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ABSTRACT

Findings of a study that examined the relationship of students' perceptions of parents' and teachers' involvement and autonomy support to student motivation are presented in this paper. Based on a larger process model of academic achievement (Ryan and Stiller 1991), students' perceptions of parent and teacher autonomy support and involvement were hypothesized to predict student engagement, use of positive coping strategies, control understanding, and self-regulation. A questionnaire was administered to 208 male and 190 female seventh-graders and to 194 male and 163 female eighth-graders. Findings indicate that teacher and parent involvement were primary predictors of academic achievement, with teacher and parent autonomy support accounting for additional variance. Although teacher influences were more predictive of academic outcomes than those of parents, parents had an additional and important bearing on student experience. An academic environment that was experienced as providing student choice had the most impact on all four dependent variables of student motivation. A recommendation is made to utilize educational and community-based strategies that enhance teacher and parent involvement, with a focus on actively supporting student autonomy. Three tables are included. (Contains 23 references.) (LMI)

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Teachers, parents, and student motivation: The effects of involvement and autonomy support.

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Despite recent findings that contextual aspects of parents and teachers relationships with students influence student motivation and academic achievement, to date no published studies have examined joint effects of these variables. The purpose of this study is to examine perceived autonomy support and involvement of both parents and teachers as they affect several variables relevant to motivation in school. The current study examines students' perceptions of parents' and teachers' involvement and autonomy support and how such perceptions relate to motivational, cognitive, and affective resources for learning.

Focusing on the antecedent aspects of a larger process model of academic achievement (e.g., Ryan & Stiller, 1991), students' perceptions of specific contextual motivational variables (e.g. parent autonomy support and involvement) are hypothesized to predict student engagement, use of positive coping strategies, control understanding, and self-regulation..

A Motivational Perspective.

Motivational variables have received much attention as important mediators of student performance (Ryan, Connell, & Deci, 1985; Koestner & McClelland, 1990; Weiner, 1990). Current theory (i.e. Deci & Ryan, 1991) implicates motivational variables in shaping processes of adjustment, self-regulation, and academic engagement; which in turn are important inner resources conducive to student achievement (Grolnick, Ryan, & Deci, 1990). In this view, environmental variables such as autonomy support and involvement are conceived to be contextual supports for

motivation, i.e, the environment provides the nutriment for motivation, which in turn energizes academic achievement.

This motivational focus views academic achievement as more than simply skill acquisition: it is the nurturance of movement towards inner-directedness and integration. Moreover, the facilitation of academic achievement may be viewed in terms of a network of cognitive and affective variables that can promote or deter this movement. Thus, adjustment and self-regulation are linked to academic achievement by way of the motivational impetus they provide.

The Adult Social Context.

As prime socializing agents, parents and teachers facilitate or impede motivational processes, and therefore academic achievement. They provide the set of motivationally relevant variables which coalesce into an adult social context that either promotes or forestalls motivation. It is this adult social context that is the primary interest in the current study.

It is not, however, the mere presence, absence, or valence of contextual variables per se that promotes motivation, rather it is the experience and meaning that these (and other) variables have for the student that will determine motivational outcomes. Deci and Ryan (1985) argue that contexts have a functional significance or psychological meaning which is the driving determinant of motivation: aspects of the environment interpreted as either autonomy-supportive or controlling function as such;

i.e. how an environment is experienced determines its motivational impact.

Furthermore, students are thought to be active participants in creating the experienced adult social context by: a) influencing adults' behavior through their own actions (Skinner, Wellborn and Connell, 1990); and b) interpreting adults' behavior (Grolnick, Ryan, & Deci, 1989; Ryan & Grolnick, 1986; Ryan, Stiller, & Lynch, 1991). Thus, the relationship between student and teacher (or parent) is dynamic, bidirectional, and transactional in nature (Ryan & Stiller, 1991). It is therefore conceptually appropriate to examine the contextual inputs provided by adults from the students' phenomenal perspective.

Autonomy Support and Involvement.

Several dimensions shape students' perceptions of their adult social context as it impacts their academic motivation. Several studies (Grolnick & Ryan, 1989; Grolnick et al., 1989; Ryan & Grolnick, 1986) have indicated that two such important dimensions are autonomy support and involvement.

An autonomy supportive environment is one that provides the individual self-determination. Self-determination is the experience of an internal locus of causality (deCharms, 1968; Ryan, 1991). When an individual perceives the initiation and regulation of behavior to come from within, that individual is said to be experiencing an internal locus of causality (Ryan & Connell, 1989). Insofar as an action, cognition, or regulation is volitional, it is autonomous. Autonomy is therefore grounded in

the perception of choices available in the environment, and autonomy support may be thought of as the affordance of those choices. In contrast to autonomy support, controlling environments lead to perceptions of an external locus of causality, i.e., the individual experiences action as initiated or coerced by forces outside the self (Ryan & Connell, 1989).

Autonomy support has been found to correlate with school-related and non-school related outcomes. Grolnick and Ryan (1987) found that autonomy supportive conditions correlated positively with students conceptual learning. Deci, Nezlek and Sheinman (1981) found that greater autonomy support from teachers was associated with students mastery motivation (Harter, 1981), perceived academic competence (Harter, 1982), and global self-esteem (Harter, 1982). A related study by Ryan and Grolnick (1986), using the deCharms origin-climate questionnaire (deCharms, 1976) to assess perceived autonomy, replicated Deci et al.'s general findings, and additionally demonstrated relationships between perceived autonomy support and internal control attributions (Connell, 1985).

Involvement, i.e. the degree to which a teacher's or parent's resources are perceived as available, is a second important aspect of motivational contexts. Specifically, involvement reflects the extent to which teachers/parents are interested in and take an active role in the child's life, dedicate time and other resources to the student.

Previous research has shown that parental involvement is associated with positive academic outcomes. Grolnick, Ryan, and

Deci(1989) found that students who viewed their parents as more involved reported greater perceived competence, personal control, and self-esteem, and described themselves as more autonomous than those who saw their parents as less involved. Grolnick and Ryan (1989) interviewed parents in order to obtain a more direct assessment of parental styles. Parental involvement ratings predicted scores on standardized achievement tests, and negatively predicted students' control understanding, as well as a number of adjustment ratings done by teachers. This suggests that more involved parents have children who have developed a sense of who or what controls outcomes in school.

Surprisingly, teacher involvement has been less extensively studied. Skinner, Wellborn and Connell (1990) found a negative path coefficient between teacher involvement and students' achievement test scores in a middle school. Although this finding seemingly runs counter to the view that involvement supports motivated behavior and achievement, it was interpreted to reflect a reciprocal effect of student achievement on teacher involvement: student who do not do well receive or elicit greater involvement by teachers. This interpretation supports Grolnick, Ryan, & Deci's (1989) notion that the adult social context is shaped interactively, by both adult and child. Moreover, Skinner et al (1990) found teacher involvement predicted students' control perceptions and academic engagement, suggesting that greater teacher involvement supports cognitive and behavioral outcomes associated with academic achievement. Further explication of the

relationship between teacher involvement and motivationally student relevant variables may help clarify this point.

Outcomes Associated with Autonomy Support and Involvement.

Of the cognitive and affective variables associated with motivation and achievement in the educational milieu, control understanding (Skinner, Chapman, & Baltes, 1988), coping styles (Tero & Connell, 1984), academic engagement (Connell, 1990; Skinner et al, 1990) and self-regulation are investigated in the present study.

Control understanding has been defined as "causal models of the sufficient causes for success and failure that include one's own role in the production of these outcomes" (Skinner & Connell, 1986). Control understanding may be thought of as the cognitive process by which students link instrumentalities with outcomes, and, on that basis choose paths towards goals.

Student styles of coping with academic failure may also be conceived as an important inner resource related to school achievement. Part of the process of academic achievement (and learning in general) is adaption to the environment. In school this adaption occurs at least in part by coping positively with negative feedback. Insofar as a student can learn from failure by using positive coping strategies, the experience of failure may be conducive, rather than deleterious, to subsequent achievement.

Tero and Connell (1984) identified four student styles of coping with academic failure: a) positive coping - dealing directly with the situation in positive, action-oriented manner;

b) projection - projecting blame or responsibility for failure onto someone else; c) denial - claiming the situation did not happen or does not matter; and d) anxiety amplification - focusing on the negative ramifications of their failure. These investigators found a linear relationship between predominant coping style and academic achievement, i.e., students who cope positively scored highest on standardized achievement tests, followed by projection and denial, collapsed together as "defensive coping", and, lastly, anxiety amplification. Despite their probable importance in school achievement, no studies to date have assessed contextual influences on coping processes.

Academic engagement refers to a quality of motivated behavior characterized by positive affect and active participation in the enterprise of learning (Connell and Wellborn, 1991). Engagement has been shown to predict both academic achievement (as indicated by a composite of grades and standardized test scores) and adjustment (as indicated by self-reports of self-worth and anxiety) (Connell, 1990). The construct of engagement taps the behavioral and affective manifestations of motivated learning.

Self-regulation represents the extent to which extrinsic motivational processes or structures (such as classroom rules or goals) have been internalized and fully accepted, valued, and endorsed by one's self. To the extent that one has fully identified with and integrated the extrinsic motivation, one will experience personal responsibility and choice, rather than experience being mandated, coerced or pressured with respect to the activity.

Purpose of Research.

It has been previously demonstrated (see Grolnick and Ryan, 1989; Ryan and Grolnick, 1986) that parental autonomy support and involvement and teacher autonomy support and involvement separately influence motivational outcomes and processes in school, but a gap exists in understanding the relative contributions parents and teachers to these outcomes. It is therefore useful in extending theory in this area to examine teacher autonomy support and involvement and parent autonomy support and involvement as joint influences on various motivationally relevant processes.

The goals of this research are threefold: 1) assessment of the empirical usefulness of the autonomy support and involvement items; 2) quantification of the relationships between those variables and the above motivational mediators (e.g. engagement, control understanding, positive coping, and self-regulation); and 3) investigation of the relative predictive power of teacher and parent autonomy support and involvement.

Specifically, it is hypothesized that students' reports of teacher autonomy support and teacher involvement will correlate positively with each other and with students' reports of academic engagement, control understanding, positive coping and self-regulation; replicating and extending previous work (Grolnick & Ryan, 1989; Deci et al, 1981; Ryan & Grolnick, 1986). Although the direction of correlation is predicted to be the same for parents and teachers, the question here is: will each source contribute

unique variance in the prediction of the dependent variables such that teacher and parent autonomy support and involvement are both influential for student motivation and learning processes?

Method

Subjects

Subjects were students from a junior high school in a largely Caucasian middle-class suburb of Rochester, N.Y. The sample consisted of 208 boys and 190 girls from the 7th grade; 194 boys and 163 girls from the 8th grade.

Procedure

After the cooperation and support of the school administration and teachers were gained, subjects were asked to complete the survey during two consecutive health classes. No subjects refused. Two experimenters were present in the classroom; the regular teacher was not. One experimenter gave directions, and both experimenters handed out survey packets. Subjects were informed of the voluntary and confidential nature of the study, both orally and in writing, and were debriefed afterward.

Measures

Autonomy Support. Indices of parental and teacher autonomy support were developed for this survey, following Grolnick, Ryan, & Deci (1989). Five self-report items assess perceptions of teacher and parent autonomy support (e.g. Do your {parents, teachers} insist upon you doing things their way?) along a 5-point Likert-type scale (never =1, seldom =2, sometimes =3, often =4, always =5).

Involvement. Involvement indices were taken from the Rochester Assessment Package for Schools (RAPS). Five self-report items assess the degree to which students feel their parents and teachers are available as resources. Each item presents a specific teacher/parent behavior which the student rates on a 5-point Likert-type scale (1=not at all true to 5= very true). Cronbach alphas for these items in a comparable sample range from .67 for teachers to .84 for parents.

Control Understanding. This scale was also taken from the RAPS, based on The Multidimensional Measure of Children's Perceptions of Control (MMCPC) (Connell, 1985; Skinner, Wellborn, & Connell, 1990). Items assess the degree to which students believe their school-based outcomes (i.e. academic success or failure) are due to effort, ability, powerful others (i.e. teachers) luck, or unknown causes. Each item presents a cause for academic success or failure which the student rates on a 4-point Likert-type scale (1=not at all true to 4=very true). Cronbach alphas for these items in a comparable sample range from .63 to .77 across subscales. A summary score, MAXPCC (Maximum Perceived Control/Competence) is derived from a weighted combination of beliefs hypothesized to foster greatest personal control.

Coping. Items indicating student coping styles were also taken from the RAPS instrument, based on Tero and Connell (1984). This measure assesses student's styles of affective coping with academic failure along 4 dimensions (which form subscales): denial, positive coping, projection, and anxiety amplification. Only the positive coping subscale will be the focus of the current

study. Items depict academic failure and response based on the above subscales (e.g. When something bad happens to me in school (like not doing well on a test or not being able to answer an important question in class), I tell myself it didn't matter). Students rate the items on a 4-point Likert-type scale (1=not at all true to 4=very true). Cronbach alphas for these items in a comparable sample range from .63 to .78 across subscales.

Engagement. Items forming the engagement scale were taken from the RAPS instrument. The items assess the degree to which students feel positive affect towards school (e.g. When I'm in class I feel happy) and the degree to which students actively involve themselves in school (e.g. When I'm in class, I work as hard as I can.) Items are rated on a 4-point Likert-type scale (1=very true to 4=not at all true). The scale has yielded a single factor solution in a comparable sample. Cronbach alphas for these items in another comparable sample are .84.

The Self-regulation Questionnaire (Academic) (SRQ-A) (Ryan & Connell, 1989) assess students perceptions of their reasons for performing various academic behaviors such as studying and attending class. The scale taps the degree of self-regulation versus other-regulation along a continuum of internalization. Highly internalized regulation is indicative of greater authentic self-endorsement and self-determination with respect to the behavior. Less internalization of regulation is indicative of greater reliance on external prompts and sanctions. The SRQ-A contains four subscales: 1) external- indicating reliance on overtly external contingencies; 2) introjected- indicating

regulation by internal pressures and contingencies; 3) identified- indicating an adoption of regulation as being personally valued; and 4) integrated- indicating a synthesis of regulation with the self such that conflict and coercion are absent. Items are rated on a 7-point Likert-type scale (1=very true to 7=not at all true). Internal consistency as indicated by Cronbach's alpha for the subscales obtained with a comparable sample are .79 for extrinsic, .80 for introjected, .73 for identified, and .90 for intrinsic. Ryan and Connell (1989) report that the four subscales correlate in an ordered, or simplex, pattern (Guttman, 1954). Items from each subscale are averaged to obtain subscale summary scores, which are then weighted and averaged to form a composite variable, the Relative Autonomy Index (RAI). Higher scores on the RAI reflect greater self-determination with respect to academic behavior in the given class.

Results

Preliminary Analyses

Scale Construction. Two techniques - factor analysis and internal consistency analysis - were used together to select items to be retained for the autonomy support summary score. Criteria for selection were: 1) a factor loading greater than .40; and 2) a contribution to internal consistency.

Two principle components factor analyses were performed: one on teacher autonomy support and one on parent autonomy support. Items loading less than .40 were omitted, resulting in a single factor solution with four autonomy support items for each target (see

Table 1). Alphas for teacher and parent autonomy support were .63 and .69, respectively.

Due to the mixed gender and grades in the sample, a further preliminary analysis was conducted to examine for the possible confounding influences of age, gender, and age by gender on the dependent variables. A multivariate analysis of variance (MANOVA) was conducted, with gender, grade, and their interaction as independent variables, and engagement, positive coping, relative autonomy, and perceived control as dependent variables. There was a main effect for grade (multivariate $F(4, 620) = 5.40, p < .000$), a main effect for gender (multivariate $F(4, 620) = 6.07, p < .000$), and no sex by grade interaction (multivariate $F(4, 620) = .93, ns$). Accordingly, the effects of sex and grade on the dependent variables were controlled for hierarchically in the subsequent regression analyses.

Correlational Analysis. A clear pattern of associations emerged, consistent with hypothesized relationships, indicating that teacher and parent autonomy support and involvement correlated positively with students' engagement, positive coping, control understanding, and self-regulation. Students' reports of teacher autonomy support and involvement were more strongly associated with their reports of parent autonomy support and involvement across all four dependent variables. (see Table 2). Furthermore, the association was consistently stronger for involvement than for autonomy support. Lastly, the autonomy support and involvement variables were highly correlated, indicating the strong degree of association between students'

perceptions of teachers and parents being autonomy supportive and involved.

Regression Analyses. To test the hypothesized relationships between perceived adult social context and school-based outcomes, a series of multiple regressions were performed. For each dependent variable, sex and grade as a set were entered into the regression at the first step, and the teacher and parent autonomy support and involvement variables were entered as a set at the second step.

A clear pattern of findings emerged: each independent variable by target (i.e. parent and teacher autonomy support and involvement) accounted for significant variance in each of the 4 dependent variables (i.e. engagement, positive coping, control understanding, and self-regulation). Results of the autonomy support regression indicated that both teacher and parent autonomy support were significant predictors of all four dependent variables; in each case teacher autonomy support accounted for more variance than parent autonomy support (see Table 3). Results of the involvement regression also indicate both teacher and parent involvement were significant predictors of all four dependent variables; in each case teacher involvement accounted for more variance than parent involvement.

The relative contributions of teacher and parent autonomy support and involvement to engagement, positive coping, control understanding, and self-regulation were assessed by regressing all four target independent variables on each dependent variable. Generally, it was found that teacher involvement accounted for the

most variance, followed by parental involvement, and, lastly, teacher autonomy support. The incremental variance accounted for by parental autonomy support was not significant for any of the dependent variables. One exception to this trend was found in the self-regulation regression. Teacher autonomy support was the best predictor of self-regulation, followed by teacher involvement. Parent involvement and autonomy support did not significantly add to the prediction of self-regulation. These findings are not surprising given the domain specificity of academic self-regulation. Indeed, it is a relatively straightforward prediction from self-determination theory that students who perceive their teachers as being more autonomy supportive will be more autonomous in their self-regulation than students who perceive their teachers as being more controlling.

Discussion

Overall, a consistent pattern of findings was obtained. Components of the adult social context were found to account for significant variance in motivational, affective, and cognitive variables impacting student academic motivation. Specifically, teacher and parent involvement were implicated as primary predictors, with teacher and parent autonomy support accounting for additional variance. These results support work by Grolnick, Ryan, and Deci (1990), who found parental autonomy support and involvement predicted control understanding, perceived competence and self-regulation. The current study extends Grolnick et al.'s

findings by evaluating the context provided by teachers as well as parents.

It is not surprising that teacher influences on the perceived adult social context are more predictive of academic outcomes than those of parents. Teachers are the adults most directly involved in the academic domain and they personify the more abstract goals and demands of an academic agenda. Thus, students' experience of teachers may reflect attitudes of alienation versus engagement in the larger academic enterprise.

Consistent with the broader theoretical perspective discussed by Ryan and Stiller (1991), it is clear that teachers provide a direct link between students' assimilation of the their classroom context and subsequent academic outcomes. However, parents are also predictors of this process. The results of this study show that each aspect of the adult social context has unique and and cumulative effects. While teachers may most directly impact how the student experiences school, parents have an additional and important bearing on student experience.

The findings relevant to the influence of autonomy support in academic motivation are also noteworthy. Self-determination theory (Deci & Ryan, 1985) predicts that an academic environment experienced as providing choice will be conducive towards engaged, self-regulated, and competence-oriented learning. This prediction was supported in that teacher autonomy support accounted for variance in all four dependent measures over and above the variance accounted for by teacher (and parent) involvement. Thus, it is not the only the level of teacher involvement per se that

best predicts student motivation, but rather the influence of involvement optimized by an autonomy supportive context.

These results also point the way to further research which may yield a more accurate and differentiated model of the adult social context relevant to academic outcomes. Moreover, explication of the linkages between contextual variables and students' motivation contributes to a more well defined understanding of the processes and experiences conducive to student achievement.

One further point concerning this study is the marginal internal consistency of the autonomy support measure. The four item measure lacked the predictive power of the involvement measure. While this difference in predictive utility may be veridical, it may also be an artifact of the measure. However, the internal consistency of the measure notwithstanding, autonomy support, especially from teachers, accounted for a significant proportion of variance in each of the four dependent variables. Furthermore, this index of autonomy support addresses only one aspect of what autonomy support is conceptualized to be: i.e., it taps provision of choice and perspective taking but not the use of informational versus controlling feedback (Deci, Eghrari, Patrick & Leone, 1991). Given the evaluative nature of the classroom experience, this missing dimension may be especially important in the academic domain. Clearly, further research in this area warrants a more reliable and less differentiated measure of autonomy support.

There are distinct implications of this research for educators, parents, and researchers. As the educational system in this country moves through and is moved by the currents of criticism and reform, the relative roles teachers and parents play in academic motivation has come into question. In the present study, evidence is presented which suggests that students who perceive their teachers and parents as being actively involved and supportive of autonomy are likely to experience the motivational underpinnings of academic achievement. Thus, educational strategies which maximize teacher involvement should conduce towards greater student motivation, Similarly, school- and community-based strategies which enhance parental involvement should further benefit student motivation. Furthermore, this research suggests that such strategies would be most effectively implemented with additional emphasis placed on the active support of student autonomy. Finally, it appears that the inner resources which facilitate student motivation and achievement, while strongly influenced by teachers, are still quite subject to parental influence. The responsibility for promoting student motivation often transferred back and forth between teachers and parents may indeed belong to both.

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Table 1 Factor Loadings of Teacher and Parent Autonomy Support Items.

<u>Item</u>	<u>Teachers</u>	<u>Parents</u>
1.Do your {teachers,parents} allow you to decide things for yourself?	.75	.70
2.Do your {teachers,parents} insist on your doing things their way?	.76	.77
3.Do your {teachers,parents} allow you to contradict or disagree with their opinions?	.52	.65
4.Do you feel like your {teachers, parents} listen to your opinion or perspective when you've got a problem?	.70	.79

Table 2. Correlation Matrix n = 624

	1	2	3	4	5	6	7
1.Teacher Involvement							
2.Parent Involvement	.38						
3.Teacher Autonomy Support	.47	.20					
4.Parent Autonomy Support	.20	.49	.29				
5.Engagement	.41	.40	.35	.24			
6.Positive Coping	.43	.39	.29	.25	.52		
7.Perceived Control	.37	.32	.25	.22	.59	.50	
8.Self-Regulation	.25	.17	.29	.15	.43	.31	.35

Note: all correlations significant, $p < .001$.

Table 3. Results of Multiple Regression of Teacher and Parent Involvement and Autonomy Support, Controlling for Sex and Grade.
n = 624.

		<u>Academic Engagement</u>	<u>Positive Coping</u>	<u>Perceived Control</u>	<u>Relative Autonomy</u>
<u>Regression Series #1.</u> <u>Involvement</u>					
	R^2	.22***	.24***	.17***	.07***
Teacher		.31***	.31***	.28***	.22***
Parent		.26***	.27***	.22***	.08
<u>Regression Series #2.</u> <u>Autonomy Support</u>					
	R^2	.12***	.11***	.08***	.09***
Teacher		.29***	.23***	.20***	.27***
Parent		.18***	.18***	.16***	.07
<u>Regression Series #3.</u> <u>Involvement & Autonomy Support</u>					
	R^2	.25***	.25***	.18***	.11***
Teacher Involvement		.23***	.27***	.24***	.11*
Parent Involvement		.25***	.25***	.18***	.06
Teacher Aut. Sup.		.16***	.10*	.08	.22***
Parent Aut. Sup.		.01	.04	.06	.03

Values shown for each variable are standardized regression coefficients.

* = $p < .05$

** = $p < .01$

*** = $p < .001$