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Mothers' motivation for involvement in their children's schooling: mechanisms and outcomes

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Abstract While research has examined factors associated with parent involvement, little work has focused on why parents are involved in their children's schooling. This study thus assessed mothers' motivation for involvement (measured on a continuum of autonomy), their level of involvement, and their affect when involved in relation to children's motivation and academic performance. Participants were 178 fourth, fifth, and sixth grade students and their mothers. More autonomous motivation (identified, intrinsic) for involvement positively related to mothers' levels of involvement and positive affect when involved. Identified motivation, as well as parental level of involvement, related to children's academic perceived competence, self-worth, and reading grades. Results supported mediational models in which identified motivation was associated with higher academic perceived competence through cognitive involvement and reading grades through increased cognitive and personal involvement. For self-worth, there was an indirect path from identified motivation through personal involvement as well as a significant direct path. Results stress the importance of considering why parents are involved, especially when developing interventions to increase parent involvement.

Keywords Parent involvement · Motivation for involvement · Children's motivation · Children's school performance

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Introduction

There is a burgeoning literature demonstrating the robust effects of parents' involvement in their children's schooling. Notably, parent involvement has been associated with children's motivation (e.g., Gonzalez-DeHass et al. 2005; Grolnick and Slowiaczek 1994; Sanders 1998), as well as their grades and achievement, in families of diverse ages and backgrounds (e.g., Fan and Chen 2001; Jeynes 2005, 2007). Given these findings, investigators have devoted energy to understanding factors that predict parents' levels of involvement (e.g., Green et al. 2007; Grolnick et al. 1997). While there are available models for predicting parents' level of involvement, largely focusing on cognitive and environmental factors, little research has examined why parents are involved, i.e., the motivational basis of parents' involvement in their children's schooling, and how this may be associated with parents' behavior and experience and ultimately children's own motivation and school outcomes. Thus, this study uses Self-Determination Theory (SDT) (Deci and Ryan 1985, 2000) to examine parents' motivation for being involved. In particular, it examines whether mothers' motivation is more autonomous or controlled, assessed through the reasons mothers have for being involved in their children's schooling. We examined whether mothers' motives for being involved make a difference in terms of (1) their levels of involvement, (2) their emotional experience when involved, and (3) children's motivation and performance in school. In addition we asked whether mothers' level of involvement might mediate relations between their motives and children's perceived competence and grades.

Parent involvement and children's motivation and achievement

Researchers studying parent involvement have identified different types of involvement. Most notably, a distinction has been made between traditional types of involvement that take place at school such as attending parent–teacher conferences and volunteering in the classroom (e.g., Stevenson and Baker 1987) and involvement activities that take place outside the school. Outside school activities include reading to children, helping with homework, talking about and introducing school-relevant topics and events, as well as conveying interest, expectations and aspirations through parent–child communication (Hill and Tyson 2009; Hong and Ho 2005; Jeynes 2005). Meta-analyses of these types of involvement generally find significant effects on achievement, with many showing stronger effects of out of school activities (e.g., Fan and Chen 2001; Hill and Tyson 2009; Jeynes 2005). Notably, involvement at school tends to be more associated with measures of SES, including education and income (e.g., Green et al. 2007), at least in part because of the difficulty for some parents who do not have the resources such as time and transportation to be at school events.

Grolnick and Slowiaczek (1994) developed a conceptualization including three types of involvement. School involvement concerned parents' involvement in school activities such as parent–teacher conferences, open school nights, and school events. Cognitive/intellectual involvement was defined as parents' engagement in intellectual activities with their child, such as reading a newspaper, discussing current events, and visiting museums or libraries. Finally personal involvement was students' perceptions of their parents knowing about and asking them about their school experience. These types of involvement were moderately related.

Beyond specifying types of involvement, researchers have addressed how involvement might be related to children's school success. In several conceptualizations, researchers have suggested that, in addition to providing concrete assistance that can increase children's school performance, parents' involvement may also increase children's confidence in themselves in school and in general (e.g., Epstein 1986; Gonzalez-DeHass et al. 2005; Grolnick and Slowiaczek 1994; Pomerantz et al. 2007). Consistent with this reasoning, Sanders (1998) found that student perceptions of parental encouragement of academic efforts predicted children's academic self-concepts. Marchant et al. (2001) showed that higher parental involvement, measured as children's perceptions of parents' value for education, was associated with children's higher perceptions of school competence, which then predicted student achievement. Similarly, Fan and Williams (2010) showed that parents' educational aspirations for their children and school-based involvement predicted students' self-efficacy.

In the Grolnick and Slowiazck study, a motivational model in which the three types of involvement were expected to facilitate children's competence-related academic beliefs (perceived competence, perceptions of control) which would then be associated with children's achievement outcomes, was examined. Mothers' and fathers' school and cognitive/intellectual involvement both predicted children's academic perceived competence. In turn, perceived competence predicted children's achievement. In this study, we include all three types of involvement, school, cognitive, and personal, hypothesizing that parents' motives for being involved would be predictive of how involved mothers would be. Further, we predicted that mothers' level of involvement, particularly cognitive involvement, would be related to children's perceived competence and achievement.

Predictors of parent involvement

Given the importance of parent involvement, researchers have addressed factors that predict parent involvement. Notably, factors such as parents' beliefs about their own role in children's education and learning (Green et al. 2007; Hoover-Dempsey et al. 2005) and efficacy beliefs (Grolnick et al. 1997; Hoover-Dempsey et al. 1992) have been associated with parent involvement, as have teachers' efforts to involve parents (e.g., Epstein 1986; Epstein and Van Voorhis 2001; Grolnick et al. 1997). Social-contextual factors such as lack of time and stressful life events have been shown to be associated with lower levels of involvement (Grolnick et al. 1997; Hoover-Dempsey et al. 2005). Beyond these factors, however, we suggest that why parents are involved, i.e., their level of autonomy for involvement, may play a role in the degree to which they become involved and in addition how this involvement may be experienced by the parents. This study thus adds to this literature on factors affecting involvement by addressing mothers' motivation for involvement using SDT.

In examining mothers' reasons for involvement, we focused on three specific involvement activities—participating in events at the child's school, talking with the child's teacher, and helping with homework. We chose these three activities because they represent three different settings (home, school, classroom), activities for which there would be multiple types of motives (e.g., schools might exert some external pressure for school and classroom involvement), and have been found to vary in frequency in previous studies. Below we describe the theoretical context, SDT, through which motives and their effects were understood.

Self-Determination Theory

SDT is a theory of human motivation that addresses individuals' initiation of behavior. This theory posits that individuals have an innate need for autonomy, or to feel volitional or like the initiator of their actions (Deci and Ryan 1985). Thus, when participating in activities with a sense of autonomy, individuals are more likely to be active and to persevere. Conversely, when they feel more controlled or coerced, they will be less likely to be active and persistent. Across a variety of domains, it has been demonstrated that individuals show more persistence and engagement when they are more autonomous in their motivation. For example, when students are more autonomous, they exhibit more self-rated and teacher-rated competence, use more active learning strategies, show higher grades in school (Black and Deci 2000; Vansteenkiste et al. 2004) and are less likely to drop out (Vallerand and Bissonnette 1992). More autonomous motivation has been linked to greater persistence in competitive swimmers (Pelletier et al. 2002) and to greater exploration and commitment in the job search process for those looking for work (Soenens and Vansteenkiste 2005).

SDT has gone beyond specifying whether individuals are autonomous or non-autonomous (controlled) for their activities by addressing different types of motivation varying in their degree of autonomy (Ryan and Connell 1989). At the least self-determined end (external motivation), individuals engage in behavior because of external contingencies such as rewards and punishments or imposed rules. Mothers may thus be involved because they feel they have to according to a school rule. Further along the continuum but still non autonomous, individuals may behave to avoid internal contingencies such as guilt and anxiety (introjected motivation). Thus, mothers may become involved because they don't want the teacher to think they are a bad parent or they would feel guilty if they didn't. Still further along the continuum is identified motivation in which individuals behave because of the perceived value or importance of the activity for their own goals. For example, mothers may be involved because they believe it will help their children's learning. Finally, individuals may engage in activities because they are perceived as fun or enjoyable in themselves. This type of motivation is termed intrinsic.

There is evidence for the specific effects of these different types of motivation. For example, in the domain of political behavior, both identified and intrinsic motivation were associated with actively pursuing political information by reading newspapers and watching debates (Koestner et al. 1996). Introjected motivation was associated with passively relying on others to obtain information about voting. Interestingly, only identified motivation was associated with a greater likelihood of voting, showing that it is the perceived value rather than the fun of the activity that is most likely to motivate actual behavior. In a study of competitive swimmers (Pelletier et al. 2002), identified and intrinsic motivation were associated with long-term persistence while introjected motivation was associated with short-term persistence. External motivation was unrelated to persistence. Even more pertinent to the presented study, Burton et al. (2006) showed that students' higher intrinsic motivation for engaging in school activities was associated with more positive affect and well-being but not school performance. By contrast, identified motivation was associated with school performance. Based on this literature, we predicted that when mothers were more identified in their motivation for involvement behaviors, e.g., going to school or helping their child with homework because of perceived value or importance of the activities, they would be more likely to show higher levels of involvement. We also predicted that mothers who were more intrinsically motivated to be involved would show higher levels of involvement, though the results were not expected to be as strong as those for identified motivation.

In addition to behavioral persistence, types of motivation have also been associated with affect during activities. Autonomous motivation for activities, for example has been linked to feelings of interest and enjoyment (Deci and Ryan 1985; Reeve 1989). In contrast, controlled motivation has been linked with feelings of pressure and tension (Ryan 1982). Nix et al. (1999) conducted a series of experiments in which participants worked on problem solving tasks in either a self-directed condition, where they were free to work on the task, or an other-directed condition which required a number of specific behaviors. Participants in the self-directed condition reported greater subjective vitality (positive feeling of having energy available) from before to after the activity relative to those in the other-directed condition. In accordance with these findings, we expected that mothers who engaged in involvement activities for more autonomous and less controlled reasons would enjoy being involved more and feel less stressed. More positive affect during involvement may be important as positive interactions may help children to feel good about school endeavors and themselves (Pomerantz et al. 2005). For example, both Nolen-Hoeksema et al. (1992) and Hokoda and Fincham (1995) showed that when mothers expressed more negative affect during a challenging parent–child task, children were less persistent on the task. Pomerantz et al. (2005), using a diary study of parental assistance with homework, showed that mothers' positive affect had overtime motivational benefits, moderating the effects of negative affect that were generated by children's helplessness on tasks. Thus, we predicted that when mothers were more autonomous in their motivation, they would report more positive affect during involvement activities.

While the majority of research examining autonomous motivation has been in other areas, two studies that we are aware of have examined parents' motivation for involvement along the autonomy dimension. Using SDT, Bouchard et al. (2007) measured fathers' motivation for involvement with their preschool children. They created the Motivation for Father Involvement Scale, which showed good reliability for four subscales of external, introjected, identified, and intrinsic. These authors found that fathers who reported more autonomous motivation for involvement reported more involvement and more satisfaction in their performance of the parental role.

Even more relevant to the present study, Katz et al. (2011) measured parents' motivation for involvement in helping with homework. The authors created a motivation for homework involvement scale that formed two factors—autonomous and controlled motivation. Results showed that more autonomous motivation for homework was associated with children and parents perceiving parents as more supportive of children's needs for autonomy, competence, and relatedness. Perceptions of need support were then associated with children's reports of more autonomous motivation for doing their homework.

In sum, our study examined mothers' motivation to be involved with their children's schooling on a dimension from controlled to autonomous in relation to mothers' level of involvement and positive affect while involved. We predicted that when parents reported more identified and intrinsic motivation, they would exhibit higher levels of school-related involvement and more positive affect. By contrast more controlled types of motivation (introjected, external) were expected to be associated with lower levels of involvement and less positive emotion during involvement activities. We also hypothesized that when mothers were more involved, children's motivation and school performance would benefit. Further, we hypothesized that the relations between mothers' motivation for involvement and children's perceptions of competence and grades would be mediated by mothers' level of involvement.

Methods

Participants

Participants were 178 children (60 fourth grade, 58 fifth grade, 60 sixth grade, 93 boys, 85 girls) and their mothers. Students were drawn from five public schools in a Northeast city. Seventy-five percent of mothers were in two parent families, 15 % were in single parent families, and 10 % were divorced, separated, or widowed. Mothers' levels of education were: 7 % less than high school, 16 % graduated high school, 33 % some college or vocational school, 44 % graduated college or received an advanced degree. Eighty-six percent of mothers were European American, 4 % were African American, 7 % were of Hispanic background, and 3 % were classified as other.

Procedure

Classrooms were visited by two researchers and children were given a letter describing the project and a permission form to take home to parents. Sixty-four percent of parents returned slips. Seventy percent of parents responded affirmatively. Thus, there was a 45 % participation rate.

Parents who agreed to participate completed questionnaires either at their home or the University laboratory. Children completed questionnaires in groups at their schools. Families received $20 as thanks for their participation.

Measures

Motivation for involvement

The 24-item Reasons for Involvement Questionnaire was adapted for this study from the Self-Regulation Questionnaire (SRQ; Ryan and Connell 1989). On the SRQ, school activities are presented as well as reasons for engaging in them that correspond to types of motivation. In the Motivation for Involvement Questionnaire, activities were three parent involvement behaviors (talking to your child's teacher (e.g., conferences and meetings), participating in events at your child's school (e.g., fundraisers or volunteering), and helping your child with his or her schoolwork) and parents rated their reasons for being involved in each of these activities. Parents were presented with the activity and asked how true reasons associated with the four types of motivation: external (e.g., because I am supposed to), introjected (e.g., because I would feel guilty if I didn't), identified (e.g., because I think it is important to talk with the teacher), and intrinsic (e.g., because it is fun to go to the events) were for why they did the activity. Parents rated the items on a scale from 1 (not at all true) to 4 (very true). To determine the reliability of the subscales, Cronbach's alphas were computed across activities. Results revealed good reliability; external = .73, introjected = .82, identified = .79, intrinsic = .75.

The validity of scales measuring a continuum of autonomy is supported when a simplex pattern (Guttman 1954) is obtained whereby there are positive correlations between adjacent types on the continuum and the correlations become less positive and more negative with more distant types on the continuum (Vallerand 1997). Results depicted in Table 2 support this pattern with external and introjected positively correlated and identified and intrinsic

positively correlated. There were nonsignificant correlations among other types of motivation.

Emotions during involvement

The Emotions During Involvement Scale was developed for this study to measure emotions experienced when parents are involved in their child's schooling in different situations. Parents rated the degree to which they felt eight emotions (bored, tense, strained, satisfied, nervous, interested, relaxed, calm): (1) "When I'm helping my child with school assignments," (2) "When in my child's classroom," and (3) "When I go to my child's school." For each of the activities, principle components factor analyses indicated a one factor solution (Eigenvalue: Homework = 3.94, classroom = 3.83, school = 2.83). Items were reversed where appropriate and averaged to create three positive emotion indices. The three indices were highly correlated (.48–.72) and were thus combined to form a Positive Affect index ($\alpha = .91$).

Level of involvement

School involvement

Involvement at school was measured using the Parent–School Interaction Questionnaire (Grolnick et al. 1997) which includes 16 parent involvement activities (e.g., attending parent–teacher conferences, going to school activities and events, and talking with the teacher before or after school). Each item was rated on a scale from 1 = never to 4 = many times. The questionnaire has been found to be reliable and to be associated with children's grades and teacher ratings of competence (Grolnick and Slowiaczek 1994). Alpha in the current study was .87.

Cognitive involvement

Parents rated the frequency with which they engaged in six activities with their children; e.g., going to the library, playing games that help my child learn, and talking about current events, on a scale from 1 = never to 5 = daily. This questionnaire has shown high reliability and relations with children's perceived competence and perceptions of control (Grolnick and Slowiaczek 1994). Alpha in this study was .65.

Personal involvement

This measure was an adaptation of the Parenting Context Questionnaire (Grolnick and Wellborn 1988) for parent report. The involvement items assess parents' interest and knowledge about school activities and events (e.g., I know what my child is currently doing in school, I ask my child about what he or she did that school day). Parents rated items on a scale from 1 = strongly disagree to 4 = strongly agree. The parent report form was used in both Grolnick and Slowiaczek 1994 and Grolnick et al. 1997, and has been related to children's grades and teacher ratings of children's competence. Alpha in this study was .73.

Perceived competence

Children's academic perceived competence and general self-worth were measured using two subscales of the Self-Perception Profile (Harter 1982). Each item presents two types of children, one representing a high level of competence (e.g., some kids do very well at their classwork) and the other a low (e.g., some kids don't do so well at their classwork) level of competence. Children choose which statement is most like them and then whether it is really true (=1 or 4) or sort of true = (2 or 3). Both subscales have been shown to have good reliability and validity (e.g., Muris et al. 2003; Shevlin et al. 2003). Four items assessed each type of competence and items are averaged to form two summary scores; academic perceived competence ($\alpha = .79$) and self-worth ($\alpha = .78$).

Grades

Children's end of year reading and math grades were obtained from school records. Grades were coded from 1 (=F) to 13 (=A+).

Results

Preliminary analyses

Motivation for involvement and emotion

Means, depicted in Table 1, indicate that mothers endorsed identified reasons for involvement most, followed by intrinsic, then external and finally introjected motivation. Examination of normality assumptions by plot and by the Kolmogorov–Smirnov test (.251, $p < .001$) indicated a positively skewed distribution for identified motivation. Thus, this variable was log transformed to approximate normality. Mothers reported on average highly positive affect when engaged in parent involvement activities.

Demographics and grade level

We examined whether mothers' motivation was related to child gender, family configuration, mothers' education

Table 1 Means and SDs of all variables

Variable	Mean	SD	Possible range
Parents' reasons for involvement			
External	2.20	.63	1–4
Introjected	1.73	.63	1–4
Identified	3.66	.38	1–4
Intrinsic	3.20	.51	1–4
Emotions during involvement			
Positive affect	6.05	.64	1–7
Level of parental involvement			
School involvement	2.28	.53	1–4
Cognitive involvement	2.95	.45	1–4
Personal involvement	3.57	.37	1–4
Outcomes			
Academic perceived competence	2.98	.66	1–4
Self-worth	3.16	.66	1–4
Reading grades	10.09	2.36	1–13
Math grades	9.68	2.63	1–13

levels, and children's grade level. There were no significant gender or grade level differences for any of the variables. Maternal education was unrelated to either mothers' motivation for involvement or positive affect during involvement but it was correlated with level of involvement variables (personal, $r = .16$, $p < .05$, cognitive, $r = .29$, $p < .001$) as well as outcome variables of reading grades, $r = .41$, $p < .001$, math grades, $r = .42$, $p < .001$, self-worth, $r = .16$, $p < .05$ and academic perceived competence, $r = .30$, $p < .001$. There were effects of family configuration on level of involvement and outcome variables, but when maternal education was controlled only one effect was still significant ($F = 4.20$, $p < .02$), math grades were highest in two-parent families ($M = 10.25$, $SD = 2.20$) relative to single ($M = 7.80$, $SD = 1.75$) and divorced, separated and widowed families ($M = 8.00$, $SD = 3.79$).

Primary analyses

Relations between motivation for involvement and other variables

As hypothesized, motivation for involvement variables were related to both positive affect and level of involvement. In particular, all four motivation types were related to positive affect, with external and introjected motivation negatively related to positive affect and identified and intrinsic positively related (see Table 2).

With regard to level of involvement, there were relations for all types of motivation. As predicted the strongest relations were for identified and intrinsic motivation. Higher levels of identified and intrinsic motivation were associated with all three types of involvement; school, cognitive, and personal. Introjected motivation was negatively associated with levels of both school and personal involvement, while external motivation was only associated with lower levels of personal involvement.

With regard to child outcomes, only identified motivation showed significant relations. In particular, higher levels of identified motivation were associated with higher levels of academic perceived competence, self-worth, and with reading grades.

Testing pathways from motivation for involvement to child outcomes

The final research question concerned whether mothers' level of involvement would mediate relations between mothers' motivation for involvement and child outcomes. Since, in order to test mediation, the independent variables must be related to the dependent variables and the mediators (Baron and Kenny 1986), the model included identified motivation as the predictor as it was the only type of motivation related to outcomes, and mediators of cognitive and personal involvement as they were related to both motivation for involvement and outcomes. The model included three outcome variables that were related to both motivation for involvement and level of involvement: academic perceived competence, self-worth, and reading grades. Thus the model included identified motivation as the independent variable, cognitive and personal involvement as mediators, and the three outcomes as the dependent variables. Because it was related to both mediators and outcomes, maternal education was included as a control variable.

The model with indirect effects from identified motivation to outcomes was tested with structural equation modeling using Amos version 19 (Arbuckle 2010). Maximum Likelihood method was used. The model provided an adequate fit to the data, χ^2 $(df = 7) = 13.06$, $p < .07$, GFI = .98, RMSEA = .06. Identified motivation was associated with both cognitive and personal involvement. In turn, cognitive involvement was associated with perceived competence and reading grades. Personal involvement was associated with self-worth.

In order to determine whether the indirect paths model was the best fitting model, we added direct effects and determined if the fit of the model was increased. Adding the direct path between identified motivation to academic perceived competence [χ^2 $(df = 6) = 12.7$, $p < .05$, GFI = .98, RMSEA = .08], did not significantly increase the fit [$\Delta\chi^2$ $(df = 1) = .36$, $p = .55$] and the direct path was not significant. In order to determine whether the full indirect effect (here identified motivation to cognitive involvement to perceived competence) was significant, the total indirect

Table 2 Correlations among variables

Variable	1	2	3	4	5	6	7	8	9	10	11
Parents' motivation for involvement											
1. External	–										
2. Introjected	.62***	–									
3. Identified	−.14	.00	–								
4. Intrinsic	−.11	.13	.50***	–							
Emotions during involvement											
5. Positive affect	−.33***	−.30***	.36***	.21*	–						
Level of parental involvement											
6. School involvement	.08	−.18*	.22**	.16*	.24**	–					
7. Cognitive involvement	−.05	−.05	.20**	.13*	.33***	.36***	–				
8. Personal involvement	−.17*	−.15*	.22**	.17*	.43***	.31***	.30***	–			
Outcomes											
9. Academic perceived competence	.01	.05	.17**	−.04	.16*	.01	.22***	.13*	–		
10. Self-worth	.10	.06	.22**	.10	.29***	.13*	.18*	.24***	.43***	–	
11. Reading grades	.03	.08	.22**	.04	.28***	.01	.35***	.29***	.49***	.25***	–
12. Math grades	.06	.07	.14	.02	.20*	.01	.29***	.23***	.60***	.30***	.73**

* $p < .05$; ** $p < .01$; *** $p < .001$

effect was computed. An indirect effect is a compound coefficient computed by multiplying and adding coefficients in the mediating chain. Because doing so involves multiplying coefficients for individual pathways, the distributions are not normally distributed. Thus to compute the significance of the total indirect effect, bootstrapping (using 200 iterations) was used to estimate the standard error (MacKinnon 2008). Bootstrapping analysis showed that the total indirect effect (.15) was significant ($p < .05$). Adding a direct path from identified motivation to self-worth increased the fit of the model [χ^2 ($df = 6$) = 8.5, p = .20, GFI = .99, RMSEA = .06] significantly [$\Delta\chi^2$ ($df = 1$) = 4.56, $p <$ .03]. The direct effect was significant (.16), as was the total indirect effect (.13, $p < .05$). Finally, adding the direct path from identified motivation to reading grades did not significantly increase the fit of the model [χ^2 ($df = 6$), = 11.74, $p < .07$, $\Delta\chi^2$ ($df = 1$) = 1.32, $p = .25$] and the direct path was not significant. The indirect effect (.22) was significant ($p < .01$). Figure 1 presents the model with significant pathways from identified motivation to academic perceived competence through cognitive involvement, and reading grades through cognitive and personal involvement. It also includes both a direct pathway from identified motivation to self-worth and an indirect one from identified motivation to self-worth through personal involvement.

Discussion

This study examined mothers' motivation for being involved in their children's schooling and its relations to their affect during and level of involvement. In addition, it examined whether mothers' motivation for involvement might be associated with children's perceived competence and grades through higher levels of involvement. Overall, results suggested that mothers' higher autonomous motivation and lower controlled motivation was associated with more positive affect during involvement and higher levels of involvement, though these relations held for certain types of motivation and certain types of involvement. Support for the mediational pathways was mixed in that only mothers' identified motivation was related to child outcomes with paths through cognitive and personal involvement evident.

One of the goals of the study was to develop a measure of parents' motivation for being involved in their children's schooling, modeled after similar measures in a number of different domains. The results showed that we were able to develop a set of items that reliably measured external, introjected, identified, and intrinsic motivation across three types of parent involvement activities. Further, the four subscales were related in a manner consistent with a simplex pattern, indicating that they could be ordered along a continuum from less to more autonomous motivation.

We hypothesized that motivation for involvement would be associated with the affect mothers experienced when involved. The hypothesis regarding affect was strongly supported, with the controlled types of motivation, external and introjected, negatively related to positive affect and the two types of autonomous motivation positively related. Thus, it appears that when parents feel a greater sense of autonomy for their involvement they have more positive

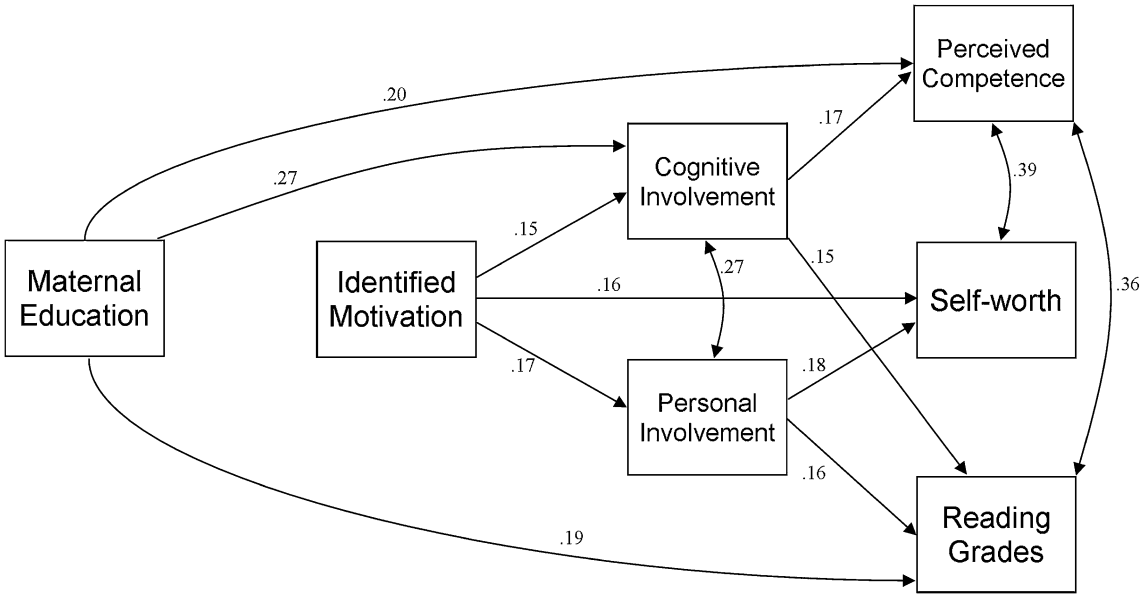

Fig. 1 Mediational model of relations between mothers' identified motivation for involvement and children's outcomes through levels of cognitive and personal involvement. Only significant paths ($p < .05$) are depicted. Model Fit, χ^2 ($df = 6$) = 8.5, $p = .20$, GFI = .987, RMSEA = .05

experiences when involved. This supports the SDT tenet that when individuals' need for autonomy is satisfied, they will function best and have more positive well-being (Deci and Ryan 1985). It is also consistent with studies of help provision in other domains (e.g., Kim et al. 2008). For example, Weinstein and Ryan (2010) showed that when students engaged in prosocial behavior for more autonomous reasons, they reported more positive affect, subjective well-being, and vitality relative to when they engaged in these behaviors for more external reasons.

The second hypothesis concerning relations between motivation for involvement and level of involvement was largely supported. In particular, all four types of motivation were associated with personal involvement. When parents feel pressured to be involved, either internally or externally, they are less likely to actively interact with their child around school issues, something that is largely discretionary to parents. There were also relations for school involvement, with introjected regulation negatively related to and identified and intrinsic regulation positively related to school involvement. Interestingly, only identified motivation was related to higher cognitive involvement. Since cognitive involvement activities and events are outside the activities conducted in school and require active initiative, it may require a strong sense of the importance of involvement activities. Given that this type of involvement has been found to be strongly related to academic outcomes (e.g., Grolnick and Slowiaczek 1994), identified motivation for involvement may be particularly important. Such results support and extend findings of the particular importance of identified motivation for performance outcomes (e.g., Burton et al. 2006).

It is interesting that introjected motivation was negatively related to school and personal involvement, though it was unrelated to cognitive involvement. While one might expect that introjected motivation might be associated with some involvement, it is possible that the internal pressure and conflict that results from this type of motivation may make involvement difficult to sustain, especially when it might include some difficult exchanges.

Our final set of analyses addressed whether motivation for involvement would be associated with child outcomes by facilitating higher levels of involvement. Here, our hypotheses were only partially supported. In particular, only identified motivation was associated with child outcomes. It was surprising, for example, that intrinsic motivation for involvement was not associated with children's self-worth or perceived competence. It is possible that the valuing aspect of mothers' motivation is what conveys a confidence in the children that becomes internalized. It is also possible that the results would differ if different outcomes, e.g., engagement or children's own motivation for academics, were measured or were more strictly affective as has been the case in other studies showing positive effects of intrinsic motivation (e.g., Burton et al. 2006). In addition, we were not able to examine involvement at school as a mediator since it was not associated with the child outcome variables. The lack of relations with outcomes for involvement at school is consistent with other studies and meta-analyses showing that this type of

involvement, in which many parents cannot engage because of lack of time or other resources (Grolnick et al. 1997), may be less related to children's school motivation and competence (e.g., Hill and Tyson 2009).

Given the univariate relations uncovered, we were able to test mediational paths from identified motivation to three outcomes (academic perceived competence, self-worth, and readings grades) through mediators of cognitive and personal involvement. In particular, identified motivation for involvement was associated with academic perceived competence through cognitive involvement. Thus, when parents are involved because they see the value in involvement activities they are most likely to provide stimulating school-related activities that help children to feel confident in their abilities. There were also relations between identified motivation and reading grades through both cognitive and personal involvement. Finally, for self-worth, there was both an indirect relation for identified motivation through personal involvement as well as a direct relation. That personal involvement was most important for self-worth was not surprising given that it perhaps best conveys mothers' perceptions of the importance of child that can result in positive self-beliefs. For reading grades, there were effects of identified motivation through personal and cognitive involvement. Thus, when parents are involved because of the perceived importance of activities, they are more likely to ask about and know about children's school experience and provide stimulating school-related experiences. These types of involvement are most associated with school outcomes.

There are several implications of the above findings. Perhaps most importantly, it is crucial that schools consider why parents may be involved when trying to increase parent involvement. Methods of increasing involvement that involve pressure and coercion and perhaps guilt evoking may ultimately result in lower levels of involvement, especially for the types of involvement that are more discretionary such as cognitive and personal involvement. Second, when involved for more external and introjected reasons, parents had more negative experiences when involved and this may ultimately result in less positive experiences for children. In order to facilitate more identified motives for being involved schools can explain how their efforts may help their children and why they are being asked to participate. Further, they may elicit their input about their preferred activities. Current efforts to coerce parents to participate in activities, such as contingencies and contracts, may have adverse effects by facilitating more external motivation, which is unlikely to be sustained and likely to result in parents adhering to the minimal commitment required.

In considering future directions, further studies might examine not only affect associated with different types of motivation but the quality of the involvement behaviors parents demonstrate when motivated more or less autonomously. Weinstein and Ryan (2010) showed, for example, that when helpers helped for more autonomous reasons the recipients of that help were more likely to feel related to the helper, to experience them as more effective, and to perform better on a task than those receiving help from more controlled helpers. It would be interesting, for example, to determine whether parents who are involved for more external reasons might also be more pressuring and controlling, as outward pressure has been shown to be transferred onto the recipient (e.g., Grolnick et al. 2002). Laboratory studies may be useful in assessing the quality of involvement under different motivational conditions.

There are several limitations of our study that should be noted. First, the data are correlational, making it impossible to determine the direction of effects of relations among variables. It is certainly possible that more involvement experiences may help parents to internalize the values of the activities they are pursuing. Second, the data were collected at one point so that longitudinal relations are unaddressed. Third, the motivation for a limited set of involvement activities was assessed and parents may have different motivations for other activities. Fourth, the study examined only mothers. Given that fathers are more involved in with their children than ever before (Cabrera et al. 2000), it would be important to determine whether fathers' motives for involvement have similar effects. Finally, while there was a range of educational levels of parents in the study, the parents were on the more educated end and the sample was largely European American. Given that different ethnic and racial groups may be involved in different ways and for different reasons (e.g., Hong and Ho 2005), it would be important to replicate this study with a fuller range of parents. Despite these limitations, the study suggests that considering parents' motivations for being involved in their children's schooling has important concomitants and is a promising area for future research.

References

Arbuckle, J. L. (2010). *IBM SPSS Amos 19user's guide*. Spring House: Amos Development Corporation.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.

Black, A. E., & Deci, E. L. (2000). The effect of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective. *Science Education, 84*, 740–756.

Bouchard, G., Lee, C. M., Asgary, V., & Pelletier, L. (2007). Fathers' motivation for involvement with their children: A self-determination theory perspective. *Fathering, 5*, 25–41.

Burton, K. D., Lydon, J. E., D'Alessandro, D. U., & Koestner, R. (2006). The differential effects of intrinsic and identified

motivation on well-being and performance: Prospective, experiential, and implicit approaches to self-determination theory. *Journal of Personality and Social Psychology, 91*, 750–762.

Cabrera, N. J., Tamis-LeMonda, C. S., Bradley, R. H., Hofferth, S., & Lamb, M. E. (2000). Fatherhood in the twenty-first century. *Child Development, 71*, 127–136.

Deci, E., & Ryan, R. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 319–338.

Epstein, J. L. (1986). Parents' reactions to teacher practices of parent involvement. *The Elementary School Journal, 86*, 277–294.

Epstein, J. L., & Van Voorhis, F. L. (2001). More than minutes: Teachers roles in designing homework. *Educational Psychologist, 36*, 181–193.

Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review, 13*, 1–22.

Fan, W., & Williams, C. M. (2010). The effects of parental involvement on students' academic self-efficacy, engagement and intrinsic motivation. *Educational Psychology, 30*, 53–74.

Gonzalez-DeHass, A., Willems, P., & Holbein, M. (2005). Examining the relationship between parental involvement and student motivation. *Educational Psychology Review, 17*, 99–123.

Green, C. L., Walker, J. M. T., Hoover-Dempsey, K. V., & Sandler, H. M. (2007). Parents' motivation for involvement in children's education: An empirical test of a theoretical model of parental involvement. *Journal of Educational Psychology, 99*, 532–544.

Grolnick, W. S., Benjet, C., Kurowski, C. O., & Apostoleris, N. (1997). Predictors of parent involvement in children's schooling. *Journal of Educational Psychology, 89*, 538–548.

Grolnick, W. S., Gurland, S., DeCourcey, W., & Jacob, K. (2002). Antecedents and consequences of mothers' autonomy support: An empirical investigation. *Developmental Psychology, 38*, 143–155.

Grolnick, W., & Slowiaczek, M. (1994). Parents' involvement in children's schooling: A multi-dimensional conceptualization and motivational model. *Child Development, 65*, 237–252.

Grolnick, W., & Wellborn, J. (1988). *Parent influences on children's school-related self-system processes.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Guttman, L. (1954). A new approach to factor analysis: The padex. In L. Lazerfel (Ed.), *Mathematical thinking in the social sciences* (pp. 258–348). New York: Free Press.

Harter, S. (1982). The perceived competence scale for children. *Child Development, 53*, 87–97.

Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: A meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology, 45*(3), 740–763.

Hokoda, A., & Fincham, F. D. (1995). Origins of children's helpless and mastery achievement patterns in the family. *Journal of Educational Psychology, 87*, 375–385.

Hong, S., & Ho, H. (2005). Direct and indirect longitudinal effects of parental involvement on student achievement: Second order latent growth modeling across ethnic groups. *Journal of Educational Psychology, 97*, 32–42.

Hoover-Dempsey, K. V., Bassler, O. C., & Brissie, J. S. (1992). Explorations in parent–school relations. *Journal of Educational Research, 85*, 287–294.

Hoover-Dempsey, K. V., Walker, J. M. T., Sandler, H. M., Whetsel, D., Green, C. L., Wilkins, A. S., et al. (2005). Why do parents become involved? Research findings and implications. *The Elementary School Journal, 106*, 105–130.

Jeynes, W. H. (2005). A meta-analysis of the relation of parental involvement to urban elementary school student academic achievement. *Urban Education, 40*, 237–269.

Jeynes, W. H. (2007). The relationship between parental involvement and urban secondary school student academic achievement: A meta-analysis. *Urban Education, 42*, 82–110.

Katz, I., Kaplan, A., & Buzukashvily, T. (2011). The role of parents' motivation in students' autonomous motivation for doing homework. *Learning and Individual Differences, 21*, 376–386.

Kim, Y., Carver, C. S., Deci, E. L., & Kasser, T. (2008). Adult attachment and psychological well-being in cancer caregivers: The mediational role of spouses' motives for caregiving. *Health Psychology, 27*, 5144–5154.

Koestner, R., Losier, G. F., Vallerand, R. J., & Carducci, D. (1996). Identified and introjected forms of political internalization: Extending self-determination theory. *Journal of Personality and Social Psychology, 70*, 1025–1036.

MacKinnon, D. P. (2008). *Introduction to statistical mediational analysis*. NY: Taylor and Francis.

Marchant, G. J., Paulson, S. E., & Rothlisberg, B. A. (2001). Relations of middle school students' perceptions of family and school contexts with academic achievement. *Psychology in the Schools, 38*, 505–519.

Muris, P., Meesters, C., & Fijen, P. (2003). The self-perception profile for children: Further evidence for its factor structure, reliability, and validity. *Personality and Individual Differences, 35*, 1791–1802.

Nix, G. A., Ryan, R. M., Manly, J. B., & Deci, E. L. (1999). Revitalization through self-regulation: The effects of autonomous and controlled motivation on happiness and vitality. *Journal of Experimental Social Psychology, 35*, 266–284.

Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. (1992). Predictors and consequences of childhood depressive symptoms: A 5-year longitudinal study. *Journal of Abnormal Psychology, 101*, 259–282.

Pelletier, L. G., Fortier, M. S., Vallerand, R. J., & Briere, N. M. (2002). Associations among perceived autonomy support, forms of self-regulation, and persistence: A prospective study. *Motivation and Emotion, 25*, 279–306.

Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The how, whom, and why of parents' involvement in children's academic lives: More is not always better. *Review of Educational Research, 77*, 373–410.

Pomerantz, E. M., Wang, Q., & Ng, F. F. (2005). Mothers' affect in the homework context: The importance of staying positive. *Developmental Psychology, 41*, 414–427.

Reeve, J. (1989). The interest–enjoyment distinction in intrinsic motivation. *Motivation and Emotion, 13*, 83–104.

Ryan, R. M. (1982). Control and information in the interpersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology, 43*, 450–461.

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57*, 749–761.

Sanders, M. G. (1998). The effects of school, family, and community support on the academic achievement of African American adolescents. *Urban Education, 33*, 385–409.

Shevlin, M., Adamson, G., & Collins, K. (2003). The self-perception profile for children (SPPC): A multiple-indicator multiple-wave analysis using LISREL. *Personality and Individual Differences, 35*, 1993–2005.

Soenens, B., & Vansteenkiste, M. (2005). Antecedents and outcomes of self-determination in three life domains: The role of parents' and teachers' autonomy support. *Journal of Youth and Adolescence, 34*, 589–604.

Stevenson, D. L., & Baker, D. P. (1987). The family–school relation and the child's school performance. *Child Development, 58*, 1348–1357.

Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 29, pp. 271–360). NY: Academic Press.

Vallerand, R. J., & Bissonnette, R. (1992). On the predictive effects of intrinsic, extrinsic, and amotivational styles on behavior: A prospective study. *Journal of Personality, 60*, 599–620.

Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating learning, performance, and persistence: The synergistic role of intrinsic goals and autonomy support. *Journal of Personality and Social Psychology, 87*, 246–260.

Weinstein, N., & Ryan, R. M. (2010). When helping helps: Autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology, 98*, 222–244.