Shelley Hasinoff
Manitoba Education, Citizenship and Youth

   and

David Mandzuk
University of Manitoba

Bonding, Bridging, and Becoming a Teacher: Student Cohorts and Teacher Identity

This research examines the effects of social capital on teacher identity in a sample of undergraduate after-degree education students who took most or all of their courses together as a cohort. A theoretical model containing nine variables including university and social background, social capital, and teacher identity is presented. The data obtained from questionnaires completed by 239 students in the Faculty of Education at a Western Canadian university are used to test the model. The results indicate that when other variables are taken into account, students' perceptions of social capital resources available in their cohort have direct and indirect effects on their teacher identity.

Cet article traite des effets du capital social sur l'identité enseignante chez une cohorte d'étudiants du premier cycle d'un programme de B.Ed. A.D. qui avaient suivi tous leurs cours (ou la plupart d'entre eux) ensemble. Nous présentons un modèle théorique composé de neuf variables dont la formation universitaire, les antécédents sociaux, le capital social et l'identité enseignante, et nous le mettons à l'épreuve en employant les données découlant des questionnaires complétés par 239 étudiants à la Faculty of Education d'une université de l'Ouest canadien. Les résultats indiquent que, tout en tenant compte des autres variables, les perceptions qu'ont les étudiants des ressources de capital social disponibles dans leur cohorte ont des effets directs et indirects sur leur identité enseignante.

A major goal of teacher education programs is to facilitate the development of teacher identity in beginning teachers. Although there is some question as to how best to organize teacher education to meet this goal, increasingly faculties of education, like other professional faculties, are choosing to organize their students into cohorts (Mather & Hanley, 1999; Shapon-Shevin & Chandler-Olcott, 2001) in which they take many if not all of their courses together. Cohorts provide students with opportunities to become a member of a community of practice in which students "work together—sharing knowledge, solving common problems, and exchanging insights and frustrations" (Lesser & Prusak, 2001, p. 251). As a member of a community of practice, students may be expected to develop a sense of joint purpose through common tasks, contexts, and work interests and to construct their professional identities as teachers in the process.

Shelley Hasinoff is the Coordinator of the Independent Education Unit, Education Administrative Services.
David Mandzuk is a professor in the Department of Educational Administration, Foundations and Psychology, and Assistant Dean of Undergraduate Programs, Faculty of Education.

The resources that accrue to individuals as a result of their social interactions in communities of practice are generally referred to as social capital. The concept of *social capital* (Bourdieu, 1985; Clifton, 1999; Coleman, 1988; Dika & Singh, 2002; Engestrom, 2001; Etcheverry, 1995; Etcheverry, Clifton, & Roberts, 2001; Mandzuk & Hasinoff, 2002; Portes & Landolt, 1996; Putnam, 2000; Woolcock, 2001) links the development of common understandings, trust, reciprocity, and more generally a sense of community among students with the goals of teacher education. This study of Faculty of Education students in an after-degree program is part of a broader investigation of social capital and professional identity that we are conducting across four faculties at a large Western Canadian university.

Social Capital in Cohort Groups

According to Putnam (2000), the core idea of social capital is that social networks have value. Specifically, social capital refers to the assets available to individuals by virtue of their membership in groups (Bourdieu, 1986; Coleman, 1988). In particular, stable, tightly knit groups such as cohorts offer many opportunities for students to develop what researchers identify as bonding social capital, but fewer experiences that result in the development of *bridging* social capital (Engestrom, 2001; Mandzuk, Hasinoff, & Seifert, 2003; Portes & Landoldt, 1996). Bonding refers to deep inward-looking relationships characteristic of primary social groups such as families, which reinforce alliances among similar types of people. Bonding social capital describes the strong interpersonal relationships and sense of community that students value so highly in student cohorts (Bochenek, 1999; Maher, 2004; Mandzuk et al., 2003). Bridging, on the other hand, refers to broad, outward-looking relationships such as those found among acquaintances or business connections that create diverse alliances among different kinds of people. Bridging brings students in touch with the wide range of resources available in the teaching profession as well as giving them the ability to leverage these resources to secure employment as teachers. Bridging social capital, in other words, is important for students to reach beyond their more inward-looking cohort community to participate in the wider community of professional educators.

Teacher Identity

Professional socialization is an interactive process in which both institutions and individuals share responsibility (Bucholtz, 1999). Institutions such as faculties of education and the schools in which student teachers practice teach are responsible for providing opportunities for student teachers to learn about and to experience the role of teacher through increasing participation in the practices of teaching (Lave & Wenger, 1991). In addition, faculties that organize students into cohorts facilitate the generation of social capital so that students gain access to the social, emotional, and academic support afforded by their peers. For their part individuals are responsible for taking advantage of the opportunities that are offered in order to internalize the values, beliefs, and attitudes of the teaching profession. Students need to participate actively in their own teacher identity formation and development in order to move from peripheral involvement in teaching (Lave & Wenger, 1991) to planning and organizing their time around their teaching interests (Britton & Tesser, 1991).

Brott and Kajs (2001) point out that increasing involvement is part of the "maturational processes that begin during one's training for the profession, evolve during entry to the profession, and continue to develop as the practitioner identifies with the profession" (p. 2). However, professional identity formation and development probably begin well before students enter a faculty of education, playing a role in a student's decision to enter into training for that profession in the first place (Cavenagh, Dewberry, & Jones, 2000). Indeed, it is widely recognized (Lanier & Little, 1986; Zeichner & Gore, 1990) that many students identify with the teacher role even before they enter faculties of education. Lortie (1975) suggests that anticipatory socialization or *role anticipation* occurs at least in part as a result of the over 12,000 hours spent by student teachers in what he calls an *apprenticeship of observation.*

In addition to anticipating the role of teacher, students must become increasingly committed to their role as teachers and to teaching as a priority in their lives. According to Cavenagh et al. (2000), "Professional commitment has been identified as a necessary ingredient of professional identity and it has been shown that 'professional' graduates normally emerge with a great sense of commitment to their chosen profession" (p. 897). Although teacher identity is not fixed and must be "forever re-established and negotiated" (Sachs, 1999), we argue that students who develop both dimensions of teacher identity, role anticipation and role commitment, begin to feel and behave as if they are teachers and to value teaching as a priority in their lives. Students who do so acquire a "teacher perspective in which situations are both seen and interpreted in a new way" (Lacey, 1977, p. 14).

Figure 1 explores the relationships among the background and social capital variables (bonding and bridging) and teacher identity (role anticipation and role commitment) in the form of a theoretical model. Theory in this regard refers to "a set of interrelated constructs (concepts), definitions and propositions that represent a systematic view of phenomena by specifying relationships among variables, with the purpose of explaining and predicting the phenomena" (Kerlinger, 1986, p. 9).

Our model includes a number of measures of social and university background, social capital, and teacher identity and is similar to other models of teacher identity that have included both institutional and individual variables (Etcheverry, 1995; Hasinoff, 1998; Mandzuk, 1994) and to a model developed by Etcheverry et al. (2001) to explain the relationships between social capital and educational attainment. However, this model is unique because our measures of social capital and professional identity align with current conceptualizations of these constructs and provide an empirical examination of what Wenger (1998) suggests is the "profound connection between identity and practice" (p. 4).

Social and university background variables were included in this model because individual characteristics may influence students' perceptions. The social background variables *sex, age*, and *hours of employment* are the first set of variables included in the model. Research on the differing perceptions of males and females of educational experiences (Clifton, 1999) suggests that it is important to consider gender when examining the effects of social capital on teacher identity. Furthermore, gender research highlights the importance of taking into account the female perspective in any consideration of community and identity
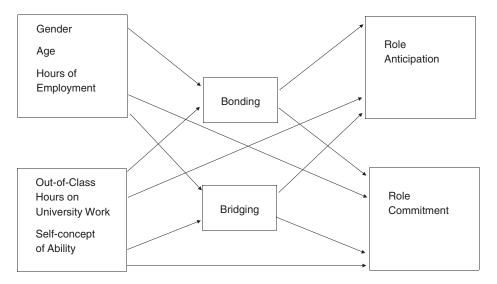
Figure 1. The theoretical model.

(Bucholtz, 1999; Ortner, 1996). It is important to consider the effects of age because older and younger students experience university differently (Astin, 1993; Kasworm & Pike, 1994). Mature students not only have multiple role demands (Fleet, Moore, & Rodger, 1997), but they may also have stronger role anticipation and role commitment than younger students by virtue of their life experiences. The number of hours students spend in paid employment is important because students who need to limit their time for university work experience greater stress (Franke, 2003). Of course, students who spend many hours in paid employment also have fewer opportunities to generate and access social capital.

The two university background variables included in the model are *out-of-class hours* and *self-concept of ability*. Out-of-class hours, the number of hours students spend on classwork outside the classroom, represents students' degree of involvement in their studies. Self-concept of ability, the attitudes students have about their academic ability (Astin, 1993; Pascarella & Terenzini, 1991), represents the degree of confidence students have in their ability to meet their program's academic requirements. It is important to include measures of out-of-class work and self-perceptions of academic ability because students who work longer hours on their university work and who feel that they are able to succeed academically are more likely to develop stronger teacher identities than students who spend little time on their university work and have low self-concepts of their ability.

The second set of variables represents two forms of social capital, bonding and bridging. Bonding describes the degree to which students feel attached to other members of the cohort. Bridging, on the other hand, reflects the degree to which students make efforts to reach out to others in their field. Bonding and bridging are important because students who generate and access social capital are developing networks of colleagues on whom they can rely in the future and building their professional identities in the process.

The third set of variables are the teacher identity variables. The first variable, labeled *role anticipation*, measures the degree to which students think and feel as if they are teachers. The second teacher identity variable, labeled *role commitment*, measures the degree to which teaching is a priority in students' lives. Both role anticipation and role commitment are major goals of teacher socialization and in this study are treated as outcome variables. Although there is some educational research on the cohort model (Mather & Hanley, 1999; Shapon-Shevin & Chandler-Olcott, 2001), social capital (Clifton, 1999: Dika & Singh, 2002; Etcheverry et al., 2001), and teacher identity (Etcheverry, 1995; Hasinoff, 1998; Mandzuk, 1994), little research empirically measures and tests the relationships among these factors. In the following section, we present the methodology used to examine the effects of social capital on teacher identity.

Methodology

Survey and Participants

After-degree undergraduate education students from three programs in the Faculty of Education of a western Canadian university were surveyed using the *Measuring Social Capital in Cohort Groups* questionnaire developed from an earlier pilot study (Hasinoff & Mandzuk, 2002). This questionnaire was administered during a common time set aside for all students in each of the early-years, middle-years, and senior-years programs in the Faculty of Education. A total of 239 students agreed to participate, including 161 students from year 1 and 78 students from year 2. Seventy-three participants were early-years students, 80 were middle-years students, and 69 were senior-years students. Overall this represented a response rate of 53.4 %. The first part of the questionnaire is called *Developing Social Capital* and is divided into two parts, Part A: *Inside the Cohort* and Part B: *Outside the Cohort*. Parts A and B consist of 28 and 25 items respectively that are organized on a 4-point Likert scale. The second part of the questionnaire is called *Teacher Identity* (Jackson, 1981) and comprises 23 items that are also organized on a 4-point Likert scale. This scale is designed to measure the degree to which students identify with the teacher role. The third part of the questionnaire asks students for demographic information such as gender, age, program, year in program, cohort section, whether they are employed and if so, for how long, and whether they are married, if they have dependents, and if so, how many. The final part of the questionnaire simply asks students if they have any additional thoughts on the benefits and/or challenges of being a member of a cohort. The results of the analysis from this part of the questionnaire are reported elsewhere (Mandzuk et al., 2003).

The Variables

Four social background variables (whether students are employed, married, have dependents and if so how many) were dropped from further analysis based on weak associations with other variables of interest. Three other social background variables (gender, age, and hours of employment) displayed moderate to strong associations with variables of interest and were retained for inclusion in the model. Gender was treated as a dummy variable with men coded as 1 and women coded as 2. The sample consisted of 31% male and 69% female respondents, which was close to the reported proportions of men and women in the Faculty of Education (Office of Institutional Analysis, 2003). One student did not report gender. Age was determined by responses to the ques-

tion *How old are you?* which were recoded to normalize the distribution. Ages between 31 and 52 were recoded as the midpoint age of 41. Recoded ages of respondents ranged from 20 to 41 with a mean age of 28.3. Eleven students did not report their age. Hours of paid employment were recoded to normalize the distribution. Students who reported that they were not employed were coded as 0. Students who worked in paid employment from 1-4 hours were coded as 1, 5-9 hours as 2, 10-20 hours as 3, 21-38 hours as 4, and over 39 hours as 5. Thirty-five percent of students reported that they were unemployed. Of the remainder 15% worked 9 hours or fewer, 37% worked between 10 and 20 hours, and 13% worked more than 21 hours.

Two university background variables (year in program and program) for which data were gathered were not included in the model. Year in the program was dropped because there were no second-year senior-years students available to participate in the study and based on a preliminary analysis, program added no explanatory power to the model. Two university background variables, *out-of-class hours on university work* and *self-concept of ability*, were retained for inclusion in the model. Students were asked to indicate on a five-point scale (0-4, 5-9, 10-14, 15-19, and 20 or more hours) how much time they spent on their university-related work per week for the variable *out-of-class hours*. Six percent of respondents reported that they spent 0-4 hours, 22% reported between 5 and 9 hours, 42% reported between 10 and 14 hours, 18% reported between 15 and 19 hours, and 13% reported over 20 hours per week. *Self-concept of ability* was measured by the question *So far, how would you describe yourself academically as a student in the Faculty of Education?* Responses were coded as 1 for *below average*, 2 for *average*, 3 for *above average,* and 4 for *superior.* Only one student described himself or herself as *below average*, 36% described themselves as *average*, 56% as *above average*, and 8% as *superior.*

The two social capital variables *bonding* and *bridging* were created from an exploratory factor analysis that reduced 53 items in the first two parts of the *Measuring Social Capital in Cohort Groups* questionnaire to a more parsimonious structure (Gorsuch, 1983; Norusis, 1985). The two factors were extracted using a scree test and an eigenvalue specification of 1.0 plus and were rotated using the oblimin criterion (Kim & Mueller, 1978). Both variables are additive scales that include items that students rated on a four-point rating scale with 1 indicating *strongly disagree* and 4 indicating *strongly agree* (see Appendix). Bonding is a 14-item scale that measures students' perceptions of the social capital available to them as resources inside the cohort. The inter-item correlations for this scale range from .17 to .60, the factor loadings range from .53 to .72, and the alpha reliability coefficient is .89. Alpha reliabilities above .80 are considered to be very good (DeVellis, 1991). Reported scores range from 29 to 56, and the mean score is 48.3 with a standard deviation of 4.8. The higher the score, the greater were students' perceptions of having resources in their cohort. Bridging is a 14-item scale that measures students' perceptions of the social capital available to them as resources outside the cohort. The inter-item correlations for this scale range from .08 to .68, the factor loadings range from .48 to .74, and the alpha reliability coefficient is .86. Reported scores range from 27 to 56, and the mean score is 43.5 with a standard deviation of 5.8. The higher the score, the greater the amount of social capital resources students perceived to be available outside their cohort.

Two teacher identity variables, *role anticipation* and *role commitment*, were created using principal component analysis of students' responses to a 23-item instrument originally developed by Jackson (1981). For this research the original instrument was modified to relate specifically to student teachers and was changed from a true/false response format to a Likert-scale. Both variables consist of additive scales that include items that students rated on a 4-point scale with 1 indicating *strongly disagree* and 4 indicating *strongly agree* (see Appendix). Role anticipation is a 6-item scale that measures the degree to which students think and feel as if they are teachers. The inter-item correlations range from .16 to .46, the factor loadings range from .33 to .70, and the alpha reliability coefficient is .69. Alpha reliabilities between .65 and .70 are considered to be minimally acceptable (DeVellis, 1991). Reported scores range from 7 to 24, and the mean score is 15.9 with a standard deviation of 2.9. The higher the score, the stronger a student anticipates their future role as a teacher. Role commitment is an 8-item scale that measures students' commitment to teaching. The inter-item correlations range from .15 to .52, the factor loadings range from .40 to .71 and the alpha reliability coefficient is .77. Alpha reliabilities between .70 and .80 are considered to be respectable (DeVellis, 1991). Reported scores range from 20 to 32, and the mean score is 28.2 with a standard deviation of 2.7. The higher the score, the stronger the commitment students have to their teacher role.

The Procedure

To test the theoretical model incorporating these nine variables, the data were analyzed using structural equation modeling that involved a series of multiple regression analyses (Asher, 1976; Hoyle, 1995; Pedhauzer, 1982). First, all variables in the model were examined for normality and homoscedasticity. All variables were normally distributed and met the basic assumptions of multiple regression analyses. Second, Pearson Product Moment correlations between all pairs of variables in the model were calculated. Third, a series of regression analyses guided by the theoretical model were conducted in order to estimate the magnitude of the relationship between the variables. In the following section, we report standardized and unstandardized regression coefficients and discuss statistically significant coefficients.

Results

Table 1 reports the zero-order correlation coefficients between all the pairs of variables in the theoretical model. Some of these correlations supported the relationships predicted by our theoretical model. Specifically, there were significant relationships among some of the social background variables and teacher identity. There was a positive association between gender and role anticipation (.20 $p \leq .01$) and between age and role anticipation (.14 $p \leq .05$). There was also a significant relationship between university background and teacher identity. In particular, there were highly significant associations between the amount of time spent out of class on university work and role anticipation (.28 $p \leq .01$) and role commitment (.28 $p \leq .01$) and between self-concept of ability and role commitment (.24 $p \leq .01$). There were significant relationships between the two social capital variables and the two teacher identity variables. Specifically, there were highly significant associations between bonding and role anticipation (.29 $p \leq .01$) and between bonding and role commitment (.50 $p \leq .01$). There

S. Hasinoff and D. Mandzuk

Table 1
Correlation Coefficients, Means, and Standard Deviations for the Variables in the Theoretical Model

	OCHUW	HEMP	GENDER	AGE	SCA	BONDING	BRIDGING	RA	RC
1. OCHUW	1.00								
2. HEMP	–.10	1.00							
3. GENDER	.17*	–.15*	1.00						
4. AGE	.01	.32**	–.27***	1.00					
5. SCA	.13	–.01	.15*	.02	1.00				
6. BONDING	.11	–.13	.16*	–.02	.09	1.00			
7. BRIDGING	.08	–.09	.13	.11	.06	.30**	1.00		
8 RA	.28**	.05	.20**	.14*	.05	.29**	.23**	1.00	
9. RC	.28**	.02	.13	–.03	.24**	.50**	.22**	.42**	1.00
Means	3.10	1.95	1.69	28.30	2.73	48.29	42.55	15.85	28.16
Standard Deviations	1.06	1.62	.46	7.85	.60	4.81	5.76	2.91	2.74

*p≤.05, **p≤.01.
(OCHUW=Out-of-Class Hours on University Work; HEMP= Hours of Employment; SCA=Self Concept of Ability; RA=Role Anticipation; RC=Role Commitment).

Table 2
Effect Parameters of the Model

Independent Variables	Bonding		Bridging		Role Anticipation			Role Commitment		
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Gender	.16*	.14	.19**	.17*	.25**	.21**	.16*	.13*	.05	−.02
	(1.69)	(1.42)	(2.38)	(2.15)	(1.52)	(1.27)	(.99)	(.78)	(.31)	(−9.54)
Age	.06	.04	.13	.12	.19**	.16*	.14*	−.01	−.05	−.08
	(3.46)	(2.52)	(9.66)	(8.98)	(7.22)	(6.05)	(5.19)	(−1.68)	(−1.83)	(−2.82)
Hours of Employment	−1.00	−.09	.09	.10	.02	.05	.07	.04	.07	.12
	(−2.97)	(−.27)	(.33)	(3.55)	(4.12)	(8.83)	(.12)	(6.54)	(.115)	(.20)
Out of class hours		.08		.04		.24**	.22**		.25**	.22**
		(.36)		(.22)		(.63)	(.58)		(.64)	(.56)
Self-concept of ability		.06		.06		−.02	−.03		.20**	.17**
		(.49)		(.53)		(−8.82)	(−.16)		(.90)	(.78)
Bonding							.22**			.45**
							(.13)			(.26)
Bridging							.10			.05
							(5.20)			(2.34)
R^2	.02	.02	.04	.03	.01	.11	.17	.01	.12	.31

*$p \leq .05$ **$p \leq .01$.
Standardized and unstandardized regression coefficients are reported. Unstandardized regression coefficients are in parentheses.

were also highly significant associations between bridging and role anticipation (.23 $p≤.01$) and between bridging and role commitment (.22 $p≤.01$). To further examine the importance of the relationships among the variables, multivariate analyses were conducted.

The first two analyses in Table 2 report the effects of the independent variables *social and university background* on the intervening social capital variables. The last two analyses in Table 2 report the effects of the independent and intervening variables on teacher identity.

For all four analyses Step 1 reports the effects of the social background variables Step 2 adds in the effect of university background variables. For the final two analyses Step 3 adds in the effects of bonding and Step 4 adds the effects of bridging as outlined in the theoretical model (Figure 1).

In addition to direct effects, the analyses examined any indirect or mediating effects that occur. A mediating effect is evidenced by a reduction in the effect of a variable when new variables are taken into account. Regression coefficients were examined to determine whether there were significant direct and indirect effects of the independent variables on the dependent variables.

The first analysis reports the effects of the independent variables on bonding. In Step 1 the social background variables *gender, age*, and *hours of employment* were taken into account. The regression coefficient indicated that gender had a positive and significant effect on bonding (.16 $p≤.05$). Female students had a stronger sense of attachment to the cohort than their male counterparts. Neither age nor hours of employment had a significant effect on bonding. The effect of the number of hours students worked in paid employment on bonding was negative. Step 2 adds the effects of the university background variables *out-of-class hours on university work* and *self-concept of ability* to the analysis. The effects of the university background variables on bonding were not significant, but this addition had a mediating effect on gender, which was no longer significant. Overall, the social and university background variables accounted for only 2% of the variance in bonding.

The second analysis in Table 2 reports the effects of the social background and university background variables on bridging. In Step 1 the social background variables *gender, age*, and *hours of employment* are taken into account. The regression coefficient indicated that gender had a significant effect (.19 $p≤.01$) on bridging. Women were more likely to seek resources outside the cohort than men. Neither age nor hours of employment had a significant effect on bridging. Step 2 adds the effects of the university background variables *out-of-class hours on university work* and *self-concept of ability* to the analysis. The direct effects of out-of-class hours on university work and self-concept of ability on bridging were not significant. This addition had a mediating effect on gender, but the effect was still significant (.17 $p≤.05$). Overall, the social and university background variables accounted for only 3% of the variance in bridging.

The third analysis in Table 2 reports the effects of the independent and intervening variables on role anticipation. In Step 1 the social background variables *gender, age*, and *hours of employment* were taken into account. The regression coefficients indicated that gender and age had significant effects on role anticipation (.25 $p≤.01$ and .19 $p≤.01$ respectively). These positive effects indicated that women and older students had a stronger sense of role anticipa-

tion than men and younger students. Hours of employment had a positive, but insignificant effect. Overall, however, the social background variables accounted for only 1% of the variance in role anticipation.

Step 2 adds the effects of the university background variables *out-of-class hours on university work* and *self-concept of ability* to the analysis. The effect of adding out-of-class hours on university work was positive and significant (.24 $p \leq .01$), but the effect of self-concept of ability was negative and insignificant. There was a relationship between the amount of time that students spent out-of-class on their university work and the degree to which they anticipated their roles as teachers. Self-concept of ability was not related to the degree to which students anticipated their roles as teachers. However, there was a small mediating effect on gender and age when the university background variables were introduced. The effects of gender and age decreased from Step 1 to Step 2, indicating that some of the effects of these variables were due to the effects of the university background variables on role anticipation. Together the social and university background variables accounted for 11% of the variance in role anticipation.

Step 3 adds the effects of the social capital variables *bonding* and *bridging* to the analysis. The regression coefficients indicated that bonding had a positive and significant effect (.22 $p \leq .01$) on role anticipation, but the effect of bridging, although positive, was not statistically significant. In addition, when the social capital variables were taken into account, the effects of gender, age, and out-of-class hours on university work were further reduced. However, these variables remained positive and significant (.16 $p \leq .05$, .14 $p \leq .05$, and .22 $p \leq .01$ respectively). Some of the effects of these variables were due, therefore, to the effects of the social capital variables on role anticipation. Together the background variables and the social capital variables accounted for 17% of the variance in role anticipation.

The fourth analysis in Table 2 reports the effects of the independent variables on role commitment. In Step 1 the social background variables *gender, age*, and *hours of employment* were taken into account. The regression coefficients indicated that gender had a positive and statistically significant effect on role commitment (.13 $p \leq .05$). In other words, female students exhibited stronger role commitment than male students. However, the effects of age were negative, and the effects of both the number of hours a student was employed and age were not significant. Overall, social background variables accounted for only 1% of the variance.

In Step 2 the effects of the university background variables *out-of-class hours on university work* and *self-concept of ability* were added to the analysis. Both these variables had positive and highly statistically significant effects on role commitment (.25 $p \leq .01$ and .20 $p \leq .01$ respectively). This suggests that students who spent more time on their university work and who felt more confident about their academic ability developed a stronger commitment to their teacher role than those who spent less time and were less confident about their academic ability. The effects of gender were reduced substantially by the addition of the university background variables that accounted for at least some of the effects of gender on role commitment in Step 2. Together the social and university background variables accounted for 12% of the variance in role commitment.

In Step 3 bonding and bridging were added to the analysis. The effects of bonding were positive and statistically significant (.45 p≤.05). Students who developed close supportive relationships with other members of the cohort had a stronger commitment to their teacher role than those who did not develop such close relationships. On the other hand, the effects of bridging, though positive, were not significant. The effects of the social capital variables mediated the effects of out-of-class hours on university work and self-concept of ability somewhat (.22 p≤.01 and .17 p≤.01 respectively). However, these effects were still significant. Together the background and social capital variables accounted for 31% of the variance in role commitment.

Discussion

The results of this study indicate that many of the relationships among background, social capital, and teacher identity variables predicted by the theoretical model were generally supported. Certain social and university background variables, as well as certain aspects of social capital, affect the development of teacher identity. The effects of the social background variables were generally more significant for role anticipation than for role commitment. Specifically, the effects of gender on role anticipation were positive and significant. Women were more likely than men to think and feel as if they were teachers. Neither gender nor age had a significant effect on role commitment once other variables were added to the analysis. Perhaps after-degree programs in teacher education attract students who regardless of their sex or age have made a strong commitment to teaching. The time students spent in paid employment did not interfere with either dimension of teacher identity. This finding is consistent with recent research that concluded that students engaged in paid employment are more likely to cut back on their leisure and sleep time than on their university work (Franke, 2003).

The effects of the university background variables on the social capital variables were positive but insignificant. These variables had different effects for each of the dimensions of teacher identity. Out-of-class hours had significant effects on both dimensions of teacher identity. Students who spent more time on their out-of-class work anticipated and valued their teaching role. Self-concept of ability, however, had a negligible and negative effect on role anticipation, but a significant and positive effect on role commitment. One possible explanation for these results is that students who enter the Faculty of Education have already successfully graduated with at least one degree and are fairly confident in their abilities. Furthermore, this finding supports what we have observed in our own teaching, that most students feel like teachers regardless of their academic performance, but it is the ablest students who are most strongly committed to their teaching role.

Bonding social capital related positively to both dimensions of teacher identity. In other words, students who developed common understandings, trust, reciprocity, and a sense of community in their cohort anticipated becoming teachers and became committed to their teacher role. Bridging social capital, on the other hand, did not appear to play an important role in the development of students' teacher identity. In other words, the resources that students generated and accessed outside their cohort did not appear to have a significant effect on how students anticipated their roles as teachers or the

degree to which they valued teaching as a priority in their lives. We have noted elsewhere that students have few opportunities to interact with professionals outside their faculty and that this gap in their experiences may limit their perceptions of the importance of bridging social capital (Mandzuk & Hasinoff, 2002; Mandzuk et al., 2003).

The results of this study provide some theoretically informed and empirical support for the widespread professional and institutional commitment to the cohort model. In particular, this study suggests that the social capital generated in student cohorts may indeed have an important effect on how students develop their identities as teachers. Furthermore, our results suggest that the theory, scales, and model we used to inform our study may be used to guide similar studies of the socialization process in other professional faculties.

References

Asher, H.B. (1976). *Causal modeling*. Sage University Paper Series on Quantitative Applications in the Social Sciences, Series No. 02-079. Newbury Park, CA: Sage.

Astin, A.W. (1993). *What matters in college? Four critical years revisited*. San Francisco, CA: Jossey-Bass.

Bochenek, M. (1999). Classroom communities: Successful learning design or another path to chaos? *Academic Exchange Quarterly, 3*(3), 2-18.

Bourdieu, P. (1985). The forms of social capital. In J.G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood.

Britton, B.K., & Tesser, A. (1991). Effects of time-management practices on college grades. *Journal of Educational Psychology, 3*, 405-410.

Brott, P.E., & Kajs, L.T. (2001). *Developing the professional identity of first-year teachers through a "working alliance."* National Association of Alternative Certification. Retrieved January 2, 2004, from: http://www.alt-teachercert.org/Working%20Alliance.html

Bucholtz, M. (1999). Why be normal? Language and identity practices in a community of nerd girls. *Language in Society, 28*, 203-223.

Cavenagh, P, Dewberry, C., & Jones, P. (2000). Becoming professional: When and how does it start? A comparative study of first-year medical and law students in the UK. *Medical Education, 34*, 897-902.

Clifton, R.A. (1999). The education of university students: A social capital perspective. *College Teaching, 47*(3), 114-118.

Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology, 94*, S95-S120.

DeVellis, R.F. (1991). *Scale development: Theory and application* (vol. 26). Newbury Park, CA: Sage.

Dika, S., & Singh, K. (2002). Applications of social capital in educational literature: A critical synthesis. *Review of Educational Research, 72*(1), 31-60.

Engestrom, J. (2001). Sizing up social capital. In Y. Engestrom (Ed.), *Activity theory and social capital*. Technical Reports 5. Centre for Activity Theory and Developmental Work Research, University of Helsinki.

Etcheverry, E. (1995). *Social capital: A resource for human capital development of university students*. Unpublished doctoral dissertation, University of Manitoba.

Etcheverry, E., Clifton, R.A., & Roberts, L.W. (2001). Social capital and educational attainment: A study of undergraduates in a faculty of education. *Alberta Journal of Educational Research, 47*, 24-39.

Fleet, J., Moore, D., & Rodger, S. (1997). *An investigation of the decisions that mature students make about academic progression* (Research project). Canadian Association for University Continuing Education. Retrieved January 1, 2005, from: http://cauce-aepuc.ca/en/research-projects-1997.asp

Franke, S. (2003). Studying and working: The busy lives of students with paid employment. *Canadian Social Trends*, Spring, 22-25.

Gorsuch, R.L. (1983). *Factor analysis* (2nd ed.). Hillsdale, NJ: Erlbaum.

Hasinoff, S. (1998). *The effect of alienation on the professional identity of student teachers*. Unpublished doctoral dissertation, University of Manitoba.

Hasinoff, S., & Mandzuk, D. (2002). *Measuring social capital in cohort groups*. Winnipeg, MB: University of Manitoba.

Hoyle, R.H. (1995). *Structural equation modelling: Concepts, issues, and applications*. Thousand Oaks, CA: Sage.

Jackson, S.E. (1981). Measurement of commitment to role identities. *Journal of Personality and Social Psychology, 40*, 138-146.

Kasworm, C.E., & Pike, G.R. (1994). Adult undergraduate students: Evaluating the appropriateness of a traditional model of academic performance. *Research in Higher Education, 35*, 689-710.

Kerlinger, F.N. (1986). *Foundations of behavioral research*. New York: Holt, Rinehart & Winston.

Kim, J., & Mueller, C.W. (1978). *Factor analysis: Statistical methods and practical issues*. London: Sage.

Lacey, C. (1977). *The socialization of teachers*. London: Methuen.

Lanier, J.E., & Little, J.W. (1986). Research on teacher education. In M.C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 527-569). New York: Macmillan.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.

Lesser, E.L., & Prusak, L. (2000). Communities of practice, social capital and organizational knowledge. In M.A. Fontaine, E.L. Lesser, & J.A. Slusher (Eds.), *Knowledge and communities* (pp. 123-131). Boston, MA: Butterworth Heinemann.

Lortie, D. (1975). *School teacher: A sociological study*. Chicago, IL: University of Chicago Press.

Maher, M. (2004). What really happens in cohorts. *About Campus, 9*(3), 18-23.

Mandzuk, D. (1994). *Institutional, individual, and social psychological influences on the development of student teachers' professional identities: A status attainment approach*. Unpublished doctoral dissertation. University of Manitoba.

Mandzuk, D., & Hasinoff, S. (2002). *Cohort groups: A social capital perspective*. Paper presented at the annual meeting of the Canadian Society for the Study of Education, Toronto.

Mandzuk, D., Hasinoff, S., & Seifert, K. (2003)). Inside a student cohort: Teacher education from a social capital perspective. *Canadian Journal of Education, 28*(1/2), 165-180.

Mather, D., & Hanley, B. (1999). Cohort grouping and preservice teachers education: Effects on pedagogical development. *Canadian Journal of Education, 24*, 235-250.

Norusis, M.J. (1985). *Advanced statistics guide: SPSSX*. New York: McGraw-Hill.

Office of Institutional Analysis. (2003). *2002-03 IS book online*. Retrieved February 1, 2005, from: http://www.umanitoba.ca/admin/institutional_analysis/isbook2003/index.htm

Ortner, S. (1996). *Making gender: The politics and erotics of culture*. Boston, MA: Beacon.

Pascarella, E.T., & Terenzini, P.T. (1991). *How college affects students: Findings from twenty years of research*. San Francisco, CA: Jossey-Bass.

Pedhauzer, E.J. (1982). *Multiple regression in behavioural research*. New York: Rinehart Winston.

Portes, A., & Landolt, P. (1996). Unsolved mysteries: The Tocqueville files II: The downside of social capital. *American Prospect, 7*(26), 1-6.

Putnam, R. (2000). *Bowling alone: The collapse and revival of the American community*. New York: Simon and Schuster.

Sachs, J. (1999, November). *Teacher professional identity: Competing discourses, competing outcomes*. Paper presented at AARE Conference, Melbourne.

Shapon-Shevin, M., & Chandler-Olcott, K. (2001). Student cohorts: Communities of critique or dysfunctional families? *Journal of Teacher Education, 52*, 350-364.

Wenger, E. (1998). *Communities of practice*. Cambridge, UK: Cambridge University Press.

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research, 2*(1), 11-17.

Zeichner, K.M., & Gore, J.M. (1990). Teacher socialization. In W.R. Houston, M. Haberman, & J. Sikula (Eds.), *Handbook of research in teacher education* (pp. 329-348). New York: Macmillan.

Appendix
Scale Items
Measuring Social Capital in Cohort Groups (Hasinoff & Mandzuk, 2002)

Bonding: As a member of a cohort this year, I …
1. am an effective group member.
2. contribute positively to group discussions.
3. follow through on commitments.
4. encourage others.
5. contribute to a sense of community.
6. listen to others' ideas.

7. do my share of the work.
8. ask others for their ideas.
9. expect others to do their share of the work.
10. communicate effectively with peers.
11. expect peers to support me.
12. support my peers.
13. respect differences between people.
14. expect others to follow through on their commitments.

Bridging: I am likely to go outside my cohort to …
1. make job contacts.
2. learn about teaching at different grades.
3. think outside the box.
4. develop a network of colleagues.
5. understand child development.
6. expand my professional contacts.
7. access ready-to-use lesson plans.
8. appreciate the realities of teaching.
9. find out how teaching varies from Kindergarten to Senior 4.
10. learn about teaching organizations that I may want to join.
11. find out about job opportunities.
12. resolve problems that occur in my student teaching.
13. have my ideas about teaching valued.
14. find out about who is hiring and who is not.

Measuring Teacher Identity (Jackson, 1981)

Role Anticipation
1. If problems develop in my life, I try to think them through as they might affect my teaching.
2. If I had to give up something, becoming a teacher is the last thing I would give up.
3. When I can I seek out situations in which I can express myself as a teacher.
4. When I meet new people, it is important to me that they know I will be a teacher.
5. I typically organize my day so that I can work toward my goals that are related to teaching.
6. If people could know only one thing about me, I would want them to know that I will become a teacher.

Role Commitment
1. With respect to teaching I don't care if I make mistakes. (reverse scored)
2. I rarely or never think about how I can become a better teacher. (reverse scored)
3. When I am involved in activities related to teaching, I usually feel indifferent. (reverse scored)
4. Being a teacher is not important to me. (reverse scored)
5. I rarely devote much time to my teaching interests. (reverse scored)
6. Being a teacher is of little value to me. (reverse scored)
7. Being a teacher will have no effect on my life. (reverse scored)
8. I am strongly committed to being a good teacher.