Changes in Mastery Goals in Urban and Rural Middle School Students

Tierra M. Freeman and Lynley H. Anderman
University of Kentucky

Little is known about differences in middle school students' motivation and the motivational climate provided across rural and urban settings. We examined change in middle school students' personal mastery goals and perceptions of mastery goal structures in their classes. Results showed students' personal mastery goals and perceptions of mastery goal structures increased over time. Rural students, as compared to urban students, reported a sharper increase in personal mastery goals. Seventh-grade mastery goals were not completely explained by students' 6th-grade mastery goals or perceptions of classroom mastery goal structures; therefore, we examined contextual data from teachers, principals, and direct classroom observations. The importance of a stable and orderly environment, at both the school and classroom levels, is highlighted.

Since the early 1900s, educational reform movements have concentrated on improving rural schools by making them more like their urban counterparts in structure (Kannapel & DeYoung, 1999). For example, rural schools have been forced by state departments of education to become more centralized, bureaucratic, and professional as well as being physically merged into large consolidated bodies in an effort to improve the educational experience of rural students (see DeYoung, 1987; Kannapel & DeYoung, 1999). Historically, educational research has largely ignored the real problems in rural schools (DeYoung, 1987). Over the past 4 decades, however, a small number of studies have examined differences in students' motivation in, and the motivational climate provided by, urban and rural middle schools. The results of these studies are mixed, although early research in this area generally suggested that urban schools offered more adaptive motivational environments for students than did their rural equivalents (e.g., Jenkins, 1963; Randhawa & Michayluk, 1975; Taylor & Jones, 1963). Since the publication of those studies, however, there has been considerable change in the physical and socioemotional environments offered by middle schools in both urban and rural settings (Lomotey & Swanson, 1989; Potterfield & Pace, 1991). Some have suggested that urban schools are not as affluent as they once were, and that rural schools have improved considerably since the early 1960s and 1970s despite state level reform efforts (Kannapel & DeYoung, 1999).

Furthermore, although earlier studies focused on a variety of contextual measures, ranging from school culture to classroom learning environment and teacher support, few have focused on the differences between urban and rural students' personal motivational beliefs or their perceptions of their academic context. Research in the field of motivation has shown that a number of contextual factors influence students' achievement motivation (e.g., Ames, 1992a, 1992b; Anderman, 1999; Patrick, Anderman, Ryan, Edelin, & Midgley, 2001). The purpose of the current study is to revisit, through the lens of achievement goal theory, the question of urban and rural differences in middle school students' motivation and perceptions.

Early Studies of Motivation in
Urban and Rural Schools

Research conducted in the 1960s and 1970s suggested that urban schools offered more adaptive motivational contexts for students than those found in rural schools. These differences often were explained in terms of school resources in that rural schools tended to be smaller and, therefore, received less tax-based revenue (Kannapel & DeYoung, 1999; Khattri, Riley, & Kane, 1997). Thus, urban schools at that time often received more funding than did

rural schools, due to their larger enrollments (Randhawa & Michayluk, 1975). Such differences in funding resulted not only in better physical environments, but also allowed urban schools to recruit more highly qualified teachers and to provide greater curricular variety and educational resources (Khattri et al., 1997). Urban classrooms in the 1960s and 1970s were characterized as "intellectually stimulating and satisfying" to students; in contrast, rural classrooms were described as being highly competitive and poorly funded, yet cohesive (Randhawa & Michayluk, 1975). Interestingly, however, the cohesiveness of rural schools in these studies was viewed as both adaptive and maladaptive for students' motivation. That is, although cohesiveness in general is an important characteristic of positive classroom environments (Ames, 1992a, 1992b), early researchers described rural students as binding together against their teachers in a manner that was disruptive to the classroom motivational climate (Randhawa & Michayluk, 1975). In an examination of the normative climates in five types of schools, Trickett (1978) found that urban students were significantly more focused on mastering the material or skill required in their schoolwork (referred to as task goal oriented) than the other four settings examined.

In contrast to these earlier descriptions, changes in both the physical and socioemotional environments offered by urban and rural schools over the past 4 decades suggest that rural schools currently may offer more adaptive motivational climates for students than do urban schools (Kannapel & DeYoung, 1999; Khattri et al., 1997). More recent studies have found that urban schools may tend to "lack purpose and coherence" (Lomotey & Swanson, 1989, p. 440). Currently, urban education is often characterized by "disciplinary problems, large class size, lack of time for individual interaction, busing policies, and lack of student participation in extracurricular activities" (Lomotey & Swanson, 1989, pp. 440-441). Some of these difficulties undoubtedly reflect educators' struggles to respond to the higher levels of both cultural and economic diversity experienced in urban settings. Motivation theorists suggest that such environmental difficulties may affect students' motivational goals (e.g., Maehr & Midgley, 1996). On the other hand, studies of rural classrooms in more recent years suggest that the motivational climate may have improved from those described in the early 1960s and 1970s, in that they reflect less competitiveness among students while remaining adaptively cohesive (Potterfield & Pace, 1992). In addition, rural schools have been characterized as the "social center" of small communities where parents, as well as other members of the surrounding community, are active in school functions (Kannapel & DeYoung, 1999; Khattri et al.; Lomotey & Swanson, 1989). Thus, the cohesiveness of rural classrooms may be a reflection of a greater sense of cohesiveness that extends from the community that surrounds the school. Such cohesiveness and involvement has been theorized to be important in students'

pursuits of positive academic outcomes, including academic motivation (e.g., Maehr & Midgley, 1996).

In the state of Kentucky, the implementation of state-mandated educational reform during the early 1990s provided schools throughout the state with increased and more equitable funding, thus removing the earlier disadvantages in physical environment and curricular offerings previously documented in rural schools (Kannapel & DeYoung, 1999; Phillips & Boysen, 1997). Given these combined patterns of change in urban and rural school settings, a re-examination of the motivational climate provided in each is warranted.

Achievement Goal Orientation Theory

Achievement goal orientation theory is a social-cognitive theory that has particular utility for examining motivation both in terms of classroom contexts and individual students' beliefs (Maehr & Midgley, 1996; Midgley, 2002). Rather than viewing students as possessing or lacking motivation, this theory instead considers the achievement goals, defined as the "meaning or purpose for engaging in academic behavior, as construed by students," that students pursue (Kaplan, Middleton, Urdan, & Midgley, 2002, p. 22). Whereas several different achievement goals have been identified in the literature (e.g., Pintrich, 2000), a large body of research has demonstrated the importance of students' pursuit of a mastery goal in relation to adaptive patterns of student cognition, affect, and behavior. That is, students' perception that the purpose of academic engagement is to develop and improve their knowledge and mastery has been associated with a range of positive outcomes, including increased academic self-efficacy, a preference for difficult tasks and persistence with such tasks, an incremental view of intelligence, liking of school, and positive general well being (Ames 1992b; Kaplan et al., 2002; Urdan, 1997).

Motivation research has shown that students' personal goals can change over time, with many students showing a decline in mastery goal orientation (e.g., Anderman & Anderman, 1999; Anderman & Maehr, 1994; Meece, 2001; Meece & Miller, 2000). Meece and her colleagues have found that, at the aggregate level, elementary students' mastery goals for reading and writing change not only across school years as students move into new classrooms, but also during the year. Students in that study reported a decline in their mastery goals for literacy activities from fall to spring terms (Meece, 2001; Meece & Miller, 2000). Research has also shown a tendency for students' mastery goal orientation to decrease following the transition from elementary into middle school (Anderman & Anderman, 1999; Anderman, Maehr, & Midgley, 1999). Less is known, however, about possible changes in students' mastery goal orientation during the middle school years. In terms of potential differences between students in rural and urban schools, the definition of a mastery goal orientation is conceptually similar

to Trickett's (1978) notion of task orientation. Therefore, the urban students in Trickett's study could be described as high in mastery goals, in that they were focused on truly understanding the material presented to them. The rural students in that study, however, appeared to be lower on mastery goals than the urban students were, suggesting a somewhat less adaptive profile of achievement motivation. In the current study, therefore, we examined the changes in students' personal mastery goals at three time points (spring of sixth grade, and fall and spring of seventh grade), focusing on potential differences between students in urban and rural settings.

Achievement Goal Structures in Classrooms

Just as researchers have identified students' personal achievement goal orientations, the contexts in which students learn can be described in terms of the achievement goal structures present in their classes. In the same way that personal achievement goals represent an individual's perception of the meaning and purpose of academic activities, classroom goal structures represent the meanings and purposes of academic engagement and success that are made salient within a given setting (Kaplan et al., 2002; Patrick et al., 2001). For example, a mastery goal structured classroom would be one in which the teacher emphasizes students' understanding and improvement, recognizing effort and viewing mistakes as a natural part of the learning process (Ames, 1992b; Midgley, 2002).

Studies have demonstrated important links between students' perceptions of the goal structures emphasized in their classes and a range of student-level motivational and performance outcomes. A mastery goal structure has been shown to promote students' adoption of effective learning strategies and positive feelings about self and school, and it has been associated with students' positive affect and coping strategies as well (e.g., Ames & Archer, 1988; Anderman, 1999, 2003; Kaplan & Maehr, 1999; Kaplan & Midgley, 1999; Ryan, Gheen, & Midgley, 1998; Urdan, Midgley, & Anderman, 1998). In addition, students' perceptions of a mastery goal structure in their classes are theorized as a major influence in students' adoption of a mastery goal at the individual level (Anderman & Maehr, 1994). This association has been empirically supported in studies of middle school students (Anderman & Anderman, 1999; Anderman & Young, 1994). Furthermore, one possible explanation for the aforementioned decline in students' personal mastery goal orientation following the transition to middle school may be related to evidence that middle school teachers tend to emphasize a mastery goal structure less than do elementary school teachers (Midgley, Anderman, & Hicks, 1995).

An important focus in the literature on achievement goal structures is the conditions necessary to facilitate a mastery-oriented classroom. Ames (1992a) identifies six environmental characteristics that have been shown to contribute to classroom goal structures, summarized in the acronym TARGET, which include the nature of Tasks; locus of Authority, Recognition, Grouping, and Evaluation practices; and the use of Time. Teachers' practices within each of these categories have been linked with students' perceptions of a mastery goal structure at the classroom level and with their personal mastery goal orientation (see Anderman & Maehr, 1994; Maehr & Midgley, 1991). Studies using the TARGET framework, as well as other studies focusing on classroom characteristics, provide some basis for understanding how teachers' instructional practices can create a mastery goal orientation (Anderman, Patrick, Hruda, & Linnenbrink, 2002; Patrick et al., 2001). Not only are specific instructional characteristics proving to be important in influencing students' personal mastery goals, but various aspects of the social-relational environment of classrooms also have been related to students' goals (Anderman & Anderman, 1999; Anderman et al.; Ryan & Patrick, 2001).

Findings from a set of observational studies have highlighted the need to address classroom management and the tone of interpersonal interactions in regards to classroom goal structures, in addition to the existing TARGET categories (Anderman et al., 2002; Patrick, Turner, Meyer, & Midgley, 2003). That is, in order to create a climate that emphasizes the value of students' effort, improvement, and mastery of content, teachers must also establish sufficient order to allow a focus on academic activity. Anderman et al. concluded that environmental conditions such as "warm and positive" pedagogical relationships where respect is the norm, and where students are provided with challenges and expectations that are in line with their cognitive development, are needed in order to communicate a mastery goal structure within a classroom. However, although some authors have assumed that "management and motivation are inextricably linked" (Weinstein & Mignano, 2003, p. 202), much of the research on adaptive motivational climates of classrooms has not directly addressed this dimension of the classroom environment.

Thus, further empirical investigation of the role of social-relational characteristics of classrooms may enrich our understanding of the ways in which a mastery goal structure can be promoted and emphasized in classes. In particular, studies that combine data from multiple sources and methods have the potential to provide rich descriptions of various aspects of classroom settings, including both teachers' actual practices and students' perceptions, and to link these descriptions to students' motivational outcomes (cf., Patrick et al., 2001; Patrick et al., 2003).

In the current study, we utilized data from a number of sources including students' reports of their personal mastery goals, their perceptions of the classroom mastery goal structure communicated by their teachers, direct classroom

observations that focused on the social and emotional characteristics of the environment, teachers self-reported efficacy beliefs, and school-level demographic data provided by principals. Given changes in the physical environments in both urban and rural schools (e.g., Potterfield & Pace, 1992; Trickett, 1978), we hypothesized that the cohesive nature of rural middle schools would be more conducive to establishing classrooms characterized by a mastery goal structure than that found in urban schools. We also hypothesized that this difference would be reflected in higher levels of students' personal mastery goals in the rural setting.

In summary, we examined the motivational climates provided for middle school students in rural and urban settings. In particular, we examined changes in students' personal mastery goals in sixth and seventh grades in relation to their perceptions of the mastery goal structures of their classes over the same time period. Further, we utilized both quantitative and qualitative data from multiple sources to explore aspects of the schooling environments present in these settings, as suggested by previous research.

Method

Participants

The data for this study were drawn from a larger, longitudinal research project examining instructional practices and students' motivation in middle schools. Students were recruited initially during the spring semester of sixth grade. Participants were drawn from seven public middle schools in the state of Kentucky. All of the schools were of a sixth-eighth grade configuration and structured their classes in self-contained instructional teams within which teachers shared common planning time and utilized similar teaching approaches. Based on information provided by the school principals, three of the participating schools were designated as urban and four as rural. The size of schools ranged from 463 to 1,191 students and did not differ systematically between rural and urban locations ($t = -.09$). Based on data obtained from the Kentucky Department of Education, participating schools ranged from 14% to 62% poverty (as defined by free and reduced lunch status).

The sample for the present analyses comprises 571 students after listwise deletion of missing cases (350 girls and 221 boys; 196 urban, 336 rural). There were 504 White students and 47 African American, with the remaining students representing a range of other minority ethnic groups. Participation in this study was voluntary; both parental consent and student assent were obtained prior to data collection.

There were a total of 68 teachers included in the observation portion of the study (12 males and 56 females). Professional experience varied from 1 to more than 20 years. Each teacher was responsible for only one subject area.

Measures and Procedures

Data were collected from multiple sources using self-report and direct observation measures at different times over the period of $1^1/_2$ school years.

Student surveys. Students completed surveys at three time points: the spring of sixth grade, and the fall and spring semesters of seventh grade. Trained research assistants administered the surveys during regular school hours. All items and instructions were read aloud, while students followed along and responded individually. Students were assured of the confidentiality of their responses. Each administration of the survey lasted approximately 1 hour.

The larger survey instrument comprised 130 items that focused on student perceptions of the instructional and social climate in their class teams, peer and teacher relationships, and their academic motivation. All items were presented in a 5-point Likert-type format, with higher scores representing the high end of the scale. Principal components analyses supported the uniqueness of each of the following scales. (Some scales included additional items across waves, which resulted in improved reliability estimates.)

Students' endorsement of *personal mastery goals* was measured using a scale from the Patterns of Adaptive Learning Survey ([PALS], Midgley et al., 1996; Midgley et al., 2000). This scale assessed individual students' agreement that the purpose of academic work is to gain mastery over content and to demonstrate personal improvement. Information about the development and psychometric qualities of this measure is available elsewhere (Midgley et al., 1998). The scale included 5 items at each wave (e.g., "One of my goals in my classes is to learn as much as I can."). Reliability coefficients were acceptable: $\alpha = .85$, .86, and .89 at waves I, II, and III, respectively.

Students' *perceptions of the mastery goal structure* of their classes also were measured using a scale from the PALS (Midgley et al., 1996). This scale assessed individual students' perceptions that the purpose and meaning of academic tasks and achievement emphasized in their classes focused on personal improvement and mastery. A number of studies have demonstrated the reliability and validity of this measure (e.g., Anderman & Midgley, 1997; Anderman & Young, 1994; Urdan et al., 1998). The measure included 5-7 items at different waves (e.g., "Our teacher thinks mistakes are okay as long as we are learning"), with additional items from the more recent version of the PALS (Midgley et al., 2000) included to improve internal consistency. Reliability coefficients again were acceptable: $\alpha = .75$, .86, and .86 at waves I, II, and III, respectively.

Academic achievement. Students' teacher-assigned final grades from four subject areas in sixth grade and demographic information were collected from school records. Grades for major academic subjects (math, language arts, science, and social studies) were coded A = 5 through F =

1 and used to compute a measure of sixth-grade GPA by taking the arithmetic mean (α = .92).

Teacher self-efficacy questionnaire. Teachers completed a self-efficacy questionnaire during the first wave of data collection that was adapted from the PALS. During scale construction, the 7-item scale was reported to have an acceptable reliability (α = .74; Midgley et al., 1996). The current scale included the original seven items and were responded to on a 5-point Likert-type scale where 1 = strongly disagree and 5 = strongly agree. The measure included items such as, "If I try really hard, I can get through to even the most difficult student" (α = .65). Deletion of items did not result in an improved reliability coefficient; therefore, the scale was utilized in its original form.

Principal questionnaire. Principals of the participating schools were asked to complete a mailed questionnaire including questions regarding the socioeconomic status of the school's constituents, level of parental involvement, occurrences of violence at school, use of specific instructional practices such as ability grouping, and the use of a "school within a school" model. (One questionnaire was not returned; for this school, demographic information was gathered from the Kentucky Department of Education in order to have as complete data as possible.)

Principals were asked to designate whether the community setting of their school was inner city; urban, not inner city; suburban; rural; or other. No descriptions were provided on the questionnaire regarding community designations. Three principals designated their schools as "urban, not inner city," and three designated their schools as "rural." One principal marked "suburban." However, this county school is not a suburb of a major city and is located in a rural, farming area (Lippman, Burns, & McArthur, 1996 as cited in Khattri et al., 1997). Therefore, we coded this school as rural in the following analyses. Thus, there were four rural schools and three urban schools.

Level of parental participation was rated on a 5-point scale ranging from "very low" to "high." Likewise, problems with violence at school ranged from "very little or no problem" to "very big problem."

Classroom observations. Prior to data collection, a team of observers received training using an observational instrument adapted from the Primary Configurations Map (Petrosko, 1997), which was designed to describe several dimensions of the classroom instructional environment. The instrument included definitions of low, moderate, and high levels of each dimension (see Table 1). It also provided space to describe classroom procedures, events, and so forth that illustrated the environment of each class.

Observers attended mandatory training, during which they watched videotapes of middle school classrooms and coded classroom behaviors using the observation instrument. Observers then discussed their notations and observations, and established consensus regarding the definition of each dimension and the important classroom features to include in the records. Two facilitators, the second author, and an independent researcher not otherwise associated with the project mediated the discussion and provided feedback on the observers' records. Following the training and discussion, the following definitions for the observed dimensions of classroom behavior were agreed upon:

Mutually Respectful Environment. To what extent is the social environment characterized by mutual personal respect among students and teachers? For example, are there instances of negative, punitive, or teasing comments?

Purposeful Movement. Is there evidence of students initiating purposeful movement in the classroom without having to seek explicit permission? For instance, are students free to sharpen pencils without permission?

Student-Initiated Talk. To what extent is lesson-related talk initiated by students and/or by the teacher? For example, are students chatting amongst each other about the lesson or about nonrelated topics?

Teacher Response to Students' Initiations. What is the quality of response to students' questions and comments? Are teachers' responses respectful?

On-Task Behavior. In general, do most or all students appear to be "on task" during the learning process?

Teacher Praise. Is teacher praise meaningful, specific, and related to lesson content?

Teachers were observed at three time points: the fall and spring semesters of the 2000-2001 academic year (coinciding with the second and third waves of the student survey administration) and again in the fall semester of 2001. Each classroom was observed for a minimum of 2 hours at each wave, with most sessions including three distinct lesson periods. This resulted in 263 hours of direct observation. Separate observation instruments were completed for each lesson.

Results

Student Survey Data

Preliminary analyses exploring ethnic group differences in students' survey responses revealed no statistically sig-

Table 1
Description of Observation Categories

Category	High	Moderate	Low
Mutually respectful environment	All student and teacher interactions are respectful.	"All of the teachers' comments were respectful, but . . . one student made threatening commenting to others. "	Negative, punitive, or teasing comments predominate.
Purposeful movement	Purposeful movement initiated by both teacher and students.	"There is movement among the students but in many cases not purposeful."	No student-initiated movement.
Student-initiated talk	Lesson-related talk initiated by both teacher and students.	"It was not always purposeful."	No student-initiated talk related to lesson.
Teacher response to students' initiations	Consistently respectful response to questions and comments.	"Some criticism noted."	Students' questions/ comments are ignored or ridiculed.
On-task behavior	General high level of "on-task" for all or almost all students.	"The majority of the students appeared to be copying down the notes, but few engaged in the discussion."	General low levels of "on-task" for most students.
Teacher praise	Teacher provides meaningful praise related to the lesson content.	"Students received praise for particularly insightful comments in the discussion (but this only occurred 2 or 3 times).	Praise is either non-task related or does not occur.

nificant effects; therefore, student ethnicity was not included in subsequent analyses. Means and standard deviations for all survey measures are shown in Table 2.

Simple correlations are also shown in Table 2. As expected, students' personal mastery goals in sixth grade were positively related to their mastery goals at both time points in seventh grade, suggesting that there is some stability in students' personal mastery goals over time ($r = .44$ and $.43$, respectively). Students' perceptions of the mastery goal structures of their classes in sixth grade were significantly related to their perceptions in their seventh-grade classrooms ($r = .37$ and $.56$, respectively). In addition, students' personal mastery goals and perceptions of the mastery goal structures in their classes were significantly and positively related with each other, at each wave ($r = .53$, $.70$, and $.76$, respectively, at waves I, II, and II).

Change in personal mastery goals and mastery goal structures. Repeated measures analyses of variance were conducted to examine the effects of time and school location (urban vs. rural) on students' personal mastery goals and perceptions of the mastery goal structures in their classes. Means and standard deviations for these analyses are shown in Table 3. In terms of students' personal mastery goals, statistically significant main effects for time [$F(2, 530) = 473.50$, $p < .001$, $\eta^2 = .472$] and location [$F(1, 530) = 11.37$, $p < .001$, $\eta^2 = .021$] were found. There was also a significant time by location interaction [$F(2, 530) = 5.65$, $p < .01$, $\eta^2 = .011$]. The effect of time was by far the strongest association in terms of change in students' personal mastery goals. Students in both urban and rural schools increased their personal mastery goals from sixth to seventh grade. On average, however, students in rural schools reported a higher

Table 2
Means, Standard Deviations, and Correlations among Personal Task Goal Orientation, Perceived Classroom Task Goal Structure, Gender and GPA across Waves

Variable	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Gender	.12**	.18**	.23**	.19**	.14**	.19**	.24**
(2) GPA		.03	.16**	.10*	-.02	.09*	.07
(3) Personal Mastery Goal (wave 1)			.44**	.43**	.53**	.38**	.39**
(4) Personal Mastery Goal (wave 2)				.61**	.34**	.70**	.52**
(5) Personal Mastery Goal (wave 3)					.30**	.54**	.76**
(6) Class Mastery Structure (wave 1)						.40**	.37**
(7) Class Mastery Structure (wave 2)							.56**
(8) Class Mastery Structure (wave 3)							
M	4.09	3.03	4.23	4.15	3.63	3.99	4.09
SD	.85	1.05	.79	.83	.88	.77	.78

$*p < .05.$ $**p < .01.$

level of mastery goals than did students in urban schools. Furthermore, the interaction effect shows that rural students' mastery goals increased more sharply over time (both groups started at approximately the same level in sixth grade).

As for students' perceptions of the mastery goal structure of their classes, statistically significant main effects for time [$F (2, 530) = 72.65, p < .001, \eta^2 = .121$] and location [$F (1, 530) = 25.88, p < .001, \eta^2 = .047$] were found here as well. Students' perceptions of the mastery goal structure in their classes increased from sixth to seventh grade; however, students in rural schools reported higher levels of mastery goal structures in their classrooms than did students in urban schools. The interaction of time by location was not statistically significant.

In summary, the effect of time on students' personal mastery goals was somewhat stronger than the effect of time on their perceptions of the mastery goal structure of their classes. Furthermore, students in rural middle schools reported a more marked increase in their personal mastery goals than did their peers in urban schools.

Predictors of change in personal mastery goals. A central tenet of goal theory is that students' personal goal orientations are influenced in part by their perceptions of the goal structure in their classes (Anderman & Maehr, 1994). We hypothesized that one explanation for the greater increase in personal mastery goals in students within rural settings lay in their greater perceptions of a mastery structure in their classes. As a test, we conducted hierarchical regression analysis with students' personal mastery goals in the spring semester of seventh grade as the dependent variable. Students' sixth-grade GPA, personal mastery goals in sixth grade, and gender were entered in the first step of the analysis in order to account for students' prior level of academic achievement and baseline personal mastery goals that might have been influenced by earlier teachers. Students' perceptions of the mastery goal structure of their classes in the fall semester of seventh grade were entered in the second step, and an urban-rural dummy variable was entered in the third step. By controlling for students' personal mastery goals in sixth grade and prior academic achievement, we are able to interpret the results of this analysis in terms of predicting change in personal mastery goals across waves.

The results of this analysis are shown in Table 4. The first two steps of the analysis reveal that, consistent with goal theory assumptions and prior research, students' personal mastery goals showed considerable stability over time ($\beta = .27, p < .001$). Further, students' perceptions that their seventh-grade classes emphasized a mastery goal structure in the fall semester were strong positive predictors of change in their personal mastery goals in the spring

Table 3
Longitudinal Descriptive Statistics by Rural and Urban Locale

Variable	Rural			Urban		
	M	*SD*	*n*	*M*	*SD*	*n*
Wave 1 Personal Mastery Goals	3.07	1.04	407	2.97	1.06	292
Wave 1 Classroom Mastery Goal Structure	3.74	.88	407	3.48	.85	292
Wave 2 Personal Mastery Goals	4.33	.74	381	4.06	.84	236
Wave 2 Classroom Mastery Goal Structure	4.09	.72	381	3.84	.81	236
Wave 3 Personal Mastery Goals	4.27	.81	360	3.96	.84	239
Wave 3 Classroom Mastery Goal Structure	4.19	.78	360	3.93	.77	239

of that year ($\beta = .42$, $p < .001$). Students' gender and GPA were not significant predictors of change in mastery goals. Interestingly, however, school location continued to be a significant predictor, even after all other variables were taken into account ($\beta = -.11$, $p < .01$, $\Delta R^2 = .01$, $p < .01$). Thus, the location of schools continued to have a unique effect on the outcome.

Descriptions of Classroom and School Environment

The analysis of the student survey data suggests that other characteristics of rural middle schools—beyond the mastery goal structures they perceived in their classes— may have supported students' orientation toward personal mastery goals. To explore other potential characteristics of the social contexts of the rural and urban middle schools in our study, we examined data from teacher self-efficacy questionnaires, principal questionnaires, and direct classroom observations.

Teacher questionnaire. The teacher questionnaire assessed teacher's perceptions of their ability to positively influence student learning or teacher efficacy (Gibson & Dembo, 1984). Teaching efficacy has been related to a number of adaptive educational outcomes including student motivation and achievement and effective classroom management (Midgley, Feldlaufer, & Eccles, 1989a; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). Given such findings, it seems likely that when teachers believe they are capable of fostering students' learning, the environments present in such classrooms will be focused on mastering the material presented by the teacher. Analysis of the teacher self-efficacy data showed that the teachers in rural schools reported significantly more efficacy for teaching than did those in urban

schools, $t(74) = 2.498$, $p = .015$. In other words, teachers in rural schools reported being more confident in their ability to teach effectively.

Principal questionnaire. Data from the principal questionnaires suggested some differences in the general instructional climate and challenges present in the urban and rural schools. First, all of the urban middle schools were subject to considerable faculty turnover in both teaching and leadership positions during the 3 academic years of our involvement with them. In contrast, the rural middle schools enjoyed a substantial degree of faculty stability. In addition, principals of the urban middle schools also reported low levels of parental involvement in school activities, as compared to the moderate level of involvement reported by principals of the rural schools. In terms of school instructional policies, all of the principals of the urban schools reported the use of ability grouping in classes, whereas only one of the rural schools utilized ability grouping. In contrast, all of the rural schools used a "school within a school" organizational model; this practice was not utilized in any of the urban schools. There also were some differences in the degree to which principals reported problems with violence in the school. Urban principals reported that school violence ranged from a small to moderate problem in their school, whereas rural principals reported little to no problem with violence. Taken together, these data suggest that there may have been systematic differences in the overall schooling climate experienced by students in rural and urban settings in this study. The combination of more stable teaching faculty, greater parental involvement, and a "school within a school" organizational model may have contributed to a generally more secure and orderly schooling environment for students in the rural middle schools than that provided for urban students. Goal

Table 4
Hierarchical Regression Predicting Change in Seventh-Grade Personal Mastery Goals in Urban and Rural Middle School Students

Variable		β Step 1	β Step 2	β Step 3
Step 1	Personal Mastery Goal (wave 1)	.42***	.26***	.27***
	Gender	.11**	.06	.06
	6th Grade GPA	.08	.06	.06
Step 2	Classroom Mastery Goal Structure (wave 2)		.42***	.40***
Step 3	Location			-.11**
	R^2	.20***	.35***	.36**
	Change in R^2		.15***	.01**

Note. Location coded 0 = rural, 1 = urban. β indicates standardized regression coefficient.
*$p < .05$. **$p < .01$. ***$p < .001$.

theorists have recognized the importance of overall school culture in influencing students' adoption of personal mastery goals (e.g., Maehr & Midgley, 1996).

Classroom observations. The classroom observational data were analyzed by the authors, neither of whom participated in conducting the observations. The observational records were sorted such that all lessons conducted by the same teacher were combined to provide multiple samples of data from each classroom, which could then be summarized as a general profile of the instructional environment according to our apriori dimensions. These summaries were then examined to identify commonalities and differences between schools from urban and rural locations (as suggested by Boyatzis, 1998).

A number of themes emerged that coincided with some of the apriori categories included in the observational instrument: mutually respectful environments, amount of purposeful movements by students, student-initiated talk and teachers' responses to students' initiations, and on-task behaviors. One of the most resounding themes was that of a respectful environment. Some classrooms in both urban and rural schools were less than ideal; however, both students and teachers in urban schools were observed using teasing and sarcasm in their interpersonal interactions during classes to an extent that was not observed in the rural schools. In fact, in two independent observations at one of the urban schools, students and teachers were observed using elevated voices with each other. One of these episodes escalated into a physical altercation between two students.

In contrast, the classrooms in rural schools were more likely to be characterized by an overall tone of mutual respect—although one observer questioned whether the "quietness" of a particular class stemmed from respect or fear. For example, during one observation a student was ejected from the classroom for talking back to the teacher. In addition to the overall tone of respect, there also seemed to be a greater emphasis on peer cooperation in the rural schools. The use of flexible grouping appeared to be more prevalent than was noted in the urban classrooms, where whole-group instruction was more of the norm. In terms of students' on-task behavior during class lessons, levels were perceived as higher in the rural schools, given the number of disruptive occurrences observed in the urban schools. In addition, rural schools were characterized by observers as being "quieter" than the environments that were observed in the urban schools, which were described as more chaotic.

Regarding student-initiated talk and teacher responses to this talk, urban schools were characterized as more negative ("teacher's responses were gruff, harsh" as noted by one observer). A number of verbal and physical altercations between both students and teachers were observed in the urban classrooms, suggesting a negative emotional environment for some students. Along with the general social and emotional tones of the classrooms, the task-specific levels of teacher praise noted by observers varied from little to no praise in urban schools, as compared to little to moderate levels in rural schools. Teachers in the urban schools, in comparison to their rural counterparts, seem to have had to spend more time focusing on managing their classrooms, which left little time for task-specific praise for individual student's learning efforts.

In terms of students' purposeful movement within classes, there was little student-initiated movement in classrooms at any school. Students either did not move about the room much or needed teacher permission for such activities as sharpening pencils or using the restroom. Despite these

generally low levels, however, there was some evidence of more student-initiated purposeful movement noted in the rural schools than in the urban schools. Relatedly, it was a common practice to have "rules" for students' classroom conduct posted in the urban classrooms, whereas only a few classrooms in the rural settings had such postings. A slight difference that is suggestive of urban schools utilizing a more teacher-dominated management system.

To summarize, there were small to moderate differences noted between the classroom environments of the urban and rural schools that were observed. Evidence from the social context data (teacher questionnaires, principal question-naires, and classroom observations) suggest that, overall, the rural classrooms were somewhat more conducive to learning in that classroom management tended not to be as salient as it was in the urban settings. Teachers in the urban schools seemed to be faced with maintaining order during class time and dealing with more extremely disrespectful occurrences between students than did the teachers in the rural schools. These observations may help to explain why teachers in the urban schools felt less efficacious in their teaching abilities. Rural classrooms were also not as likely to be disrupted by violent incidents during instructional periods, such as were observed on occasion in the urban classrooms. These observations were also supported by the principal reports. On an organizational level, the "school within a school" model, prevalent in the rural schools, may have aided in the everyday functioning of classrooms by eliciting a more cohesive environment, thus not requiring a large investment of instructional time to classroom manage-ment issues. Teachers in rural schools seemed to have more time to devote to student learning, compared to teachers in the urban schools. Again, the differences noted between rural and urban schools are illustrative of possible reasons why students in the rural schools reported a sharper increase in their personal mastery goals and, further, tended to perceive their classrooms as being focused on understanding and mastering the material presented in class, over time.

Discussion

This study contributes to the limited research on urban and rural differences in students' motivation in middle schools, at both the personal and classroom climate level. As hypothesized, students in rural middle schools reported higher levels of personal mastery goals and perceived mas-tery goal structures in their classes than did students in urban schools. In addition, although all students reported higher levels of mastery goals in seventh grade than in sixth, this increase was greater for students in rural settings. This rural advantage was not fully explained by rural students' greater perceptions of a mastery goal structure in their classes. Thus, we examined additional sources of data to explore other potential explanations for the differences observed.

Overall, the descriptive data we reviewed suggest differ-ences between rural and urban schools in the social climate provided at the school level and classroom level. Taken together, the data from the rural middle schools suggest a greater sense of coherence and stability for students than do those from the urban schools. Compared to their urban counterparts, for example, rural schools enjoyed a greater degree of stability in their teaching faculty, somewhat more parent involvement, and lower levels of concern over school violence. These reports are consistent with differences both in teachers' self-reported sense of efficacy for teaching and our direct observation of classrooms, which were charac-terized by higher levels of mutually respectful interactions and fewer disruptive incidents in the rural than in the urban schools. Although this pattern of results in relation to urban schools is not new (e.g., Agron, 1998; Hill, Guin, & Celio, 2003; Kannapel & DeYoung, 1999; Waxman & Pardon, 1999), few motivational researchers have considered the importance of a well-managed classroom and school envi-ronment for students' individual level mastery goals. The current research design does not allow us to make causal statements about the role of classroom and school manage-ment in relation to the students' self-reports. The pattern of findings, however, is suggestive and points to potentially important directions for future research.

Prior research utilizing the TARGET framework has supported the contention that various instructional strategies and practices do contribute to establishing a mastery goal structure in classes (e.g., Ames, 1992a, 1992b; Patrick et al., 2001; Turner, 2001). Importantly, however, this framework does not explicitly include aspects of teachers' management style or the perhaps critical role of a generally orderly cli-mate. However, given that the definition of a mastery goal structure centers on learning, understanding, and improve-ment, it is likely that a nonchaotic environment is necessary, if not sufficient, for the creation of a mastery goal structure. If students are distracted by regular disruptive events or in-terpersonal conflicts, it is unlikely that they would be able to focus their attention on mastering and deep understanding of academic content. Previous research has used students' self-reported perceptions to show associations between teachers' promotion of a mutually respectful classroom environment and outcomes such as academic efficacy and self-regulated learning (Ryan & Patrick, 2001). In addition, Patrick et al. (2001) suggest that the affective tone of teacher-student interactions differed in classes perceived by students as either high or low in mastery goal structure. Those findings, together with the current data, lend support to the notion that the definition of a mastery structured classroom environment should be expanded to include explicitly the managerial and social-interactional dimensions of classes.

Our findings suggest that both students' personal mo-tivation and their perceptions of the motivational environ-ments in rural and urban schools have changed from those

described during the 1960s and 1970s (e.g., Jenkins, 1963; Randhawa & Michayluk, 1975; Taylor & Jones, 1963). The reasons for these changes are not clear, although they may be due, at least in part, to the statewide educational reform implemented in Kentucky in the early 1990s, which equalized funding across districts. Another possibility is that the demographic base of rural school populations may have changed, for example through the movement of minority and poor families out of rural areas into more urban areas (e.g., Gordon, 2003; Khattri et al., 1997). Further research is needed to determine the extent to which the differences apparent in our sample are replicated across different geographic areas. In addition, future studies that incorporate information about community-level characteristics, such as parental attitudes towards schooling, school-involvement, and sense of acceptance in the school, may be particularly useful.

Our study also adds to the literature on changes in middle school students' achievement goals by extending previous longitudinal studies that have focused on the transition into middle school (e.g., Anderman & Midgley, 1997). Whereas students' mastery goals have generally been shown to drop following the transition from elementary to middle school, our data revealed an increase from the end of sixth grade through seventh grade. Similarly, Midgley, Middleton, Gheen, and Kumar (2002) report little average change in students' reports of a mastery goal structure in their classes, across sixth and seventh grades. One possible explanation for this pattern is that previously reported declines may reflect a temporary effect of the actual transition that "rebounds" once students have adjusted to their new school setting. Alternatively, studies have shown that declines in student motivation are not inevitable as they move into the middle grades. Rather, such declines have been shown to occur only when students move into a less developmentally appropriate and facilitative environment after the transition. In contrast, those students who experience a more supportive and appropriate environment after the transition tend to show either no change or positive change in their motivation (Midgley, Feldlaufer, & Eccles, 1989a, 1989b). An alternative explanation for the current pattern of findings, therefore, is that efforts at middle school reform (such as those recommended by the Carnegie Task Force on the Education of Young Adolescents, 1989) may have led to improvements in the instructional climate offered in middle schools, across both rural and urban settings.

References

Agron, J. (1998). The urban challenge. *American School & University, 70*, 18-23.

Ames, C. (1992a). *Achievement goals and the classroom motivational climate.* In D. H. Schunk & J. L. Meece (Eds.), Student perceptions in the classroom (pp. 327-348). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Ames, C. (1992b). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*, 261-271.

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology, 80*, 260-267.

Anderman, E. M., & Maehr, M. L. (1994). Motivation and schooling in the middle grades. *Review of Educational Research, 64*, 287-309.

Anderman, E. M., Maehr, M. L., & Midgley, C. (1999). Declining motivation after the transition to middle school: Schools can make a difference. *Journal of Research and Development in Education, 32*, 131-147.

Anderman, E. M., & Midgley, C. (1997). Changes in achievement goal orientations, perceived academic competence, and grades across the transition to middle level schools. *Contemporary Educational Psychology, 22*, 269-298.

Anderman, E. M., & Young, A. (1994). Motivation and strategy use in science: Individual differences and classroom effects. *Journal of Research in Science Teaching, 31*, 811-831.

Anderman, L. H. (1999). Classroom goal orientation, school belonging and social goals as predictors of students' positive and negative affect following the transition to middle school. *Journal of Research and Development in Education, 32*, 89-103.

Anderman, L. H. (2003). Academic and social perceptions as predictors of change in middle school students' sense of school belonging. *Journal of Experimental Education, 72,* 5-22.

Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology, 25*, 21-37.

Anderman, L. H., Patrick, H., Hruda, L. Z., & Linnenbrink, E. A. (2002). Observing classroom goal structures to clarify and expand goal theory. In C. Midgley (Ed.), *Goals, goal structures, and patterns of adaptive learning* (pp. 243-278). Mahwah, NJ: Lawrence Erlbaum Associates.

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development.* Thousand Oaks, CA: Sage Publications.

Carnegie Task Force on the Education of Young Adolescents. (1989). *Turning points: Preparing American youth for the 21st century.* New York: Carnegie Corporation.

DeYoung, A. J. (1987). The status of American rural education research: An integrated review and commentary. *Review of Educational Research, 57*, 123-148.

Gibson, S., & Dembo, M. (1984). Teaching efficacy: A construct validation. *Journal of Educational Psychology, 76*, 569-582.

Gordon, E. W. (2003). Urban education. *Teachers College Record, 105*, 189-207.

Hill, P. T., Guin, K., & Celio, M. B. (2003). The chasm remains. *Education Next, 3*, 52-55.

Jenkins, R. L. (1963). *Incidence of emotional disturbance and mental illness among rural children and youth.* Washington, DC: National Committee for Children and Youth.

Kannapel, P. J., & DeYoung, A. J. (1999). The rural school problem in 1999: A review and critique of the literature. *Journal of Research in Rural Education, 15*, 67-79.

Kaplan, A., & Maehr, M. L. (1999). Achievement goals and student well-being. *Contemporary Educational Psychology, 24*, 330-358.

Kaplan, A., Middleton, M. J., Urdan, T., & Midgley, C. (2002). Achievement goals and goal structures. In C. Midgley (Ed.), *Goals, goal structures, and patterns of adaptive learning* (pp. 21-53). Mahwah, NJ: Lawrence Erlbaum Associates.

Kaplan, A., & Midgley C. (1999). The relationship between perceptions of the classroom goal structure and early adolescents' affect in school: The mediating role of coping strategies. *Learning and Individual Differences, 11*, 187-212.

Khattri, N., Riley, K. W., & Kane, M. B. (1997). Students at risk in poor, rural areas: A review of the research. *Journal of Research in Rural Education, 13*, 79-100.

Lomotey, K., & Swanson, A. D. (1989). Urban and rural schools research: implications for school governance. *Education and Urban Society, 21*, 436-454.

Maehr, M. L., & Midgley, C. (1996). *Transforming school cultures.* Boulder, CO: Westview Press.

Meece, J. L. (2001). A longitudinal analysis of elementary school students' achievement goals in literacy. *Contemporary Educational Psychology, 26*, 454-480.

Meece, J. L., & Miller, S. D. (2000). Changes in elementary school children's achievement goals for reading and writing: Results of a longitudinal and an intervention study. *Scientific Studies of Reading, 3*, 207-229.

Midgley, C. (2002). *Goals, goal structures, and patterns of adaptive learning.* Mahwah, NJ: Lawrence Erlbaum Associates.

Midgley, C., Anderman, E. M., & Hicks, L. (1995). Differences between elementary and middle school teachers and students: A goal theory approach. *Journal of Early Adolescence, 15*, 90-113.

Midgley, C., Feldlaufer, H., & Eccles, J. S. (1989a). Change in teacher efficacy and student self- and task-related beliefs in mathematics during the transition to junior high school. *Journal of Educational Psychology, 81*, 247-258.

Midgley, C., Feldlaufer, H., & Eccles, J. S. (1989b). Student-teacher relations and attitudes toward mathematics before and after the transition to junior high school. *Child Development, 60*, 375-395.

Midgley, C., Kaplan, A., Middleton, M., Maehr, M. L., Urdan, T., Anderman, L. H., et al. (1998). The development and validation of scales assessing students' achievement goal orientations. *Contemporary Educational Psychology, 23*, 113-131.

Midgley, C., Maehr, M. L., Hicks, L., Urdan, T., Roeser, R., Anderman, E. M., et al. (1996). *The patterns of adaptive learning survey (PALS).* Ann Arbor, MI: The University of Michigan.

Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E. M., Anderman, L. H., Freeman, K. E., et al. (2000). *The patterns of adaptive learning survey (PALS).* Ann Arbor, MI: The University of Michigan. Retrieved from http://www.umich.edu/~pals/pals/

Midgley, C., Middleton, M. J., Gheen, M. H., & Kumar, R. (2002). Stage-environment fit revisited: A goal theory approach to examining school transitions. In C. Midgley (Ed.), *Goals, goal structures, and patterns of adaptive learning* (p. 109-142). Mahwah, NJ: Lawrence Erlbaum Associates.

Patrick, H., Anderman, L. H., Ryan, A. M., Edelin, K. C., & Midgley, C. (2001). Teachers' communication of goal orientations in four fifth-grade classrooms. *The Elementary School Journal, 102*, 35-58.

Patrick, H., Turner, J. C., Meyer, D. K., & Midgley, C. (2003). How teachers establish psychological environments during the first days of school: Associations with avoidance in mathematics. *Teachers College Record, 105*, 1521-1558.

Petrosko, J. M. (1997). *Implementation of student-centered teaching and learning practices and student assessment results for research demonstration site (RDS) schools participating in different ways of knowing.* Louisville, KY: The Galef Institute-Kentucky Collaborative for Teaching and Learning.

Phillips, V., & Boysen, T. C. (1997). Psychology's role in statewide education reform. *American Psychologist, 52*, 250-256.

Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology, 92*, 544-555.

Potterfield, J. E., & Pace, M. B. (1992). Learning style, culture and popular instructional methods. *SRATE Journal, 1*, 40-42.

Randhawa, B. S., & Michayluk, J. O. (1975). Learning environment in rural and urban classrooms. *American Educational Research Journal, 12*, 265-285.

Ryan, A. M., Gheen, M. H., & Midgley, C. (1998). Why do some students avoid asking for help? An examination of

the interplay among students' academic efficacy, teachers' social-emotional role, and the classroom goal structure. *Journal of Educational Psychology, 88*, 1-8.

Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal, 38*, 437-460.

Taylor, L., & Jones, A. R., Jr. (1963). *White youth form low-income rural families – achievement milieu and agribusiness opportunities*. Washington, DC: National Committee for Children and Youth.

Trickett, E. J. (1978). Toward a social-ecological conception of adolescent socialization: Normative data on contrasting types of public school classrooms. *Child Development, 49*, 408-414.

Tschannen-Moran, M., Woolfolk-Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202-248.

Turner, J. C. (2001). Using context to enrich and challenge our understanding of motivational theory. In S. Volet & S. Jaervelae (Eds.), *Motivation in learning contexts: Theoretical advances in methodological implications* (pp. 85-104). New York: Pergamon Press: Elmsford.

Urdan, T. C. (1997). Achievement goal theory: Past results, future directions. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 10, pp. 99-141). Greenwich, CT: JAI Press.

Urdan, T. C., Midgley, C., & Anderman, E. M (1998). The role of classroom goal structures in students' use of self-handicapping strategies. *American Educational Research Journal, 35*, 101-122.

Waxman, H. C., & Pardon, Y. N. (1999). Teaching and change in urban context. *Teaching & Change, 7*, 3-17.

Weinstein, C. S., & Mignano, A. J., Jr. (2003). *Elementary classroom management: Lessons from research and practice* (3rd ed.). New York, NY: McGraw-Hill.