular found their early teaching experiences to be much less satisfying than anticipated. Perhaps these internally controlled teachers found that they, themselves, could not control the teaching setting as much as they had anticipated. This finding may be particularly significant as other researchers have reported that internally controlled teachers, as might be expected by definition of the internal orientation, feel more responsible for the progress of the pupils (Ashton, Webb, & Doda, 1983) and have pupils who achieve higher than pupils of external teachers (Murray & Staebler, 1974). Consequently, this interaction may suggest that the transition from students to teachers may be most difficult attitudinally for those teachers initially most positive about becoming teachers and who become most concerned about the progress of their pupils.

Insert Figure 2 about here

Academic Ability Classifications

The CTBS, university and education grade point averages, and the student teaching performance academic indice row classifications of the teacher candidates did not result in statistically significant main or interaction effects. The ACT classification, however, revealed a significant main mean difference but a nonsignificant interaction effect. The high ACT candidates reported a more positive attitude toward teaching ($\underline{M} = 52.99$) than did the low ACT candidates ($\underline{M} = 50.69$), $F = 4.36$, $p = .0401$ as shown in Table 1. The attitude means at the three career points, as

reported in Table 2, indicate that the differences in attitude between the high and low ACT groups were barely evident at the commencement of preparation but became more evident at the end of teacher preparation and persisted to the end of the fifth year of teaching. Both the high and low ACT candidates reported their least positive attitudes at the end of the fifth year of teaching. The low ACT candidates, however, reported somewhat less positive attitudes at all three career points and reported the larger decline in attitude over the seven-year period.

Myers-Briggs Preference Classifications

Three of the four Myers-Briggs classifications resulted in significant main effect attitude mean differences, but none of the time in career x Myers-Briggs classification interactions were significant (see Table 1). The perceptive candidates, those preferring a flexible and spontaneous way of life, reported a less positive attitude ($\underline{M}$ = 49.13) than the judging ($\underline{M}$ = 52.27) candidates who prefer a more planned and orderly way of life, $F = 7.86$, $p = .0061$. The extroverted candidates ($\underline{M}$ = 52.41), those preferring the outer world of people and things, reported a more positive attitude toward teaching than the introverted candidates ($\underline{M}$ = 49.98), those preferring the inner world of ideas, $F = 6.22$, $p = .0142$. And the sensing candidates ($\underline{M}$ = 52.67), those preferring to work with known facts, reported a more positive attitude about teaching than the intuitive candidates ($\underline{M}$ = 51.29) who prefer to work with possibilities and relationships, $F = 4.93$, $p = .0287$ as shown in Table 1. As noted earlier, the standard deviations for the attitude scores after the fifth year of teaching were larger than at the two earlier career points. The majority of these candidates were classified as judging and extroverted rather than perceptive and introverted, but the candidates were rather evenly divided within the sensing-intuitive classification. As the nonsignificant interaction effects would suggest, none of these preference classifications of the teachers revealed variations in attitude other than the previously reported small general decline from the end of preparation to the end of the fifth year and the greater diversity of attitudes after teaching as compared to the diversity at the two preservice measurement points (see Table 2).

Elementary-Secondary Major Classifications

The elementary school majors ($\underline{M}$ = 52.11) reported somewhat more positive attitudes about teaching than the secondary majors ($\underline{M}$ = 50.20), $F = 3.81$, $p = .0534$ as shown in Table 1. The time in career x major classification interaction was not significant. The difference in attitudes revealed between the elementary and secondary majors appears to be similar at each of the three career points as can be seen in Table 2. This would suggest that the elementary and secondary candidates experienced relatively similar levels of satisfaction as they progressed through teacher preparation and their first five years of teaching. As previously noted, however, greater within group diversity was noted at the end of teaching as compared to the two earlier times in career development.

Summary and Discussion

Differences in attitude toward teaching as a career were identified across the three career development points in this longitudinal sample of 117 teacher candidates. Attitudes toward teaching remained stable and positive between the commencement of teacher preparation and the end of the student teaching practicum, but attitudes toward teaching became less positive between the completion of the student teaching practicum and the fifth year of teaching. Also considerably more diversity in attitude was noted at the fifth year of teaching than at the two earlier career points. These findings provided support for the first hypothesis that change in attitude would occur during teacher development; however, the finding of no gain in positiveness of attitude during teacher preparation and the decline in positiveness of attitude from the end of teacher preparation to the end of the fifth year of teaching is contrary to the presumptions underlying the attitude measure and related developmental theory. Attitudinal theory models suggest that attitudes toward teaching should become more positive as novice teachers develop their professional knowledge and teaching skills and

as they find that teaching satisfies their needs. Somewhat the opposite appeared to have occured in the present study.

Just the ACT classification among the selected academic ability indices was found to be related to the teacher candidates' attitude toward teaching. The teacher candidates with higher ACT scores reported higher levels of attitude toward teaching than did their cohorts with lower ACT scores. The CTBS scores, university and education grade point averages, and student teaching performance ratings classifications were not found to be related to the candidates' attitude toward teaching. This lent scant support for the second hypothesis of a relationship between attitude development and academic performance indices of teacher candidates.

Among the personal classifications of the teacher candidates, the assurance about teaching, locus of control orientation, secondary-elementary school major, and the Myers-Briggs preference classifications were found to be related to the novice teachers' attitude toward teaching as a career in support of the third hypothesis stated for the study. The gender, time of decision to teach, and presence or absence of teachers in the family classifications were not found to be related to the teaching candidates' attitude toward teaching. Generally, the candidates more confident about the decision to teach, those feeling they can influence their world (an internally rather than an externally controlled orientation), those extroverted rather than introverted, those sensing rather than intuitive (preference for known facts versus possibilities), those judging rather than perceiving (preference for flexible versus planned way of life), and the elementary rather than secondary school teachers reported more positive attitudes toward teaching.

The two significant, or near significant, interactions identified in the ANOVA procedures provided still further support for hypothesis three and suggested that the main effect of attitude development over the three points in career development cannot be interpreted accurately without considering the candidates' initial degree of assurance about teaching and their locus of control orientation. The presence of personal characteristics x time in development interactions might in part explain some of the inconsistencies of findings in previous research. For example, in this study the low externality (internally controlled) candidates reported the most positive attitudes during preparation but the greatest reduction in positiveness of attitude between the end of teacher preparation and the end of the fifth year of teaching as compared to their mid or high externality cohorts. In contrast, the candidates with the least initial certainty about teaching acquired a much more positive attitude during teacher preparation, and they reported less of a decline in attitude over the three career points than did their more certain cohorts.

Greater diversity in attitude toward teaching was found at the end of the fifth year of teaching compared to the pre- and post-teacher preparation points in career development. For all classifications of the neophyte teachers, the standard deviations were greater for the fifth year of teaching attitude scores than for the attitude scores obtained prior to or following teacher preparation. The standard deviations for the attitude scores at the fifth year of teaching were approximately twice the magnitude of one or both of the standard deviations for attitude scores obtained prior to or at the end of teacher preparation within the various academic or personal classifications of the teachers.

In summation, attitude toward teaching as a career remained constant during teacher preparation but became less positive between the end of teacher preparation and near the end of the fifth year of classroom teaching for this longitudinal sample of teachers. Perhaps this decrease in positive attitude as well as the increased diversity of attitude scores noted at the fifth year of teaching reflects the challenge and demands of a profession characterized by stress, burnout, and high attrition rates. This may be particularly true of these initial teaching years of the transition from students to teachers which are frequently described as a period of "reality shock" in the research literature. Relatedly and of particular concern was the finding that the internally controlled candidates, noted in previous research as feeling more responsible for pupils (Ashton, Webb, & Doda, 1983) and having higher achieving pupils (Murray & Staebler, 1974), reported relatively more abrupt

declines in the positiveness of attitude toward teaching from the end of teacher preparation to the end of the fifth year of teaching than did their cohorts. This suggests that our more desirable teachers might most suffer in the transition from students to teachers and, as a consequence, may be most prone to leave the profession.

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Table 1

2x3 and 3x3 ANOVA F Values for the Attitude Toward Teaching as a Career Means at Three Times in Teacher Development and for Seven Classifications of Teachers

Time in Teacher Development						Subject Classifications						Interaction		
						Assurance Teach						Time x Assurance		
Soph.	Senior	5th year	df	F	p	Very Certain	Certain	Uncertain	df	F	p	df	F	p
52.24	52.26 *	49.79	2,228	5.06	.0071	52.67	50.84	48.07	2,114	5.82	.0039	4,228	2.17	.0737
						External Locus of Control								
						Low	Mid	High				Time x Locus		
52.47	52.55	49.71	2,148	4.74	.0102	53.28	51.22	50.22	2,74	2.05	.1364	4,148	2.64	.0359
						ACT								
						High		Low				Time x ACT		
52.73	52.73	49.79	2,156	7.35	.0009	52.99		50.69	1,78	4.36	.0401	2,156	1.54	.2177
						Myers-Briggs Preferences								
						Judging		Perceptive				Time x J-P		
52.51	52.55	49.82	2,200	4.51	.0122	52.27		49.13	1,100	7.86	.0061	2,200	0.28	.7534
						Myers-Briggs Preferences								
						Extrovert		Introvert				Time x E-I		
52.51	52.55	49.82	2,200	8.22	.0004	52.41		49.98	1,100	6.22	.0142	2,200	1.32	.2698
						Myers-Briggs Preferences								
						Sensing		Intuitive				Time x S-I		
52.33	52.56	50.86	2,200	7.51	.0007	52.67		51.29	1,100	4.93	.0287	2,200	2.12	.1221
						Major								
						Elementary		Secondary				Time x Major		
52.43	52.36	49.63	2,224	7.88	.0005	52.11		50.20	1,112	3.81	.0534	2,224	0.01	.9927

* Means above the same line do not differ significantly, Scheffé post-hoc tests, ∝ .10.

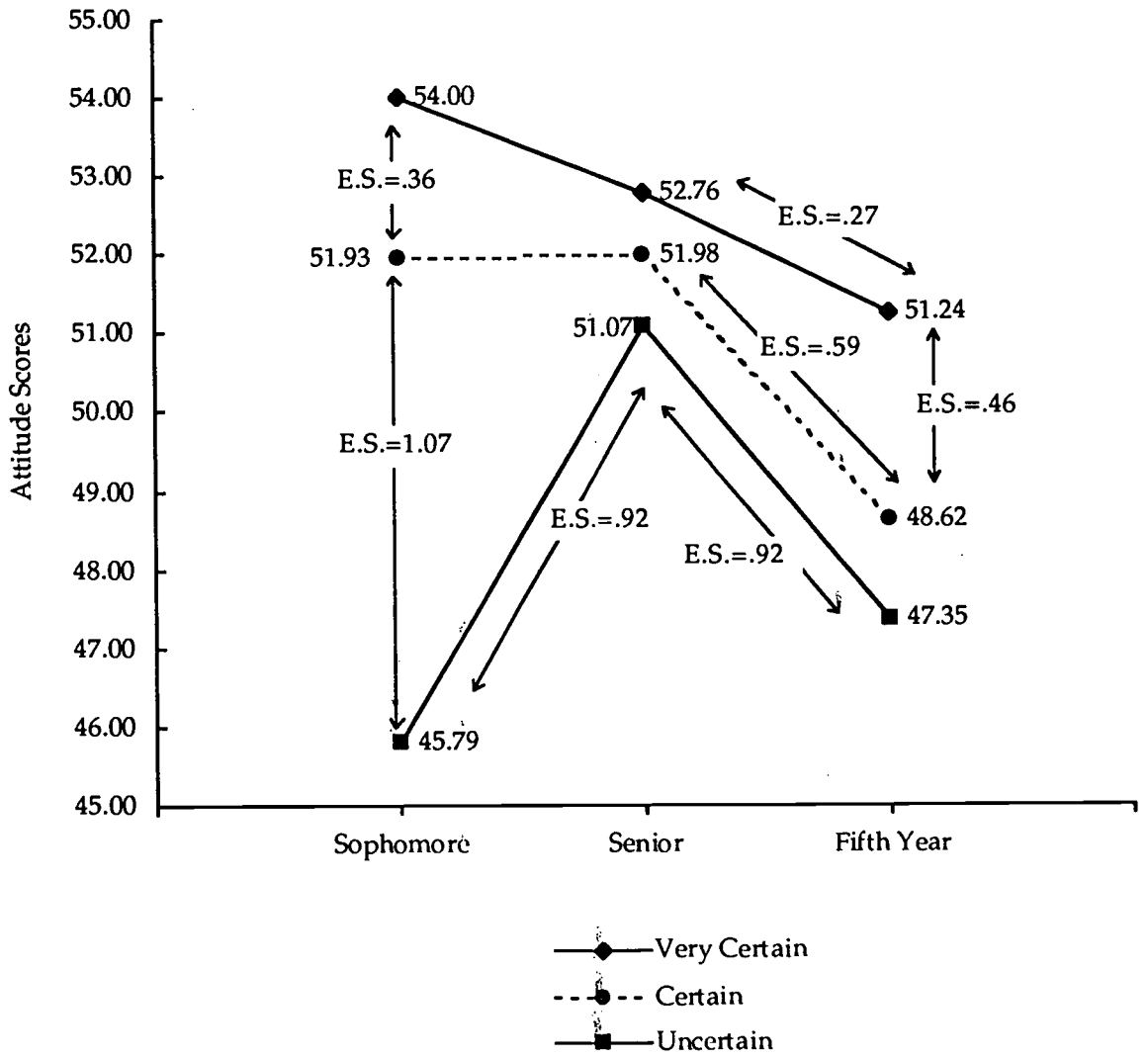
Table 2

Means, Standard Deviations, and N's for Classifications of the Teachers Revealing Differences in Attitude Toward Teaching as a Career at the Three Times in Development

			Time in Teacher Development					
			Sophomores		Seniors		5th Yr. Teaching	
Subject Classifications		N's	M	SD	M	SD	M	SD
Assurance:	Very Certain	59	54.00	5.04	52.76	6.12	51.24	7.94
	Certain	44	51.93	4.30	51.98	4.83	48.62	9.03
	Uncertain	14	45.79	6.46	51.07	3.99	47.35	10.47
Locus of Control:	Low	22	54.95	5.00	55.55	4.58	49.33	10.51
	Mid	37	52.27	6.14	52.08	4.80	49.31	8.68
	High	18	49.83	5.54	49.83	5.82	51.01	7.35
ACT:	High	37	53.03	5.60	54.41	5.07	51.53	7.16
	Low	43	52.49	6.06	51.28	5.75	48.29	9.16
Myers-Briggs:	Judging	81	53.33	5.63	53.09	5.50	50.40	8.52
	Perceptive	21	49.33	4.78	50.48	4.59	47.59	7.99
	Extrovert	69	53.46	5.13	52.83	5.60	50.95	7.24
	Introvert	33	50.51	6.32	51.97	5.01	47.47	10.27
	Sensing	50	53.42	5.35	52.82	5.84	51.76	7.51
	Intuitive	52	51.63	5.90	52.29	5.00	49.96	8.95
Major	Elementary	76	53.08	5.94	52.96	5.66	50.29	8.55
	Secondary	38	51.15	5.50	51.16	4.73	48.30	9.23

Figure 1

Time in Teacher Development x Levels of Assurance About Teaching



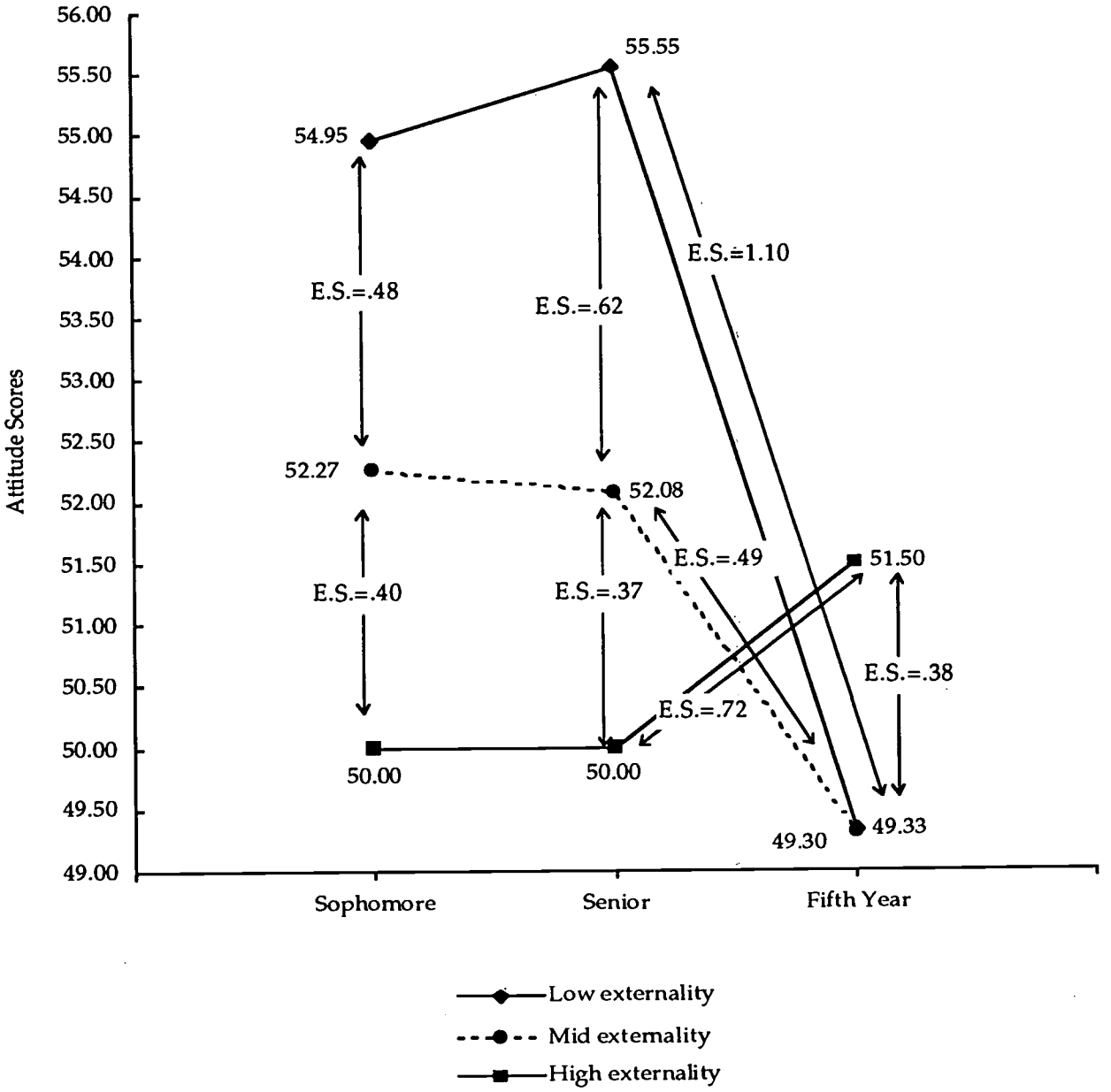
$MS_e = 32.88$

est. $\sigma = \sqrt{MS_e} = 5.73$

Effect Size (E.S.) = $\frac{M_1 - M_2}{\text{est. } \sigma}$

Figure 2

Time in Teacher Development x Locus of Control Orientation



$MS_e = 31.83$

est. $\sigma = \sqrt{MS_e} = 5.64$

Effect Size (E.S.) = $\frac{M_1 - M_2}{\text{est. } \sigma}$

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