Exploring Influences on Teachers' Motivational Orientations

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Abstract

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Teachers must work toward multiple goals, including both goals that they choose for themselves and goals that are assigned to them by administrators or policy-makers. To the extent that these two sets of goals diverge, teachers may experience goal conflict. This study investigated how goal conflict and two other variables (job satisfaction and perceived needs for increased autonomy) may influence teachers' motivational orientations toward teaching. Two dimensions of motivational orientation were examined separately, including motivational orientations toward: 1) innovation and creativity, and 2) external measures of success. Data were drawn from a survey of 366 elementary school teachers. Structural equation modeling revealed that relationships between the independent variables and teachers' motivational orientations toward teaching differ for the two dimensions of motivational orientation. Both job satisfaction and goal conflict are potentially important in predicting motivational orientations toward teaching. Implications for the work of teachers and administrators are discussed.

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Chapter I: Theoretical Framework

> What is at stake is our vision of the kinds of human beings we would hope Americans to be . . . and of the kinds of education that will help bring those human beings into existence (Cremin, 1990, p. 124-5).

The purposes of public education in the United States have been debated throughout this country's history (Cremin, 1990). Some say that the purpose is to prepare children for effective citizenship, especially by preparing them to take part in our political system. Others argue that the main purpose is to prepare children to become productive members of the work force and contribute to the strength of our economy. Still others claim that education should nurture children and help them strive toward some potential version of themselves, almost in the way that a gardener helps a plant grow according to some preordained plan for its flowering. Sometimes such varied purposes may appear to complement one another, and schooling may seem to do all of these things at once, as when a teacher helps students discover the inherent joys of reading or the sense of satisfaction that accompanies correct mathematical calculations.

At other times, these different beliefs about the purposes of schooling may come into conflict and become difficult to reconcile in practice. Then, the task of reconciling or prioritizing falls to individual teachers. While scholars and politicians may debate the purposes of education in a public forum, each individual teacher expresses her own opinion on the matter through her daily interactions with students. Each teacher must deal with a host of state, district, and school policies that prioritize certain purposes over others, while simultaneously struggling to find fulfillment in her work, as seen through the lens of her own politics, morality or spirituality.

The way that we define the purposes of education fundamentally influences the way that the work of teaching is organized and structured as well as the way that teachers experience their work (Rosenholtz, 1987; Scott, Cox, & Dinham, 1999). At a time when there is serious concern about the number of teachers who leave teaching to pursue different careers (Darling-Hammond, Berry, Haselkorn, & Fideler, 1999), and when a large proportion of those who leave cite dissatisfaction with the organizational conditions of teaching as a reason for leaving (Ingersoll, 2001), it seems appropriate, even urgent, to begin asking questions about how teachers are affected by the competing priorities that they face and the sometimes conflicting purposes that drive policy decisions in education.

In this study, such questions are set within a conceptual framework that is drawn from theories of motivation, including self-determination theory (Deci & Ryan, 2000) and achievement goal theory (Nicholls, 1989; 1992). The central question asks how the experience of dealing with conflicting goals might influence teachers' motivation to work at improving their teaching practice. Research that helps us identify key issues relating to teacher motivation is important because common sense suggests that motivated teachers will provide better educational experiences for their students. It is also important because dissatisfaction and attrition must not be permitted to deplete the pool of qualified teachers (Ingersoll, 2001), nor is it preferable to have burned out teachers who continue to teach (Dworkin, 1985). Instead, we must learn more about what makes teaching an inherently motivating endeavor, and then strive to provide working conditions and contexts that allow teachers to engage fully in their work, to relish its challenges, and to remain motivated to improve instruction throughout their careers.

Researchers who study motivation in the workplace, such as Hackman and Oldham (1980) and Amabile (1997, 1998), argue that while motivation is certainly influenced by

individual factors such as personality, the work environment also has an important influence. Csikszentmihalyi (1997a) also asserts that discoveries about motivation can and should be used to improve conditions in the workplace, with the expected result being an overall improvement in the intrinsic motivation of the workers. The work of such researchers suggests that it may prove worthwhile to learn which characteristics of teaching work and school organizations can be altered to better support autonomy and thereby foster high motivation among teachers in general.

Surprisingly little research has been conducted to date on teacher motivation (Csikszentmihalyi, 1997a; Webb & Ashton, 1986). Existing work is available on related constructs such as teachers' self-efficacy (e.g., Dembo & Gibson, 1985; Goddard, Hoy, & Hoy, 2000; Tschannen-Moran, Hoy, & Hoy, 1998), the conditions of teaching (e.g., Barnabe & Burns, 1994; Webb & Ashton, 1986), teacher commitment (e.g., Firestone & Pennell, 1993; Rosenholtz, 1987), and teacher satisfaction (e.g., Ingersoll, 2001; Schonfeld, 2000; Scott, Cox & Dinham, 1999), as well as teacher burn-out (e.g., Dworkin, 1985; Farber, 1982; Friesen, Prokop, & Sarros, 1988). Apart from teacher efficacy, however, little of this work is grounded in or explicitly linked to any particular theory of motivation. Taken together, the studies cited above do not provide a unified theoretical vision of teacher motivation. They do, however, provide insights into certain issues that seem to resurface time and again in studies of teaching. One such issue is the problem of competing priorities, or conflicting goals, between teachers, administrators, and policymakers (Rosenholtz, 1987; Scott, Cox, & Dinham, 1999). A second recurring issue concerns autonomy, how to define it with regard to the work of teaching, and whether teachers' motivation suffers when they feel a lack of autonomy (Barnabe & Burns, 1994; Reyes, 1989; Rosenholtz, 1987; Rosenholtz & Simpson, 1990).

Based on a review of the studies of the conditions of teaching cited above, I have drawn ideas from theories of motivation in order to begin working towards a theoretical perspective on teacher motivation. The two recurring issues of conflicting goals and autonomy figure importantly in this conceptualization of teacher motivation. In the following sections, I introduce each of the four theoretical constructs included in this study: 1) goal conflict, 2) perceived need for increased autonomy, 3) motivational orientation, and 4) job satisfaction. Finally, I present alternative models of relationships among the four constructs, and report on a survey study designed to test these models.

Goal Conflict

Like any other citizen, each teacher surely has his or her own "visions of the kinds of human beings [each] would hope Americans to be" (Cremin, 1990, p. 124-5). As public servants, there is pressure on teachers to put aside their own visions and strive toward the educational goals assigned to them by the state or the local community, regardless of whether those goals coincide with their own visions and values. On the one hand, this expectation may seem a logical necessity. Parents, employers, and institutions of higher education have a reasonable expectation of some consistency across schools and classrooms, based on widely agreed upon goals and standards for education. On the other hand, given the amount of time that elementary school teachers, in particular, spend with their students, and the socialization function that schooling serves for the young, is it realistic to expect that teachers' own value systems can be effectively excluded from their teaching?

The idea that teachers can or should subordinate their own values as they work towards assigned goals also raises some interesting questions about the work of teaching. Will teachers find such work fulfilling? Or, is their fulfillment even relevant? Some

perspectives on teaching seem to bypass these issues altogether. For instance, studies of teacher efficacy (Dembo & Gibson, 1985; Goddard, Hoy, & Hoy, 2000; Tschannen-Moran, Hoy, & Hoy, 1998) contribute important findings relating student outcomes to teachers' beliefs about their own capabilities in particular teaching contexts. Deci and Ryan (2000), however, point out that this perspective addresses only part of the phenomenon. Such teacher efficacy studies focus on the processes that regulate goal selection and pursuit. Deci and Ryan, in their self-determination theory, propose that in order to understand motivation we must examine not only these processes, but also the contents ("the what") of the goals being pursued (p. 228). Self-determination theory holds that the contents of goals are important because they relate to needs satisfaction:

> A critical issue in the effects of goal pursuit and attainment concerns the degree to which people are able to satisfy their basic psychological needs as they pursue and attain their valued outcomes (p. 227).

According to self-determination theory, these needs include relatedness, competence, and autonomy (Deci & Ryan, 2000). The need for autonomy is particularly relevant for teachers because they must deal with educational goals that may not be of their own choosing. According to this perspective, we must ask not only do teachers feel efficacious in regard to reaching educational goals, but are the contents of assigned educational goals valued by teachers? And, what happens if conflicting goals are similarly or even more highly valued?

Researchers have already begun to apply self-determination theory (Deci & Ryan, 1985, 1987, 2000) in studies of teaching. These studies have found that external, controlling pressures on teachers have a negative impact on their teaching practices. Pressured teachers in their studies became more controlling with their students (Deci, Spiegel, Ryan, Koestner, & Kauffman, 1982; Pelletier, Seguin-Levesque, & Legault, 2002) and student performance

suffered (Flink, Boggiano, & Barrett, 1990). These results demonstrate that self-determination theory has important implications for teaching practices and teacher effectiveness. This study builds on this previous work by examining teacher motivation in relation to issues of autonomy and control.

Like employees in any field of work, teachers may have goals of their own choosing as well as goals that are assigned to them through an institutional hierarchy. These two types of goals might overlap somewhat, completely, or not at all. Some researchers studying motivation in the workplace (Latham and Locke, 1991; Amabile, 1998) have asserted that managers can foster employee commitment to assigned goals without too much difficulty. For instance, Locke and Latham (2002), have found that "an assigned goal is as effective as one that is set participatively provided that the purpose or rationale for the goal is given" (p. 708). They suggest that goals should be assigned by legitimate authority figures, and that leaders should use a "tell and sell" approach (Latham & Locke, 1991, p. 218) or "communicate an inspiring vision" (2002, p. 707) in order to foster commitment to assigned goals.

But how can we know whether teachers will feel inspired or pressured when they are assigned teaching goals? Will goal assignment leave teachers motivated to try new teaching methods and use their creativity to develop new lessons in their efforts to reach the assigned goals? Or will the pressure have a negative impact on their motivation to improve instruction? One insight may be found in studies of creativity. For instance, Amabile, Conti, Coon, Lazenby, and Herron (1996) draw a distinction between two forms of pressure: "excessive workload pressure" and "challenge."

> Some research has found that, although workload pressures that were considered extreme could undermine creativity, some degree of pressure could have a positive

> influence if it was perceived as arising from the urgent, intellectually challenging nature of the problem itself. (p. 1161)

Thus, they suggest that the key difference between excessive pressure and challenge may be whether the urgency seems to arise from the problem itself. In teaching, however, there may be a multitude of different "problems," depending upon how one defines or prioritizes the purposes of schooling. In order for teachers to experience the sense of challenge described by Amabile and colleagues, they would have to be free to define the problem as it appears to them in their classrooms and respond to the issues that they perceive as most urgent in their work. Assigned educational goals might or might not be consistent with an individual teacher's perception of the central "problem" in her current teaching context.

In some studies of the conditions of teaching, evidence suggests that teachers may perceive different problems in their work than just the ones addressed by assigned goals (Barnabe & Burns, 1994; Rosenholtz, 1987; Watson & Supovitz, 2001). For instance, when dealing with increased standardization, the appropriate pacing of instruction has appeared as a potential area of conflict between teachers' own goals and assigned goals (Rosenholtz, 1987; Watson & Supovitz, 2001). Rosenholtz (1987) found that teachers felt that a standardized curriculum "impaired their discretion to match appropriate learning objectives to particular student needs" (p. 538). In other words, they felt impaired in their efforts to respond to the "urgent, intellectually challenging nature of the problem" (Amabile et al, 1996), as they perceived it. For these teachers, the challenge of teaching lay not only in trying to achieve consistent outcomes for students at a certain grade level, but also in meeting the myriad individual needs students bring to school every day, including their individual rates of development as well as their social and emotional needs. Rosenholtz suggested that teachers may hold a more complex view of teaching than do policy-makers, and that

teachers' multiple concerns may compete with an administrative emphasis on uniform academic achievement.

The way teachers define the central problems in their teaching work may leave them feeling an urgency, a motivation, to push towards certain objectives, while assigned goals may pressure them to focus narrowly on others. When this happens, teachers are experiencing what is here being called "goal conflict." The pressure to focus on goals other than those that teachers perceive as arising from the central problems in their work might be labeled in self-determination theory as a controlling influence. By contrast, when teachers look at what is happening for their own unique students, identify problems, and make plans for addressing those problems, then these activities would be marked by autonomy. Deci and Ryan (1985, 1987) differentiate between autonomous and controlled actions according to the presence or absence of self-determination.[1] These descriptors were recently summarized as follows:

> Autonomous, or self-determined, actions are freely chosen and experienced as emanating from oneself . . . . Controlled actions, in contrast, are coerced or seduced by some force external to one's integrated sense of self. Such actions are accompanied by the experience of pressure or tension and have an external perceived locus of causality (Deci, Kasser, & Ryan, 1997, p. 59).

They assert that "self-determined behavior involves higher quality functioning than controlled behavior" (Deci, Kasser, & Ryan, 1997, p. 59). Studies that support this claim vary in methods, tasks, and types of participants involved. In general, however, such studies have often involved students working on tasks such as learning to complete puzzles (Flink et al., 1990) or doing art projects (Koestner, Ryan, Bernieri, & Holt, 1984). The level of complexity in such tasks does not compare to the level of complexity in teaching tasks, so we

must be cautious about assuming generalizability of such findings to teaching. On the other hand, studies that have applied self-determination theory to the study of teachers and teaching practices demonstrate the potential relevance of this theory for the study of teaching (Deci, Spiegel,Ryan, Koestner, & Kauffman, 1982; Flink, Boggiano, & Barrett, 1990; Pelletier, Seguin-Levesque, & Legault, 2002).

Because teachers are faced with multiple goals, self-determination theory may provide conceptual tools to help understand the implications of goal conflict. According to this theory, goals and goal-directed behaviors might be experienced as "freely chosen" and "emanating from oneself," or alternatively as "coerced" (Deci, Kasser, & Ryan, 1997, p. 59). Here, it will be assumed that teachers' own goals are self-determined ones and are linked to autonomous behaviors, in the sense that Deci, Ryan, and colleagues describe. Assigned goals may be experienced as controlling influences, or teachers' own goals may simply be consistent with the assigned goals. In the latter case, when the two sets of goals are similar, it is expected that teachers would not experience pressure related to these goals as controlling.

The construct of goal conflict, as employed in this study, refers to teachers' perceptions of conflicts or competition between the goals they hold for their own work and the goals that they perceive as assigned to them. Presumably, if teachers experience goal conflict, then some assigned goals may be exerting a controlling influence, and therefore, not supporting optimal functioning or creativity. In this study, I investigate goal conflict as a potentially useful construct for expanding our understanding of teachers' motivation to improve instruction, especially through innovation and creativity.

Perceived Need for Increased Autonomy

Teachers' autonomy has previously been linked to teacher commitment (Firestone &

Pennell, 1993; Rosenholtz & Simpson, 1990). Different teachers, however, may interpret teaching contexts differently. Even when working in the same school, one teacher might feel she has sufficient autonomy in her work, while another feels that he does not. In studying teacher motivation, it is the teacher's perceptions that are relevant (Deci & Ryan, 1987). Regardless of the given level of autonomy in any one context, the important question is: Does the teacher feel that she needs more autonomy in order to do her job well? If so, then self-determination theory predicts that motivation will suffer.

Perceived need for increased autonomy is expected to be positively related to goal conflict, and negatively related to motivational orientation toward teaching. Logically, one would expect that if teachers are experiencing goal conflict, then they might also be experiencing a need for greater freedom to pursue their own goals in their work. On the other hand, studies of the conditions of teaching point out that autonomy in teaching may not be a simple, unidimensional construct. Teachers may differentiate between autonomy in decisions regarding their daily teaching tasks, as opposed to school or district level policy decisions that impact more than one classroom (Barnabe & Burns, 1994; Firestone & Pennell, 1993; Ingersoll, 2001). Such policy decisions, however, will likely have an impact on the degree of freedom or constraint teachers experience when making decisions about daily lesson plans. Therefore, in this study, perceived need for increased autonomy is included as a possible mediating factor between goal conflict and motivational orientation toward teaching.

Motivational Orientation

How can one tell the difference between a motivated teacher and an unmotivated one? What does teacher motivation look like? The job of teaching is so complex that motivation is likely to take many forms as it relates to different aspects of the work. The

focus in this study is on the act of planning for instruction, because this is a time when creativity and innovation may come into play. The assignment of new goals is one instance when teachers might use their creativity to develop new lessons, perhaps involving new instructional practices, as a way to try and meet the new goals. Aside from assigned goals, teachers may also use their creativity to respond to goals that they perceive to be important, based on their own observations and reflection. When teachers reflect on their practice, and then plan in response to that reflection, then they have opportunities to develop innovative ideas tailored to their particular students and teaching contexts. These are opportunities to respond to the "urgent, intellectually challenging nature of the problem itself," as they perceive it (Amabile et al, 1996). Less motivated teachers, on the other hand, might not take such initiative in responding to current classroom realities.

Nicholls' achievement goal theory (1989; 1992) provides a helpful way of thinking about teacher motivation by considering teachers' own perceptions of what makes their teaching successful. Nicholls (1992) posits that, in achievement settings, individuals may have varied definitions of success or personal criteria for what it takes to be successful. As a result, they will also have different motivational orientations, which are defined as "predispositions to seek certain types of experience" (p. 270). In studies framed by this theory, students have been asked to answer questions about what makes them feel successful. If a student reports feeling successful "when establishing that one's ability is superior" to others (p. 271), then ego orientation is indicated. When a student reports feeling successful "if one figures something out or thoroughly stretches one's skills" (p. 271), then task orientation is indicated. Task and ego orientations are found to be independent of one another, so that the same individual may be high on both ego and task orientation. It is also assumed that these dispositions may differ for an individual across contexts and may be

influenced by external conditions (Thorkildsen & Nicholls, 1998).

These constructs of task and ego orientation seem potentially applicable to teachers and teaching tasks. Because task orientation is associated with ongoing interest and intrinsic motivation (Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000), this is the orientation that is of most interest in the present study. A task orientation toward teaching might involve a predisposition to continually seek better understandings of why students are or are not learning well in response to various teaching methods, or even specific lessons. It might include attempts to improve one's repertoire of teaching strategies by trying new kinds of lessons and by collaborating with other teachers. Such an orientation would encompass creativity in developing responses to the problems that teachers perceive as arising in their work (Amabile et al, 1996). An ego orientation toward teaching, on the other hand, might include the tendency to measure success according to standardized test scores, the amount of curricular material covered, or other measures that may be compared across classrooms.

Job Satisfaction

Many researchers have investigated relationships between job satisfaction and other motivation-related constructs in education as well as other fields (e.g. Deci, Connell, & Ryan, 1989; Lee, Dedrick, & Smith, 1991; Reyes, 1989; Schonfeld, 2000; Somech & Drach-Zahavy, 2000; Scott, Cox, & Dinham, 1999). While definitions of satisfaction vary from study to study, frequently mentioned elements include a "positive affect" towards the work (Reyes, 1989, p. 64), "positive attitudes and beliefs towards several aspects of the job or the profession" (Somech & Drach-Zahavy, 2000, p. 650), and a general sense of gratification or contentment related to characteristics of the job. Correlates of teachers' job satisfaction include mental well-being (Scott, Cox, & Dinham, 1999), extra-role behavior (Somech &

Drach-Zahavy, 2000), job stressors and depressive symptoms (Schonfeld, 2000). Friedman and Farber (1992) found that professional satisfaction was negatively correlated with teacher burnout.

In addition, Ingersoll (2001) found that dissatisfaction was frequently cited as a reason for teacher turnover, and that reasons for dissatisfaction included "lack of faculty influence" and "inadequate administrative support," among others. These reasons are potentially related to goal conflict. In a 1989 study of a business organization, Deci, Connell, and Ryan also found correlations between managers' orientations toward supporting subordinates' self-determination and employee satisfaction. Employee motivation, however, was not included as a dependent variable in this study. In the present study, job satisfaction provides an additional tool for trying to understand teacher motivation. Therefore, it is the general sense of positive affect and overall contentment that is of most interest, as well as satisfaction with specific aspects of the job that relate to goals and autonomy.

Research Questions and Proposed Model

This study was designed to test alternative models of relationships among the four constructs described above. The following research questions reflect the model shown in Figure 1, and describe possible alternative models.

1. Does teachers' experience of goal conflict, directly and/or indirectly predict their motivational orientations toward teaching?
2. Is this hypothesized relationship between goal conflict and motivational orientation toward teaching mediated by perceived needs for increased autonomy and/or job satisfaction?
3. Do job satisfaction and/or perceived need for increased autonomy directly predict

motivational orientations toward teaching?

Figure 1 depicts the hypothesized relationships among the variables in this study. Goal conflict, a construct derived from self-determination theory (Deci & Ryan, 1985, 1987, 2000) and from studies of the conditions of teaching (e.g. Rosenholtz, 1987; Scott, Cox, & Dinham, 1999), reflects teachers' perceptions of conflicting or competing priorities between their own goals and assigned goals. Considering the work of Deci and Ryan (1985, 1987), Amabile (1997, 1998) and Csikszentmihalyi (1988, 1997b), among others, it is hypothesized that this sense of conflict will be negatively related to motivational orientations toward teaching. Two distinct motivational orientations are included in this study: 1) a motivational orientation towards innovation and creativity in teaching, and 2) a motivational orientation towards success on external measures, such as standardized tests.

Two hypothesized mediating variables are also included in Figure 1. The first, perceived need for greater autonomy, may become salient when teachers' own goals come into conflict with assigned goals. That is, when teachers find that there is not enough time to do everything and that, therefore, they must choose to focus either on what they judge to be most important or on the priorities that they perceive as imposed by higher authorities. Findings from studies of self-determination theory (Deci & Ryan, 1985, 1987, 2000) support the prediction that the experience of goal conflict might lead to a perceived need for greater autonomy, which may in turn negatively influence motivational orientation toward teaching. Similarly, it is predicted that goal conflict may also be associated with lower levels of job satisfaction. Job satisfaction is hypothesized to relate positively to motivational orientation toward teaching. This prediction is based on previous studies of job satisfaction (Friedman and Farber, 1992; Scott, Cox, & Dinham, 1999). Teachers who do not experience goal conflict (i.e., those whose personal goals are consistent with the goals that they perceive as

assigned to them) are hypothesized to experience lower levels of the need for increased autonomy and higher levels of job satisfaction.

Figure 1 depicts a fully recursive model, in which both unique and mediated sources of variance are included. This model reflects the hypothesis that goal conflict is both directly related to motivational orientation toward teaching and indirectly related through the two mediating variables, job satisfaction and perceived need for increased autonomy. Another possible model would include only the mediated contributions to variance in motivational orientation. In other words, the direct link between goal conflict and motivational orientation might be removed. A third possible model might include all three of the proposed predictors having a direct influence on motivational orientations toward teaching, with no mediation.

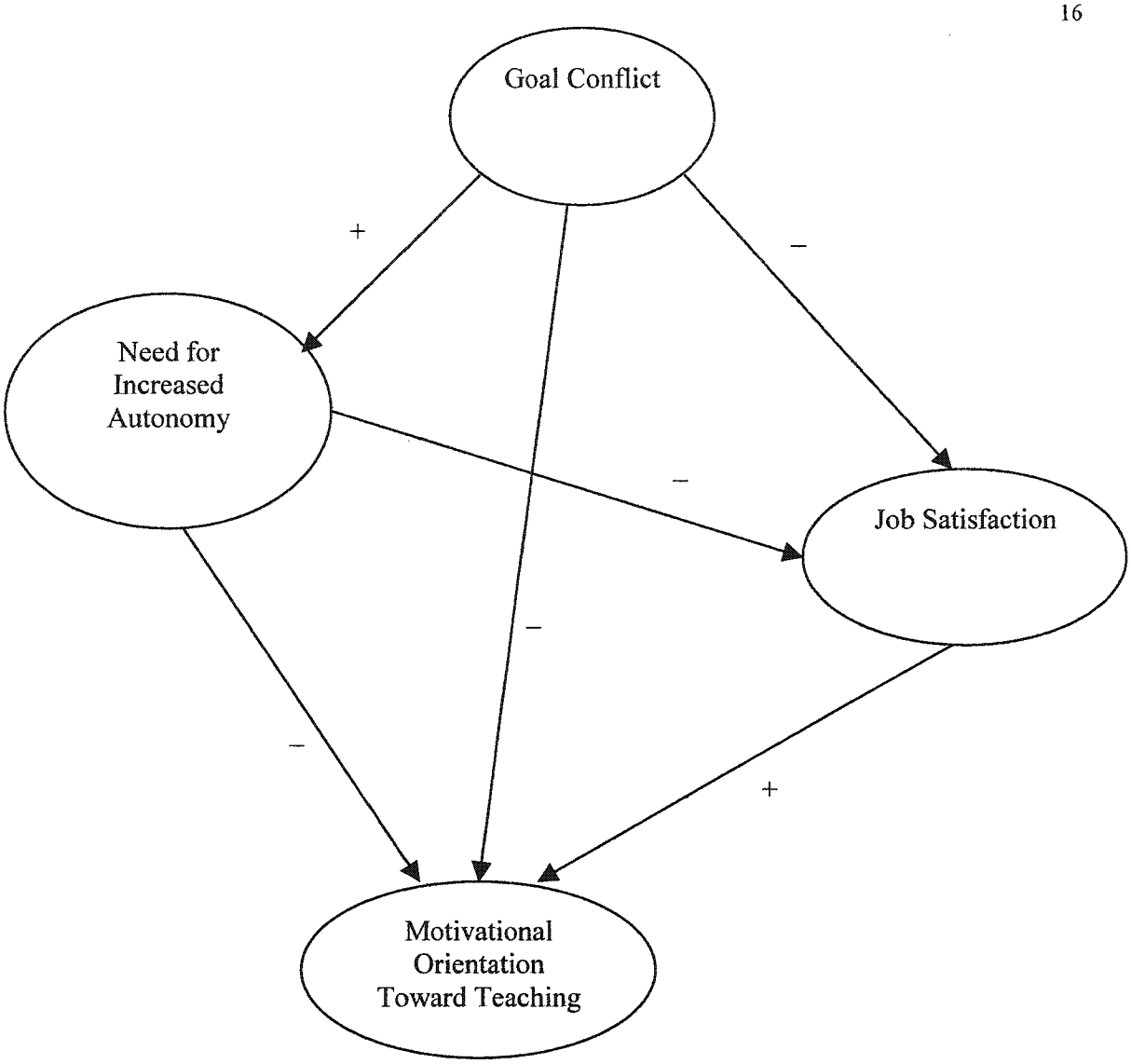


Figure 1. The fully recursive, mediated model of proposed relationships between teachers' experience of goal conflict, their perceived needs for increased autonomy, their job satisfaction, and their motivational orientations toward teaching.

Chapter II: Research Methods

Participants and Procedures

The sample comprised 366 elementary (K-6) classroom teachers. The survey was distributed in 54 public elementary schools in nine districts in the northwest. Most (approximately 900) surveys were placed in teachers' mailboxes with a self-explanatory cover letter. Other surveys (approximately 260) were distributed at staff meetings, during which the either the researcher or the principal provided a brief explanation regarding the topic and the significance of the research. In all, approximately 1,160 surveys were distributed. 418 surveys were returned. Of those, 52 were eliminated from the data set, either because many items were left blank or because the respondent was a specialist rather than a classroom teacher. This left 366 usable surveys to be analyzed, yielding a return rate of approximately 32%. Usable surveys were returned from 51 out of the 54 schools in which they were distributed.

Given that schools are organized and governed in a variety of different ways, it is likely that the experience of goal conflict may be quite varied across schools and districts as well as among teachers within a school. In order to attain a snapshot of a broad sample of teachers' experiences, I sought permission to distribute the survey in urban, suburban, and rural districts. Among the 366 participants, 61% taught in suburban schools, 20% in rural schools, and 19% in urban schools. Three items in the demographics section asked teachers to indicate how much influence they feel teachers in their school have over school goals, curriculum, and discipline policy. These items had a five point response scale, with one indicating "very little" influence, and five "a great deal" of influence. Overall, responses to these items suggest that the sample includes teachers who perceive that teachers in their

schools have a variety of levels of influence on school policies. There were some obvious trends, however, in how the majority of responses differed across the three items. In terms of influence over school goals, 71% of respondents circled four or five. In terms of curriculum, on the other hand, only 26% circled four or five. For discipline policy, 55% circled four or five.

Of the 366 participants, 92% identified themselves as white or Caucasian. 1.4% did not indicate any ethnicity. Among the rest, no single ethnicity accounted for more than 2%. 88% were female, 11% male, and 1% did not respond to the item on gender.

Instruments

The survey instrument included sections for each of the measured variables shown in Figure 1. Ideas that guided item development are described below.

Items assessing goal conflict and need for increased autonomy were developed based on findings from research on the conditions of teaching, described above (e.g. Rosenholtz, 1987; Scott, Cox, & Dinham, 1999), which suggests that teachers may experience goal conflict in relation to at least four interrelated areas:

1. Prioritizing social and emotional development goals in relation to academic ones.
2. The curriculum and what is included or excluded, as well as standards of learning and accompanying standardized tests that may emphasize different content than the teacher believes is important. This may also be conceptualized in terms of a conflict between covering certain topics, as compared to helping students like or feel motivated about a subject area in general (for example, covering the parts of a plant versus getting students excited about science).
3. The pacing of instruction, including both pacing for individual students and for the class

as a whole. This concerns how to spend class time.

4. Taking time to reflect on one's practice, to craft lesson plans tailored to one's current students, or to seek out professional development. This concerns how to spend out-of-class time, or preparation time.

Goal Conflict

Participants were presented with a list of goals and asked to rate the importance of each goal three times: 1) how important this is to me, 2) how important this is in my school, and 3) how important this is in my district. There was a five-point response scale (1 = not very important . . . 5 = very important). Difference scores were calculated to yield two measures: 1) the difference between "me" and "my school," and 2) the difference between "me" and "my district." Examples of goals listed include:

- Developing a supportive classroom community
- Educating students for effective citizenship in our country
- Helping my most troubled students gain hope and confidence
- Devoting time to my own further development as a teacher

Perceived need for greater autonomy

While teachers at different schools are likely to experience different levels of autonomy, what is relevant here is only the teachers' perceived need for increased autonomy. (Theoretically, the assumption is that the experience of goal conflict will lead to a desire for greater autonomy, regardless of the current level of autonomy that an objective observer might perceive.) Items include: (1 = strongly disagree . . . 5 = strongly agree)

- I feel that my students would learn more if I could have more freedom to decide how to spend classroom time.
- I would feel more successful as a teacher if I had more control over what I choose to

teach.

- I feel I could learn more if I had more freedom to make decisions about my own professional development.

Motivational Orientation

Teachers' motivational orientations were assessed using items with Nicholls' (1992) stem, "I feel most successful when . . . " The research question focuses on teachers' motivation to improve their instructional practices, so some items were about innovation or trying new ways of teaching. Other items were about success on external measures, such as standardized test scores. These latter items correspond to an ego orientation for comparison.

Instructions for this section asked teachers to consider what makes them feel most successful in their teaching. They were asked to rate a series of items according to the extent to which each one makes them feel successful. Items included two proposed subscales: 1) innovation and creativity in lesson planning, including willingness to try new things, and 2) external measures of success, such as standardized test scores. Examples include: (1 = strongly disagree . . . 5 = strongly agree)

I feel most successful when . . .

- I am creative in my lesson planning (innovation/creativity)
- I try a lesson that's different from anything I've done before (innovation/creativity)
- My students earn high standardized test scores (external measures)
- I cover all the topics in the curriculum guidelines before the year ends (external measures)

Job satisfaction

The job satisfaction scale used here includes items adapted from a variety of studies (Deci, Connell, & Ryan, 1989; Kasten, 1984; Kottkamp, Provenzo, Cohn, 1986; Schonfeld,

2000). Teachers were asked to rate their level of satisfaction with various aspects of their jobs, such as: (1=very dissatisfied . . . 5=very satisfied)

- Opportunity to stretch myself/feel challenged
- Quality of feedback from my administrator
- General work atmosphere in my district
- General satisfaction with your job

Chapter III: Results

Preliminary Analyses

Pilot testing

A small scale pilot test of the survey items was conducted with 50 respondents who were either currently teaching in public elementary schools or had been doing so within the previous year or two. The sample included twelve students in an administrator's credential program, who were also asked to provide feedback on the items, indicating whether any items were unclear or seemed irrelevant. Minor revisions were made to clarify four items based on that pilot testing. Overall, bivariate correlations among items in the pilot data indicated the potential to form scales similar to those theoretically predicted.

Data screening

Histograms for each item were screened for univariate normality. All except four items in the scales have values for skewness and kurtosis between -1 and 1. None have values beyond -2 and 2. Among items actually used in scales, the highest value for skewness is 1.15, and the highest value for kurtosis is 1.66.

Missing Data

Overall, there were fewer than 1% missing data cells. Any individual case with greater than 10% missing data was excluded. Percentiles for paired missing cells were examined, using EQS missing data diagnostics. No problems with correlated missing data were found. For each hypothesized construct, SPSS MANOVA was used to compare means by school type, including rural, urban, and suburban. Using Wilk's Lambda, the combined item means for three constructs were found to differ significantly by school type: for job satisfaction, $F(42, 594) = 3.11$, $p < .001$; for Goal Conflict, column 1 (me), $F(32, 680) =$

1.85, $p < .01$; and for Goal Conflict, column 3 (my district), $F(32, 656) = 1.81$, $p < .01$. Because these significant differences were found, missing data were imputed using group mean substitution by school type (e.g., urban, suburban, rural) in EQS.

The Measurement Model

Development of scales

Measurement of each of the four latent variable constructs (i.e. – job satisfaction, autonomy, goal conflict, and motivational orientation) was addressed individually. For each construct, scales were developed using confirmatory factor analyses in EQS 5.7, based on *a priori* hypotheses about which items would combine to form factors. There was one exception. The job satisfaction items were based mainly on items in Deci, Connell, and Ryan (1989), in which items were not grouped into factors. In the absence of strong *a priori* predictions about factor structure, examination of this scale began with exploratory factor analysis and then proceeded to confirmatory analysis. An alpha level of $p = .05$ was employed throughout the analysis.

In the confirmatory factor analyses, the maximum likelihood (ML) method of estimation was selected. Post-hoc modifications were made using the LaGrange multiplier test, keeping in mind theoretical considerations regarding the meaning of each scale. Items that cross-loaded were generally dropped, as were items that did not load significantly on any factor. The internal consistency of the resulting scales was assessed using Cronbach's alpha. Scales with alphas of .70 or greater were retained. Factor loadings and fit statistics for each confirmatory model are displayed in Table 1, along with the list of items included in each scale. Alphas and bivariate correlations among scale means are shown in Table 2.

It was predicted that three factors might exist within items assessing goal conflict

between respondents and their schools (myself/my school) and between respondents and their districts (myself/my district): 1) raising standardized test scores, 2) teaching quality/professional development, and 3) educating the whole child. Although the factor analyses did reveal support for that hypothesis, two of the factors were so highly correlated that a better fit was achieved by combining the items into a single factor. The third factor, raising standardized test scores, did not have an acceptable value for internal consistency (below .70). Therefore, only a single scale represents goal conflict at each level (myself/my school and myself/my district).

In addition to the two scales for motivational orientation, innovation and external measures, it was predicted that a third factor, representing mastery goals for professional growth, might also emerge. These items, however, were eliminated from the analysis because they had highly skewed distributions.

In terms of job satisfaction, the scales shown in Table 1 were developed using both exploratory and then confirmatory factor analysis, as indicated above. Some items were eliminated because the item contents overlapped with other constructs. Others were eliminated due to highly non-normal distributions or lack of correlation with other items.

Two scales emerged representing need for increased autonomy. A third scale, including items indicating that the teacher has sufficient autonomy, had also been hypothesized. Such a factor did emerge in the factor analysis, but the internal consistency was not acceptable (below .70), so this factor was dropped.

Discriminant validity

Scale means were calculated for each participant on each of the nine scales shown in Table 1. Bivariate correlations among these scale means are displayed in Table 2. With one exception, the correlations among scale means (for scales not loading on the same factor) are

low to moderate, with the strongest being -.32. This suggests that each latent variable may be regarded as a distinct construct. The one exception is that there are higher correlations between the goal conflict scales and the job satisfaction scales (-.40 to -.54). Examination of the items that form these scales, however, establishes that these scales are measuring substantively distinct constructs. (See Table 1.)

Note that the two motivational orientation scales, innovation and external measures, are not highly correlated (r = .27). This is not surprising, since those who feel particularly successful when being innovative might not be the same people who feel particularly successful when test scores are high and so forth. Therefore, the decision was made to treat the two scales, motivational orientation-innovation and motivational orientation-external measures, as distinct dependent variables in the structural models. That is, separate structural models were developed for each of these two dependent variables (see below). In the structural models, these are represented as observed variables (rectangles), based on scale means, rather than latent variables (ovals).

Descriptive statistics for each scale are displayed in Table 3. All scales have values for skewness and kurtosis between –1 and 1, except for goal conflict-myself/my school. Because these values are close to 1 and because the scales are of theoretical importance to the study, these scales were retained.

The Structural Models

The hypothesized structural models were examined using EQS 5.7 and using the maximum likelihood (ML) method of estimation. No evidence of multicollinearity was found. Model fit was assessed using the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA), and the chi square statistic. Various sources suggest that

the chi square is influenced by sample size, and its statistical significance should not be relied upon as the sole indicator of fit (Pedhazur, 1997, p.818-9; Ullman, 2001, p. 698). For this reason, multiple indicators of fit were taken into consideration, as well as the significance and interpretability of the structure coefficients.

Goal conflict in relation to innovation

To investigate the effects of the three hypothesized predictors on motivational orientation towards innovation, various models were tested. Based on the lack of any correlation between the goal conflict scales and the motivational orientation toward innovation scale (see Table 2), the hypothesis of a mediated relationship between these two variables was dismissed. No relationship existed to be mediated. A series of structural models, however, revealed that goal conflict appears to act as a suppressor variable, enhancing the predictive ability of the other variables, especially job satisfaction. Perceived need for increased autonomy also appears to be acting as a suppressor variable with regard to job satisfaction. The series of models that led to this conclusion are described below.

In the first model tested, goal conflict was linked as a predictor to job satisfaction, perceived need for increased autonomy, and motivational orientation toward innovation. Perceived need for increased autonomy was also linked as a predictor to job satisfaction. The only path to the dependent variable, motivational orientation toward innovation was the one from goal conflict. In this model, the structure coefficient for the path from goal conflict to motivational orientation toward innovation was not significant. This was expected, based on the correlation table (see Table 2). Also as expected, this model did not provide a good fit to the data, $x^2(17, N = 366) = 66.98$, $p = 0.00$, $CFI = .95$, $RMSEA = .09$, and accounted for 0% of the variance in motivational orientation toward innovation.

Next, an additional path was added to create a second model, in which perceived

need for increased autonomy was linked as a predictor to motivational orientation toward innovation. In this second model, the structure coefficient for the path from goal conflict to innovation was once again non-significant. The path from perceived need for increased autonomy to innovation was significant at 0.18. These coefficients reflect relationships that would be expected based on the correlation table (see Table 2). This second model did not provide a particularly good fit to the data, $x^2(16, N = 366) = 61.45, p = 0.00$, $CFI = .96$, $RMSEA = .09$, and accounted for only 3% of the variance in motivational orientation toward innovation.

A third model (see Figure 2) was then created by returning to the first model (i.e., deleting the path from perceived need for increased autonomy to motivational orientation toward innovation) and adding a path linking job satisfaction as a predictor to motivational orientation toward innovation. Although the chi square for this model was smaller than for the first two models, this model still did not fit the data adequately, $x^2(16, N = 366) = 52.67, p = 0.00$, $CFI = .96$, $RMSEA = .08$. The root mean square error of approximation was beyond the suggested cut-off of 0.06 (Ullman, 2001, p. 700). The newly added path, from job satisfaction to motivational orientation toward innovation, had a significant and higher than expected structure coefficient of 0.38. In addition, the path from goal conflict to motivational orientation toward innovation increased to 0.27 and was significant. According to Tabachnick and Fiddell (2001, p. 148-9), these changes in the structure coefficients, accompanied by an increase in the amount of variance accounted for in the dependent variable (from 0% to 7%), indicate that goal conflict is acting as a suppressor variable. That is, there is some variance in job satisfaction that is irrelevant to motivational orientation toward innovation and that is predicted by goal conflict. Goal conflict suppresses that irrelevant variance, and therefore, the predictive relationship of job satisfaction to

motivational orientation toward innovation is enhanced.

Using this third model, a fourth model was created (see Figure 3) by re-inserting the path from perceived need for increased autonomy to motivational orientation toward innovation. With this path added, the structure coefficient for the prediction of motivational orientation toward innovation by job satisfaction once again increased (to 0.53). (This additional increase suggests that perceived need for increased autonomy is also acting as a suppressor variable, enhancing the predictive ability of job satisfaction.) The amount of variance accounted for in motivational orientation toward innovation increased to 15%, and the model fit the data fairly well, $x^2(15, N = 366) = 36.93, p = 0.00$, $CFI = .98$, $RMSEA = .06$. In this model, all structure coefficients are significant.

These analyses indicate that job satisfaction directly predicts motivational orientation toward innovation, and that this predictive relationship becomes stronger in the presence of goal conflict and perceived need for increased autonomy. Therefore, these last two variables are suppressing variance in job satisfaction that is irrelevant to motivational orientation toward innovation. Perceived need for increased autonomy also appears to have a small, positive predictive relationship to motivational orientation toward innovation. Goal conflict, however, has no direct relationship with motivational orientation toward innovation.

Other relationships in the model are similar to what would be expected based on the correlation table (see Table 2). Teachers' reported experience of goal conflict negatively predicts their reported job satisfaction. Goal conflict accounts for 59% of the variance in job satisfaction. Also, teachers' experience of goal conflict positively predicts their perceived need for greater autonomy, with goal conflict accounting for 16% of the variance in that latent variable.

Finally, because no relationship between goal conflict and motivational orientation

toward innovation was found, an additional model was tested using only two variables as predictors. With only perceived need for increased autonomy and job satisfaction as predictors, the model accounted for 12% of the variance in motivational orientation toward innovation. This model, however, did not have an adequate fit to the data, $x^2(7, N = 366) = 24.13$, $p = 0.00$, $CFI = .97$, $RMSEA = .08$.

Using the LaGrange Multiplier test, with consideration of theoretical relevance, one path was added to the two-predictor model. This path allowed for correlated errors between two of the job satisfaction scales: administrator and work atmosphere. Upon examination of the items, this addition was considered acceptable because those two scales both appear to involve administrative influence more so than the third scale, challenge/general (see Table 1). With this addition, the final two-predictor model shown in Figure 4 accounted for 15% of the variance in motivational orientation toward innovation, and fit the data well, $x^2(6, N = 366) = 12.11$, $p = 0.06$, $CFI = .99$, $RMSEA = .05$. This final, two-predictor model was a significant improvement over the first two-predictor model (without the correlated errors), $x^2(1) = 12.02$, $p < .01$.

In the final two-predictor model displayed in Figure 4, both of the structure coefficients for the paths leading to motivational orientation toward innovation are higher than might be expected based on the correlation table (see Table 2). This suggests that perceived need for increased autonomy is acting as a suppressor variable, suppressing some variance in job satisfaction that is not relevant to the innovation variable. When both predictors are included in the model, as shown in Figure 4, the predictive ability of the model as a whole is enhanced.

Goal conflict in relation to external measures

The next set of analyses investigated whether goal conflict, job satisfaction, and

perceived need for increased autonomy were predictors of motivational orientation toward external measures. In this case, the correlation table (see Table 2) indicates that there is a direct relationship between goal conflict and motivational orientation toward external measures. Therefore, it was possible to investigate the nature of that relationship. Perceived need for increased autonomy, however, has no correlation with motivational orientation toward external measures (see Table 2). Therefore, it was clear that that variable cannot act as a mediator in the relationship between goal conflict and motivational orientation toward external measures.

In a process similar to the one described above, model testing began with a model in which goal conflict was linked as a predictor to job satisfaction, perceived need for increased autonomy, and motivational orientation toward innovation. Perceived need for increased autonomy was also linked as a predictor to job satisfaction. The only path to the dependent variable, motivational orientation toward external measures was the one from goal conflict. In this model, the structure coefficient for the path from goal conflict to motivational orientation toward external measures was significant at -0.34. This was similar to what would be expected based on the correlation table (see Table 2). This model fit the data adequately, $x^2(17, N = 366) = 39.08, p = 0.00$, $CFI = .98$, $RMSEA = .06$, and accounted for 11% of the variance in motivational orientation toward external measures.

Next, a second path to motivational orientation toward external measures was added, from job satisfaction. In this model, the structure coefficient from goal conflict to motivational orientation toward external measures decreased to -0.23, and the path from job satisfaction to motivational orientation toward external measures was not significant. Because this path was not significant, job satisfaction could not be confirmed as a mediator of the relationship between goal conflict and motivational orientation toward external

measures. This model also fit the data adequately, $x^2(16, N = 366) = 37.64, p = 0.00$, *CFI* = .98, *RMSEA* = .06, and accounted for 11% of the variance in motivational orientation toward external measures.

The third model was created by returning to the first model (i.e., deleting the path from job satisfaction to motivational orientation toward external measures) and adding a path from perceived need for increased autonomy to motivational orientation toward external measures. In this model, the structure coefficient for the path from goal conflict to motivational orientation toward external measures increased to -0.42. The structure coefficient for the path from perceived need for increased autonomy to motivational orientation toward external measures was also significant at 0.18. This model demonstrates that perceived need for increased autonomy acts as a suppressor variable, enhancing the ability of goal conflict to predict motivational orientation toward external measures. There is some variance shared between goal conflict and perceived need for increased autonomy that is irrelevant to motivational orientation toward external measures. By suppressing this irrelevant variance, the presence of perceived need for increased autonomy increases the predictive power of the model. This third model fit the data well, $x^2(16, N = 366) = 32.72, p = 0.01$, *CFI* = .98, *RMSEA* = .05, and accounted for 15% of the variance in motivational orientation toward external measures.

Lastly, a fourth model was created by re-inserting the path from job satisfaction to motivational orientation toward external measures (see Figure 5). The addition of this path did not enhance the predictive ability of the model. Like the third model, this one also accounted for 15% of the variance in motivational orientation toward external measures and fit the data well, $x^2(15, N = 366) = 28.55, p = .02$, *CFI* = .99, *RMSEA* = .05. All structure coefficients were significant. The fit of this fourth model was a significant improvement

over the third model, $x^2(1) = 4.17$, $p < .05$. This suggests that job satisfaction may be acting as a mediator, while perceived need for increased autonomy acts as a suppressor, with regard to the predictive relationship between goal conflict and motivational orientation toward external measures.

Table 1: Factor Loadings for Survey Items

Scale Name and Items	Factor Loadings
Goal Conflict	
Myself/My School ($x^2(34) = 83.42, p = 0.00$, $CFI = 0.97$, $RMSEA = 0.06$)	
Helping my most troubled students gain hope and confidence	0.73
Fostering natural curiosity and a life-long love of learning	0.76
Developing a supportive classroom community	0.63
Educating students for effective citizenship in our country	0.63
Supporting students' moral development or character development	0.71
Developing strong relationships with my students	0.74
Devoting time to planning high quality lessons and units	0.69
Helping students become interested in or excited about school subjects like science and reading	0.71
Devoting time to my own further development as a teacher	0.59
Working collaboratively with other teachers to improve our school	0.52
Myself/My District ($x^2(43) = 88.26, p = 0.00$, $CFI = 0.98$; $RMSEA = 0.05$)	
Helping my most troubled students gain hope and confidence	0.83
Fostering natural curiosity and a life-long love of learning	0.83
Developing a supportive classroom community	0.70
Educating students for effective citizenship in our country	0.71
Supporting students' moral development or character development	0.77
Developing strong relationships with my students	0.79
Devoting time to my own further development as a teacher	0.56
Making sure each student makes progress relative to where s/he was at the beginning of the year	0.54
Helping students become interested in or excited about school subjects like science and reading	0.69
Devoting time to planning high quality lessons and units	0.56
Working collaboratively with other teachers to improve our school	0.56
Motivational Orientation ($x^2(19) = 30.73, p = .04$, $CFI = 0.98$; $RMSEA = 0.04$)	
Innovation ("I feel most successful when . . . ")	
A conversation with a colleague inspires me to try something new	0.62
I am creative in my lesson planning	0.60
I get really absorbed in planning a new lesson or unit	0.54
I work together with another teacher(s) and we come up with a new idea	0.66
I try a lesson that's different from anything I've done before	0.59
External Measures ("I feel most successful when . . . ")	
My students earn high standardized test scores	0.68
I cover all the topics in the curriculum guidelines before the year ends	0.45
I am sure that my students are well prepared for the standardized tests	0.95

Table 1 (continued)

Scale Name and Items	Factor Loadings
Job Satisfaction ($x^2(17) = 42.68, p = 0.00, CFI = 0.98; RMSEA = 0.06$)	
Challenge/General	
General satisfaction with your job	0.79
Opportunity to stretch myself/feel challenged	0.66
Opportunities to collaborate with colleagues	0.52
Opportunities to put my own talents, skills, and strengths to work	0.72
Administrator	
Working relationship with my administrator	0.88
Quality of feedback from my administrator	0.83
Work Atmosphere	
General work atmosphere in my school	0.75
General work atmosphere in my district	0.75
Perceived Need for Increased Autonomy ($x^2(13) = 18.33, p = .15, CFI = 0.99; RMSEA = .03$)	
Professional Autonomy	
I feel that my students would learn more if I could have more freedom to decide how to spend classroom time	0.60
I feel that I could be more successful as a teacher if I had more freedom to decide what teaching methods to use	0.86
I would feel more successful as a teacher if I had more control over what I choose to teach	0.77
I feel I could learn more if I had more freedom to make decisions about my own professional development	0.59
Time Pressure	
I can't spend time trying innovative ways of teaching because of all the external pressure to prepare students specifically for the standardized tests	0.58
Because I have to deal with so many district mandates, I don't have time to do the type of in-depth units that I think students would really benefit from	0.82
I would like to devote more class time to topics that my students are struggling with, but there is pressure from my school or district to cover the curriculum and just move on	0.68

Note: For the first item listed in each scale, the path from the factor was fixed to 1.00.

Note: For Goal Conflict: Myself/My School, error variances for the first two items listed were correlated.

Note: For Goal Conflict: Myself/My District, error variances for the last two items listed were correlated.

Table 2: Bivariate Correlations Among Scales

	1	2	3	4	5	6	7	8	9
Goal Conflict									
1. Myself/My School	(.89)								
2. Myself/My District	.71**	(.91)							
Job Satisfaction									
3. Challenge/General	-.51**	-.46**	(.74)						
4. Administrator	-.54**	-.40**	.56**	(.84)					
5. Work Atmosphere	-.53**	-.45**	.61**	.60**	(.72)				
Perceived Need for Increased Autonomy									
6. Professional Autonomy	.25**	.24**	-.32**	-.22**	-.27**	(.79)			
7. Time Pressure	.29**	.29**	-.31**	-.19**	-.31**	.53**	(.73)		
Motivational Orientation									
8. Innovation	-.01	.02	.22**	.12*	.11*	.17**	.05	(.73)	
9. External Measures	-.27**	-.32**	.25**	.25**	.22**	.01	-.01	.27**	(.71)

Note: Reliability (alpha) is shown in the diagonal in parentheses

** Correlation is significant at the 0.01 level (2-tailed)

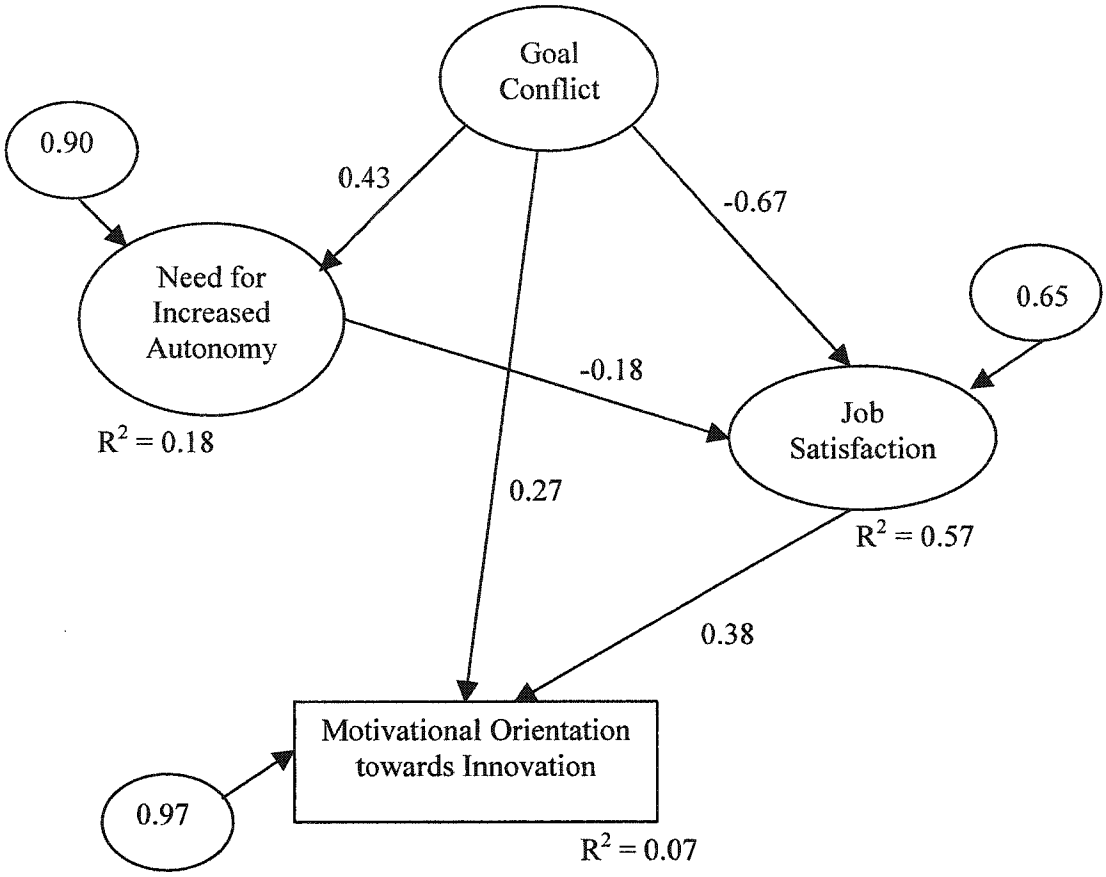
* Correlation is significant at the 0.05 level (2-tailed)

Table 3: Descriptive Statistics for Scales

Scale	M	SD	Skew	Kurtosis	Range
Goal Conflict					
Myself/My School	0.82	0.65	1.22	2.04	0.00–4.00
Myself/ My District	1.31	0.79	0.62	0.04	0.00–4.00
Job Satisfaction					
Challenge/General	3.75	0.70	-0.51	0.26	1.00-5.00
Administrator	3.68	1.11	-0.68	-0.26	1.00-5.00
Work Atmosphere	3.48	0.88	-0.83	0.44	1.00–5.00
Perceived Need for Incr. Autonomy					
Professional Autonomy	3.07	0.87	-0.04	-0.22	1.00-5.00
Time Pressure	3.49	0.92	-0.35	-0.60	1.00-5.00
Motivational Orientation					
Innovation	4.12	0.55	-0.45	0.09	2.00-5.00
External Measures	3.50	0.82	-0.31	0.01	1.00-5.00

Note: All scale means were calculated from items with a 5-point Likert response scale, except for Goal Conflict.
Goal Conflict scores are the absolute value of difference scores (see text), with a possible range of 0 to 4.

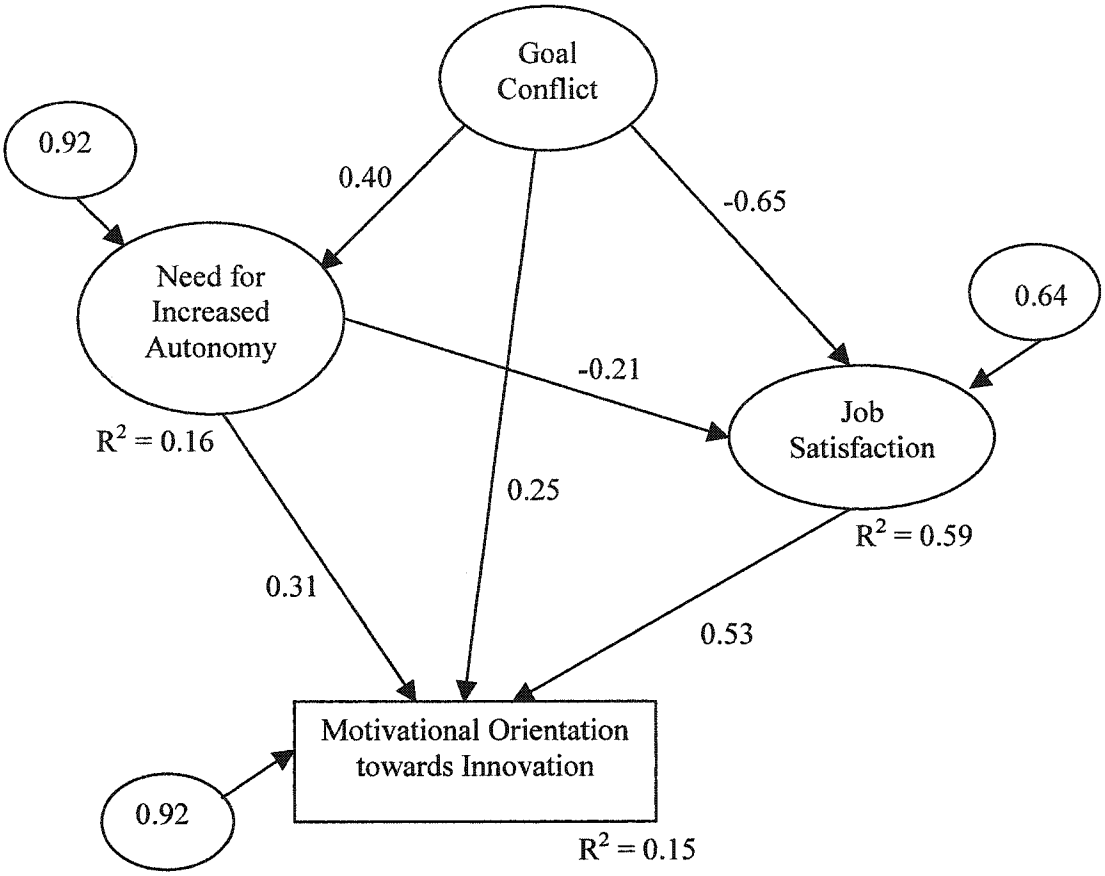
N=366.



$x^2 = 52.67$
$df = 16$
$p = 0.00$

$CFI = .96$
$RMSEA = .08$
$N = 366$

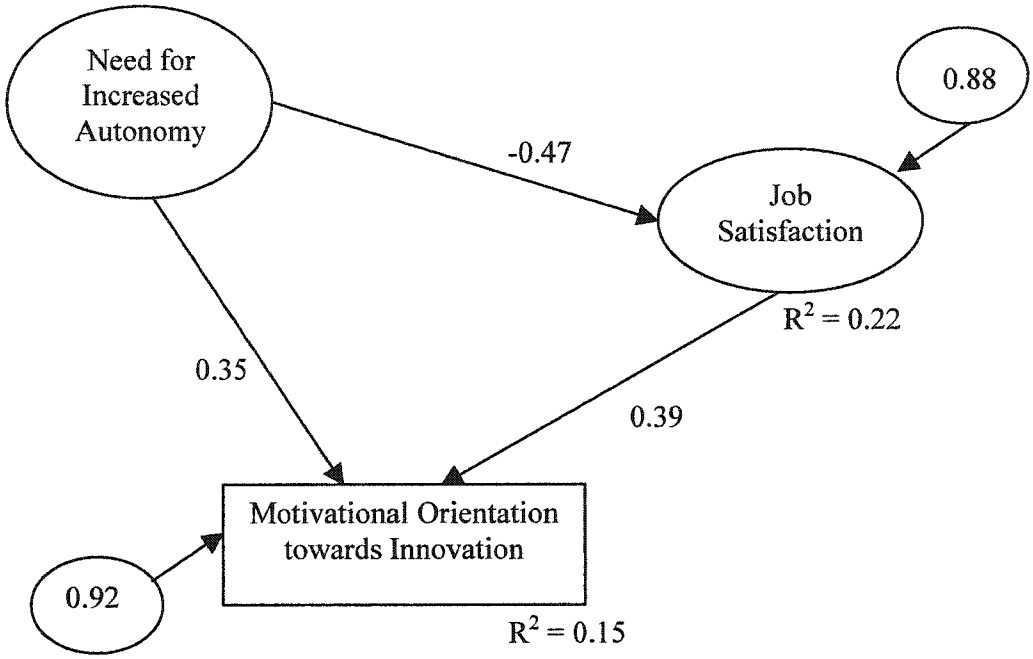
Figure 2. The third structural model examined for the first dependent variable, motivational orientation towards innovation, with standardized maximum likelihood estimates.



$x^2 = 36.93$
$df = 15$
$p = 0.00$

$CFI = .98$
$RMSEA = .06$
$N = 366$

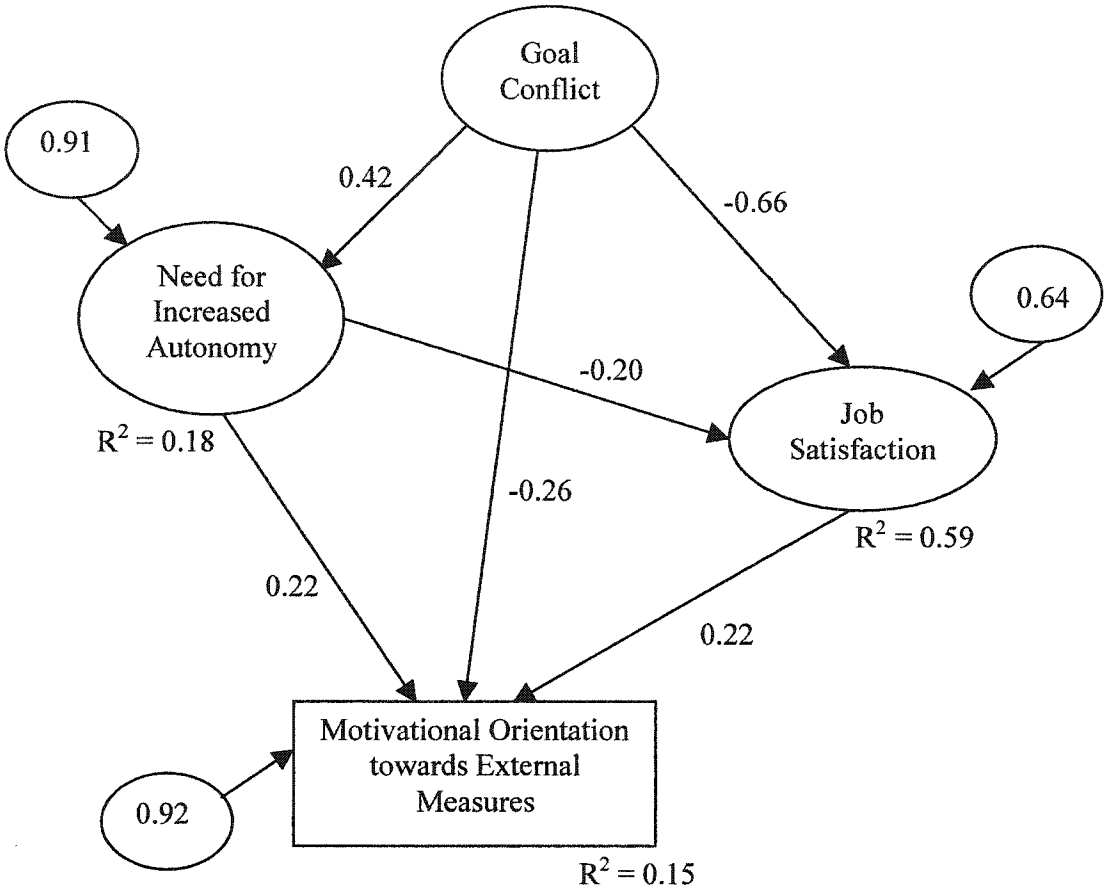
Figure 3. The final structural model for the first dependent variable, motivational orientation towards innovation, with standardized maximum likelihood estimates.



$x^2 = 12.11$
$df = 6$
$p = 0.06$

$CFI = .99$
$RMSEA = .05$
$N = 366$

Figure 4. The two-predictor structural model for the first dependent variable, motivational orientation towards innovation, with standardized maximum likelihood estimates.



$x^2 = 28.55$
$df = 15$
$p = .02$

$CFI = .99$
$RMSEA = .05$
$N = 366$

Figure 5. The final structural model for the second dependent variable, motivational orientation towards external measures, with standardized maximum likelihood estimates.

Chapter IV: Discussion

This study examined whether teachers' experience of goal conflict predicts their motivational orientations toward teaching, and whether that relationship is mediated by their job satisfaction and/or perceived need for greater autonomy. The results of the structural equation modeling indicate that goal conflict is a direct predictor of motivational orientation toward external measures, and that perceived need for greater autonomy acts as a suppressor variable in that relationship. Motivational orientation toward innovation, however, is predicted by job satisfaction in a model in which goal conflict acts as a suppressor variable. This study draws attention to goal conflict as one of the contextual factors that may influence teachers' motivational orientations toward external measures, in particular, and begins to explore other variables that may be implicated in predicting motivational orientations toward teaching.

Self-determination theory (Deci & Ryan, 1985, 1987, 2000) provides theoretical support for the direction of the flow of causation in the models. One might imagine that influence could flow in the opposite direction, with motivational orientation, job satisfaction, and need for increased autonomy all influencing the perception of goal conflict. Previous experimental studies of self-determination theory, however, establish that contextual factors such as feedback, deadlines, and rewards do influence motivation, and that the need for autonomy is a part of this process (e.g., Flink, Boggiano, & Barrett, 1990; Harackiewicz, Manderlink, & Sansone, 1984). The contents of assigned goals were considered here as another contextual factor. With goal conflict accounting for 16-18% of the variance in perceived need for increased autonomy, the results of this study, in turn, provide support for Deci and Ryan's theoretical argument that the need for autonomy is related to the contents of

goals (2000). When teachers are expected to pursue goals that conflict with their own autonomously chosen goals, then perceived need for increased autonomy is greater. The mixed results in terms of the relationship between goal conflict and motivational orientation toward teaching, however, raise questions about the applicability of self-determination theory for teachers.

Generally, goal conflict correlated in predicted ways with both job satisfaction and perceived need for increased autonomy. These correlations provide support for the construct validity of goal conflict. The relationship between goal conflict and motivational orientation manifested important differences for the two different dependent variables (innovation and external measures). In the models as a whole, some results were expected, while others were unexpected. These results are discussed further below.

Motivational Orientation toward Innovation

A negative relationship between goal conflict and motivational orientation towards innovation was hypothesized. This prediction was based on self-determination theory and the idea that conflict between teachers' own goals and assigned goals would lead to a perceived lack of autonomy, which would in turn lead to decreased orientation towards innovation. A modest positive relationship between goal conflict and need for increased autonomy supports the first part of that hypothesis. Goal conflict, however, did not have any relationship to motivational orientation toward innovation. Therefore, no mediated relationship is possible. Instead, goal conflict acts as a suppressor variable in the predicted positive relationship between job satisfaction and motivational orientation toward innovation.

Friedman and Farber (1992) found that, for Israeli elementary school teachers, professional satisfaction is negatively correlated with teacher burn-out. The items in the

scale for motivational orientation toward innovation reflect interest in collaborating, trying new ideas, and using one's creativity in designing lessons. Motivational orientation toward innovation might be regarded as the antithesis of burn-out. The fact that this orientation is positively predicted by job satisfaction is, therefore, not surprising.

This result suggests that future research on motivational orientations toward teaching should include further exploration of job satisfaction. For example, researchers might examine different dimensions of job satisfaction to discover whether some dimensions are more important than others in predicting motivational orientation toward innovation.

The two-predictor model shown in Figure 4 also demonstrates that including both perceived need for increased autonomy and job satisfaction, along with their relationship to one another, enhances the predictive ability of both of these variables. This indicates the need for further investigation of the relationships among autonomy, job satisfaction, and the motivational orientation toward innovation. For example, the correlation table (see Table 2) reveals that only one of the two scales for perceived need for increased autonomy has a significant correlation with motivational orientation toward innovation. In the future, it might be worthwhile to examine these two dimensions of perceived need for increased autonomy individually, in regard to both job satisfaction and motivational orientation toward innovation. Similarly, distinct dimensions of job satisfaction might also be examined more closely in order to work toward a better understanding of which contextual elements are relevant to motivational orientation toward innovation.

The lack of any relationship between goal conflict and motivational orientation toward innovation was unexpected in light of the predictions, based on self-determination theory. One possible explanation for this unexpected result is that many teachers may have a tendency to compartmentalize their goal conflict as a systemic issue and protect what

Rosenholtz and Simpson (1990) refer to as their "core instructional tasks" from any negative influences. In other words, their motivation to innovate may simply function independently from goal conflict and the need for more autonomy. They may experience pressure or tension related to underlying goal conflicts, but still be able to put that aside in order to maintain the focus on daily teaching interactions with students. Support for this interpretation may be found in a study of satisfaction in which English school teachers appeared to distinguish between two domains of teaching work. Scott, Cox, & Dinham (1999) found that teachers make distinctions between their "core teaching activities" and other aspects of their work relating to systemic and societal issues. This distinction echoes similar distinctions between two aspects of autonomy in teaching, including autonomy regarding: 1) decisions that influence daily teaching tasks in a single classroom, and 2) policy decisions that influence multiple classrooms (Barnabe & Burns, 1994; Firestone & Pennell, 1993; Ingersoll, 2001).

Considering these types of distinctions, it is possible that many teachers experience goal conflict in relation to system-wide policy decisions, but still retain a sense of autonomy and strong motivation towards the "core business of teaching" (Scott, Cox, & Dinham, 1999). While such a resilient response might be a fortunate one for students, it seems an unfortunate way for teachers to function. One wonders what exciting innovations teachers might develop if they felt supported in their innovative endeavors. Clearly, this portion of the model requires further study, as does the application of self-determination theory in the model and the role of autonomy in teaching.

Motivational Orientation toward External Measures

The results were consistent with the predicted negative relationship between goal

conflict and external measures. This relationship is a direct one, however, and not mediated by perceived need for increased autonomy. Based on self-determination theory, a mediated relationship was expected. It was also expected that goal conflict would relate in similar ways to both dimensions of motivational orientation, not just one.

These results suggest that motivation to pursue goals that are not autonomously chosen may function differently than motivation to pursue goals that are autonomously chosen. As discussed above, autonomously chosen goals may be pursued even in spite of controlling influences and a perceived need for more autonomy. Yet, motivation to pursue success on external measures, if this goal is not fully "endorsed by the self" (Deci & Ryan, 2000), may be more vulnerable to impairment due to goal conflict. Therefore, the difference in results for the two outcome variables may be due to the difference in personal endorsement of the different goals. In other words, if teachers place a lower value on goals related to external measures, then the protective response discussed above may not apply to motivational orientation toward external measures. Instead, the experience of goal conflict has a direct, negative impact on motivational orientation toward external measures.

It is unexpected, however, that this relationship is not mediated by perceived need for increased autonomy. This result raises questions about whether self-determination theory will prove helpful in understanding teachers' motivational orientations. Because perceived need for increased autonomy acts as a suppressor in the relationship between goal conflict and motivational orientation toward external measures, it appears that the portion of the variance in goal conflict that relates to the need for autonomy is not relevant to motivational orientation toward external measures. It is possible that the relationship between goal conflict and motivational orientation toward external measures might be mediated by some other construct, not included in this study, or that the relationship is simply a direct one.

Overall, the results of this study indicate that the constructs of goal conflict and job satisfaction deserve further investigation, as they relate to motivational orientations toward teaching. These outcomes do not provide clear support for the application of self-determination theory in studying teacher motivation. On the other hand, the positive relationship between goal conflict and perceived need for increased autonomy, as well as the negative relationship between goal conflict and motivational orientation toward external measures, were both predicted according to self-determination theory. The negative relationship between goal conflict and motivational orientation toward external measures echoes Deci and Ryan's (2000) argument that the contents of goals, and not just the processes of goal pursuit, may be relevant to motivation. In addition, the negative relationship between perceived need for increased autonomy and job satisfaction is consistent with findings from the 1989 study of a business organization by Deci, Connell, & Ryan.

While the results of the present study are mixed, it may be productive to continue to draw on self-determination theory in studies of teacher motivation so that the relationships examined here may be explained further. In order to develop a better understanding of teacher motivation, it will be important to look at which goals teachers are instructed to prioritize in their work, and whether those priorities are in accord with the problems that teachers see arising in their own work, and with the values that guide teachers' interactions with children. Additional research in this vein would also complement the work which finds that teachers' experience of autonomy support or control relates to their teaching practices and student performance (Pelletier et al, 2002; Deci, Speigel, Ryan, Koestner, & Kauffman, 1982; Flink, Boggiano, & Barrett, 1990). All together, such work has the potential to create a fuller picture of the role of self-determination in teaching.

Limitations and Implications for Future Research

Data for this study were drawn from a single administration of a survey, and the models have not yet been validated on another sample. Such validation is an important step in the progression toward further understanding of the relationships among these constructs. In addition, since the data analyzed here were collected through a voluntary survey, self-selection bias is a possible concern at two levels. First, some types of principals may be more likely than other types to grant permission for the survey to be distributed in their schools. Second, some types of teachers may be more likely than other types to fill out and return the survey. On the other hand, inspection of the means and standard deviations in Table 1 suggests that teachers varied in their responses to these questions, which likely reflects differences among experienced contexts. Nonetheless, caution must be taken in generalizing these findings to all teachers. Further research, especially research that involves a broader sample of teachers, should be undertaken to address this limitation.

In general, the use of a survey method limits the potential for discovering new perspectives on teacher motivation because all of the items reflect previous research and the current thinking of the researcher. There is little or no opportunity for teachers to present an unforeseen point of view. For these reasons, this study should be viewed as exploratory. The data seem to indicate that goal conflict and job satisfaction are promising constructs to pursue in relation to motivational orientations toward teaching. It is possible, however, that other constructs also influence teachers' motivational orientations. Further research might address that possibility and bring additional constructs into the model.

Implications for practice

When conflicts arise between teachers' own visions of what their priorities should be

and other educational goals that may be assigned to them, then it may be wise to develop procedures to help teachers deal with those conflicts. The negative relationship reported here between goal conflict and motivational orientation toward external measures suggests that such goal conflict may result in decreased motivation among teachers for working towards certain assigned goals. Furthermore, the strong negative relationship between goal conflict and job satisfaction indicates the potential for negative consequences for the teaching force. Given that teachers are unique individuals, some are bound to experience goal conflict no matter which goals are prioritized. But, if the experience of goal conflict cannot be eliminated, it might be mitigated. One solution is suggested by Locke and Latham's (1991) idea of the "tell and sell" approach to introducing assigned goals. Rather than simply being handed down, assigned goals might be discussed among administrators and teachers with the intent of convincing teachers that these goals are important and should be prioritized.

On the other hand, because educational goals are so closely linked to personal values and visions of America's future, it seems likely that "selling" any large diverse group of individuals on any particular goals will be a challenge. Nonetheless, Koestner, Ryan, Bernieri, and Holt (1984) found that using an informational, rather than a controlling, style when setting limits may help to mitigate the negative effects of constraints on intrinsic motivation and performance. In this study, the informational style of limit setting included offering rationales for the limits being imposed and explicitly acknowledging "possible contrary feelings" (p. 238). Perhaps with adults, too, it might be beneficial to acknowledge disagreement in the form of goal conflict. Given opportunities to discuss the advantages and disadvantages of adopting various goals, teachers might begin to internalize goals that are initially externally imposed ones (Deci & Ryan, 1987, 2000).

Open discussions among teachers, administrators, and community members about the

various purposes of schooling might also provide opportunities for recognizing teachers' perspectives. Two-way channels of communication might create the possibility of reaching better agreement between teachers, administrators, and community members about which goals are most appropriate or best reflect shared visions of America's future. Considering Rosenholtz's (1987) idea that teachers' perceive greater complexity in their jobs than do policy-makers, enhancing channels of communication in both directions might potentially allow for the development of more appropriate teaching goals.

Note

[1] It should be noted that the distinction between autonomous and controlled behaviors is not equated with the distinction between intrinsically and extrinsically motivated behaviors. An extrinsically motivated behavior can be autonomous (Deci & Ryan, 1987). Work on self-determination theory has often been focused on intrinsic motivation as an outcome, however, since "intrinsically motivated behavior is the paradigmatic case of self-determination" (1987, p. 1033).

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Appendix A: Teacher Survey

1. Please rate how satisfied you are with each of the following characteristics of your job: (Please circle one number)

	very dissatisfied				very satisfied
• variety in my work	1	2	3	4	5
• freedom to decide what to teach	1	2	3	4	5
• quality of feedback from my administrator	1	2	3	4	5
• opportunity to contribute to school level policy decisions	1	2	3	4	5
• job security	1	2	3	4	5
• opportunity to stretch myself/feel challenged	1	2	3	4	5
• freedom to decide how long to spend on different lessons/units	1	2	3	4	5
• pay and benefits	1	2	3	4	5
• opportunities to collaborate with colleagues	1	2	3	4	5
• freedom to decide how to teach	1	2	3	4	5
• general work atmosphere in my school	1	2	3	4	5
• opportunity to contribute to district level policy decisions	1	2	3	4	5
• working relationship with my administrator	1	2	3	4	5
• freedom to prioritize what's most important for my students	1	2	3	4	5
• opportunities to innovate/be creative/try new things	1	2	3	4	5
• general work atmosphere in my district	1	2	3	4	5
• freedom to make choices about my own professional development activities	1	2	3	4	5
• opportunities to put my own talents, skills, and strengths to work	1	2	3	4	5

	very dissatisfied				very satisfied
• Please rate your general satisfaction with your job.	1	2	3	4	5

	very unlikely				very likely
• In your estimation, how likely is it that you will be a teacher in 5 years time?	1	2	3	4	5
• In your estimation, how likely is it that you will be a teacher in 10 years time?	1	2	3	4	5

• If you are unlikely to continue teaching, why? (Please circle)

moving to administration or other work in education | moving to work outside education | temporary leave/ planning to return | Retiring

Other: _____

2. What makes you feel successful in your teaching?

Different things make different people feel successful. These items ask you to rate whether each item gives you a sense of success in your work. Please feel free to use the whole scale.

I feel **most** successful when . . .	doesn't make me feel successful				really makes me feel successful
• I come up with a new way to teach some difficult concepts	1	2	3	4	5
• A conversation with a colleague inspires me to try something new	1	2	3	4	5
• I accomplish a teaching goal I've set for myself	1	2	3	4	5
• I am creative in my lesson planning	1	2	3	4	5
• My students earn high standardized test scores	1	2	3	4	5
• I can see that I have grown professionally	1	2	3	4	5

I feel **most** successful when . . .	doesn't make me feel successful				really makes me feel successful
• I get really absorbed in planning a new lesson or unit	1	2	3	4	5
• I feel that I am improving as a teacher	1	2	3	4	5
• I cover all the topics in the curriculum guidelines before the year ends	1	2	3	4	5
• I am innovative in my teaching	1	2	3	4	5
• I work together with another teacher(s) and we come up with a new idea	1	2	3	4	5
• My students accomplish the same things as other students on this grade level	1	2	3	4	5

I feel **most** successful when . . .	doesn't make me feel successful				really makes me feel successful
• I can see that my teaching has matured	1	2	3	4	5
• I am sure that my students are well prepared for the standardized tests	1	2	3	4	5
• I try a lesson that's different from anything I've done before	1	2	3	4	5
• My students are working on grade level	1	2	3	4	5
• I make improvements in my teaching skills	1	2	3	4	5

3. Teachers may have many goals for what they want to accomplish in their work each year. **In the first column below, please rate each of the following goals according to how important it is <u>for you</u>.** We expect that not all of these goals are equally important, so feel free to use the whole scale.

Teachers are also surrounded by colleagues, administrators, and others who may have their own ideas about what goals teachers should be working towards. Sometimes those goals may be communicated through policies and regulations. **In the second column, please rate each goal according to how important you think it is <u>in your school</u>.**

In the third column, please rate each goal according to how important you think it is <u>in your district</u>.

	Column I					Column II					Column III				
	How important this is to <u>me</u>:					**How important in <u>my school</u>:**					**How important in <u>my district</u>:**				
	not very important				*very important*	*not very important*				*very important*	*not very important*				*very important*
1. Developing a supportive classroom community	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Ensuring that all students master basic skills	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Upholding high academic standards in all subjects for all students	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. Educating students for effective citizenship in our country	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5. Increasing our school's test scores	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
6. Helping my most troubled students gain hope and confidence	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
7. Fostering natural curiosity and a life-long love of learning	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

	Column I **How important this is to me:** *not very important* *very important*	Column II **How important in my school:** *not very important* *very important*	Column III **How important in my district:** *not very important* *very important*
8. Making sure all students are prepared for the next grade	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
9. Supporting students' moral development or character development	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
10. Devoting time to my own further development as a teacher	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
11. Making sure each student makes progress relative to where s/he was at the beginning of the year	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
12. Helping students become interested in or excited about school subjects like science and reading	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
13. Devoting time to planning high quality lessons and units	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
14. Ensuring that I cover all the topics students will face on the standardized tests	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
15. Working collaboratively with other teachers to improve our school	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
16. Developing strong relationships with my students	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Any other goals you'd like to include? 17. _____	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

4. Some teachers feel that their own goals for their teaching are different from their building or district level goals. Other teachers feel that they are similar.

1.	When you compare your own goals to your building or district level goals, do you see them as:	very different 1	2	3	4	very similar 5
2.	When you compare your own goals to your building or district level goals, do you see them as:	very conflicting 1	2	3	4	very complementary 5

3.	How often do you feel that you have to manage conflicting or competing priorities in your teaching?	never 1	2	3	4	very frequently 5

4.	If you do experience these kinds of conflicts, how do you feel that this influences . . .	in a negative way				in a positive way
	• your choices about how to use class time with your students?	1	2	3	4	5
	• your choices about how to use out-of-class time (such as your planning time)?	1	2	3	4	5
	• your overall job satisfaction?	1	2	3	4	5

5. How much do you agree with these statements?

	strongly disagree				strongly agree
1. I feel that my students would learn more if I could have more freedom to decide how to spend classroom time.	1	2	3	4	5
2. I really feel that I have sufficient autonomy in terms of decisions about what to teach.	1	2	3	4	5
3. I can't spend time trying innovative ways of teaching because of all the external pressure to prepare students specifically for the standardized tests.	1	2	3	4	5
4. I feel that I have enough control over how my professional development time is spent.	1	2	3	4	5
5. I wish that I had more guidance or direction, in terms of choosing topics to cover.	1	2	3	4	5
6. Because I have to deal with so many district-mandates, I don't have time to do the type of in-depth units that I think students would really benefit from.	1	2	3	4	5
7. I feel that I could be more successful as a teacher if I had more freedom to decide what teaching methods to use.	1	2	3	4	5
8. Pressure to cover the curriculum doesn't really interfere with my ability to meet my students' needs when I decide how long to spend on each unit or topic.	1	2	3	4	5
9. I would feel more successful as a teacher if I had more control over what I choose to teach.	1	2	3	4	5
10. I wish that I had more guidance or direction, in terms of selecting what teaching methods to use.	1	2	3	4	5
11. I would like to devote more class time to topics that my students are struggling with, but there is pressure from my school or district to cover the curriculum and just move on.	1	2	3	4	5
12. I feel I could learn more if I had more freedom to make decisions about my own professional development.	1	2	3	4	5
13. I wish the teachers here were given more time and encouragement to work collaboratively and learn from each other.	1	2	3	4	5
14. I really feel that I have sufficient autonomy to decide how I want to teach.	1	2	3	4	5
15. I have enough time to experiment with different ways of teaching when I want to.	1	2	3	4	5

6. This survey has included questions about your own goals as a teacher and other goals that may influence your work. These other goals may come from the school, district, or state level, or from other sources. Please explain in your own words whether these different sets of goals make teaching difficult or easy for you. Do you feel that you face many conflicting or competing goals, or that you can work towards all of the goals simultaneously? Please print.

Would you like to offer any additional comments regarding the issues raised in this survey? Please print.

Would you like to offer any feedback on this survey? Please print.

7. The following questions will help me determine whether I have obtained a representative sample of the teachers in this area. These questions are optional.

	0-3 years	4-6 years	7-10 years	11-15 years	16-20 years	more than 20 yrs
• How long have you been teaching?	☐	☐	☐	☐	☐	☐
• How long have you worked at this school?	☐	☐	☐	☐	☐	☐
• How long have you worked with this principal?	☐	☐	☐	☐	☐	☐

- Which grade are you teaching this year? (If multi-age class, please check all that apply.)
  ☐ K ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

- Are you male or female? ☐ male ☐ female

- How old are you? ☐ under 25 yrs. ☐ 25-29 yrs. ☐ 30-34 yrs. ☐ 35-39 yrs.
  ☐ 40-44 yrs. ☐ 45-49 yrs. ☐ 50-54 yrs. ☐ 55 yrs. and over

- How do you describe your racial or ethnic identity?
  - ☐ Black or African American
  - ☐ Asian or Pacific Islander
  - ☐ Hispanic or Latina/Latino
  - ☐ Other
  - ☐ American Indian or Alaska Native
  - ☐ White (non-Hispanic)
  - ☐ Multiracial

- How often are you observed for purposes of evaluation?
  - ☐ Less than once a year
  - ☐ Once a year
  - ☐ Twice a year
  - ☐ More than twice a year

• At your school, how much influence do teachers have on decisions about:	*very little*				*a great deal*
- School goals?	1	2	3	4	5
- Curriculum?	1	2	3	4	5
- Discipline policy?	1	2	3	4	5
- Other school policies? _____	1	2	3	4	5

- Are you a state certified elementary school teacher? ☐ Yes ☐ No

- Are you currently: □ a regular classroom teacher? or □ a specialist (e.g.: music, art, special education, etc.)?

THANK YOU VERY MUCH!

Vita

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Taught course entitled "Dilemmas of Teaching and Learning" for students preparing to become elementary school teachers.
Collaborated with instructor for other section of course and with teaching assistant.
Responsible for all aspects of class, including planning, teaching, grading, and meeting with individual students.

Teaching Assistant, Teacher Education Program, University of Washington, Seattle, WA, Sept. 1998 - June 2000
Led reflective discussion sections with students in Masters in Teaching program.
Assisted in courses by grading papers, participating in planning meetings, and conferencing with individual students.

Teacher Trainer, Peace Corps, Namibia, Southern Africa, Oct. 1995-Dec. 1997
Conducted weekly workshops at four rural primary schools.
Observed teachers of grades one through four and offered written and oral feedback, connecting each observation to previous observations and workshop content.
Instructed 18 teachers enrolled in a government-approved certificate program for underqualified teachers.
Used team-teaching and demonstration lessons to model effective teaching strategies.

Third Grade Teacher, The Berkeley-Carroll School, Brooklyn, NY,
Sept. 1993 - June 1995
Developed unit plans, lessons, and activities for classes of 15-18 students according to established curriculum content guide.
Collaborated with other teachers in planning cross-disciplinary projects.
Conducted parent conferences and wrote anecdotal report cards twice each year.

VOLUNTEER EXPERIENCE

Volunteer Reading Tutor, Garfield Elementary, Everett, WA, Jan. 2003 – June 2003
Tutoring individual students in reading weekly. Supporting students' improvement in reading fluency and comprehension.

Child Care Volunteer, Park Slope Safe Homes, Brooklyn, NY, Feb. 1994 – July 1995
Led and supervised group and individual activities for children whose mothers were engaged in group counseling related to domestic violence.

RESEARCH

Exploring Influences on Teachers' Motivational Orientations, dissertation study
College of Education, University of Washington
A written survey of elementary school teachers, focusing on goal conflict, job satisfaction, and autonomy in relation to teacher motivation.

CONFERENCE PRESENTATION

"Evaluating the Work of Teaching Assistants: Considerations for Supporting Fairness and Quality." Paper co-written with Joelle Jay and presented at the AACTE (American Association of Colleges for Teacher Education) Annual Conference, Chicago, IL; February, 2000.