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Brief report

A brief randomized controlled intervention targeting parents improves grades during middle school

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ABSTRACT

Despite a growing number of brief, psychosocial interventions that improve academic achievement, little research investigates how to leverage parents during such efforts. We designed and tested a randomized controlled intervention targeting parents to influence important discussions about the future and responses to academic difficulty experienced by their adolescent during eighth grade in the United States. We recruited experienced parents to convey the main messages of the intervention in a parent panel format. As expected, current parents who were randomly assigned to observe the parent panel subsequently planned to talk with their adolescents sooner about future opportunities and to respond more positively to experiences of academic difficulty than parents who were randomly assigned to a control group. The intervention also led to a significant increase in student grades, which was mediated by parents' responses to academic difficulty. We suggest an increase in experimental research that utilizes parents to influence student achievement.

A long tradition of research has documented associations between parents' beliefs, styles, and practices and their children's academic outcomes (for reviews, see Darling & Steinberg, 1993; Fan & Chen, 2001; Spera, 2005). Surprisingly, however, almost no experimental studies have evaluated the potential effect of brief interventions targeting parents on their children's academic achievement during middle school (for effects on high school course-taking and test scores, see Harackiewicz, Rozek, Hulleman, & Hyde, 2012; Rozek, Svoboda, Harackiewicz, Hulleman, & Hyde, 2017). At the same time, a growing body of research demonstrates the effectiveness of brief, psychosocial interventions that target students directly in improving academic achievement, especially for students from groups that are at risk of academic underperformance (for reviews, see Lazowski & Hulleman, 2016; Wilson, 2006; Yeager & Walton, 2011). Therefore, in the current study, we designed an intervention to influence parents' key beliefs and practices and examined whether it led to improvements in their children's academic achievement during adolescence.

To develop our theoretical approach for the intervention, we drew from prior studies illustrating that students experience increases in academic motivation during adolescence if they receive information about how investment in education will yield future rewards (Destin & Oyserman, 2010) and how higher education can be financially accessible (Destin, in press; Destin & Oyserman, 2009). We also drew from research showing that when people embrace experiences of academic

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difficulty and interpret them as a sign of a task's importance, they are more likely to persist and succeed in the task at hand (Oyserman, Destin, & Novin, 2015; Smith & Oyserman, 2015). Further, the way that parents respond to difficulties that their children face in school is an important predictor of academic outcomes (Cimpian, Arce, Markman, & Dweck, 2007; Grolnick & Slowiaczek, 1994), and parents who perceive difficulty as an important opportunity are more likely to support their children's success than those who fear failure (Haimovitz & Dweck, 2016). As a whole, our approach integrates these insights that build from decades of research across psychology and are grounded within experimental social psychology.

Studies have not yet evaluated whether an intervention can experimentally target the messages that parents convey to their adolescents about future opportunities and parents' responses to their adolescents' experiences of academic difficulty in order to improve their academic achievement. In the current study, we developed and tested such an intervention directed at parents of current eighth grade students, a critical year as students approach the transition to high school. Instead of attempting to influence parents as outsiders, we recruited a small group of experienced parents (whose children had already progressed beyond 8th grade from the same school) to convey our experimental meta-messages as part of a parent panel program. We expected that the intervention messages would be more likely to influence current parents if received from members of their community who have faced similar circumstances rather than adopting an outside "consultation" approach (e.g., Brown, Pryzwansky, & Schulte, 2010; Holcomb-McCoy & Bryan, 2010), which can encounter issues of cultural misunderstanding and requires more in-depth relationship building.

We expected to observe positive effects on parents' planned discussions, parents' responses to academic difficulty, and adolescents' academic achievement across the school year for parents of current eighth grade students who were randomly assigned to watch the parent panel program compared to parents who were randomly assigned to a control group.

1. Method

1.1. Sample and procedure

We recruited a diverse panel of six experienced parents as facilitators of a 45 min panel presentation where they discussed 1) ways that they helped their adolescents think about future opportunities and 2) how they responded positively to their adolescents' unexpected experiences of academic difficulty. The panelists were recommended by current teachers and administration. They were male and female, racially and socioeconomically diverse, and had children of various achievement levels and pathways, from special education to athletes to honors students who had all recently graduated from the middle school.

We also recruited 45 parents of current eighth grade students as participants in the study (12 White, 13 Black, 7 Latino/a, 2 Asian, 11 Other or no response; 35 mothers, 8 fathers, 2 grandparents). Toward the beginning of the school year, we recruited all parents who came to the school during one evening as part of a school-sponsored event. As they entered the building, parents were randomly assigned to the parent panel treatment condition where they observed the facilitators' parent panel discussion and received a take-home handout ($N = 26$) or the control condition where they participated in a neutral "get to know you" discussion ($N = 19$). All study procedures were approved by university and school district Institutional Review Boards, and all parents involved in the study provided informed consent. For more details regarding the parent panel development, procedures, and successful randomization to experimental condition, see Supplemental materials.

1.2. Measures

Immediately following the program, participants in both conditions completed an evaluation survey, where we embedded two key measures: a two-item measure of planned discussions with their adolescents and a four-item measure of responses to academic difficulty experienced by their adolescents, adapted from Oyserman et al. (2015). From school administration, we also received grades from the previous school year and at the end of the current school year of the adolescents whose parents participated in the study (see Table 1).

Table 1
Dependent variables.

	Items/sample items	Response scale	M (SD)	α
Planned discussions	"When is the next time that you plan to talk with your child about college [college financial aid]?	1 = Tonight, 2 = This week, 3 = This month, 4 = This semester, 5 = This school year, 6 = Next school year, 7 = After next school year, 8 = Never	3.96 (1.54)	0.85
Responses to difficulty	"When my child is working on a school task that feels difficult, it means that the task is important."	1 = Strongly disagree, 7 = Strongly agree	4.13 (1.92)	0.92
Grades	Average grade at end of 8th grade (M = 3.90, SD = 0.86) minus average grade at end of 7th grade (4.08, SD = 0.67)	1 = F, 5 = A	0.17 (0.53)	

2. Results

We conducted ANCOVAs to determine whether random assignment to the parent panel treatment condition influenced parents' planned discussions of future opportunities, parents' responses to academic difficulty experienced by their adolescents, and students' grades over the course of the school year. As expected, there were significant effects of the parent panel treatment on 1) planned discussions (parents in the treatment condition planned to speak with their children sooner about college and college financial information than parents in the control condition), 2) parents' responses to their children's experiences of academic difficulty, (parents in the treatment condition interpreted academic difficulty as a greater sign of a task's importance than parents in the control condition), and 3) adolescents' grades throughout the school year (the grades of adolescents whose parents were randomly assigned to the treatment condition rose approximately half a grade letter more than those of adolescents whose parents were randomly assigned to the control condition; see Fig. 1 and Table 2).

We used the (Hayes, 2013) PROCESS macro with 5000 bootstrap samples to test whether the effect of the parent panel treatment on grades was mediated by parents' planned discussions and responses to their adolescents' experiences of academic difficulty. As shown in Fig. 2, the indirect effect of the parent panel treatment through parents' responses to their children's experiences of academic difficulty was significant ($b = 0.13$, 95% CI [0.01, 0.44]). The direct effect of the parent panel treatment on grades was reduced to non-significance when the indirect pathways were included in the model ($b = 0.15$, 95% CI [-0.26, 0.56]), providing evidence of mediation.

3. Discussion

We designed a brief, psychosocial intervention that built upon growing evidence of effective approaches to increase student motivation and improve academic achievement. As an innovative approach, we used experienced parents to facilitate the meta-messages of the intervention in a parent panel format and current parents as the target of the intervention. As expected, the messages were effective, and parents who observed the parent panel treatment planned to speak with their adolescents sooner about future opportunities and to respond more positively to their experiences of academic difficulty compared to parents in a control group. Students whose parents were in the treatment group saw their grades rise throughout the school year compared with students whose parents were in the control group, and the large effect on grades

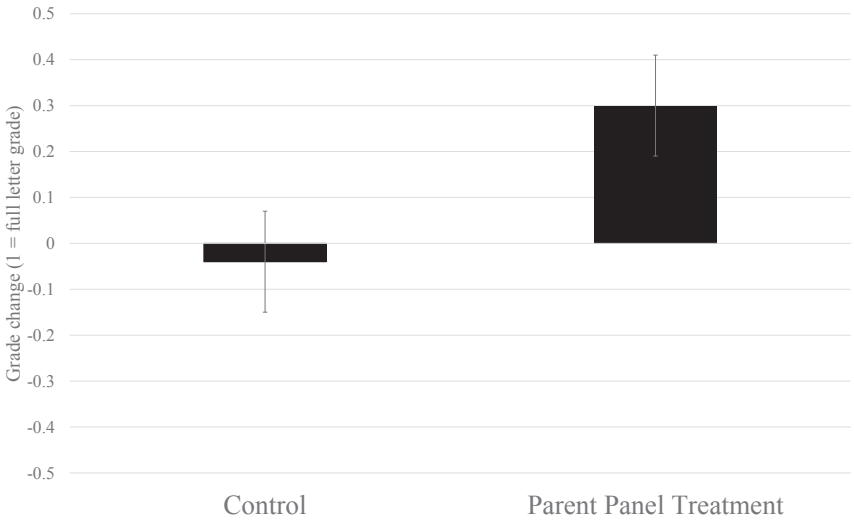

Fig. 1. Change in grades for students whose parents were randomly assigned to the control and parent panel treatment groups.

Table 2
Effects of parent panel treatment on planned discussions, responses to academic difficulty, and grades.

	Control condition	Parent panel treatment condition	*F*	df	*p*	*d*
Planned discussions	4.47 (1.38)	3.52 (1.58)	4.69	39	0.037	0.64
Responses to difficulty	3.39 (1.88)	4.63 (1.83)	4.83	42	0.033	0.67
Grades	−0.04 (0.41)	0.30 (0.60)	4.28	42	0.045	0.74

Note. We included household income (M = 3.13; approximately $50,000 - $74,999; SD = 1.79) in all analyses of parent survey measures and prior achievement test scores (M = 55.65, SD = 26.30) in all analyses of student grades in order to increase the precision and robustness of our models. Patterns of observed effects remain the same but slightly weaker when covariates are not included in analyses (see Supplemental materials). Three participants did not complete the measure of planned discussions.

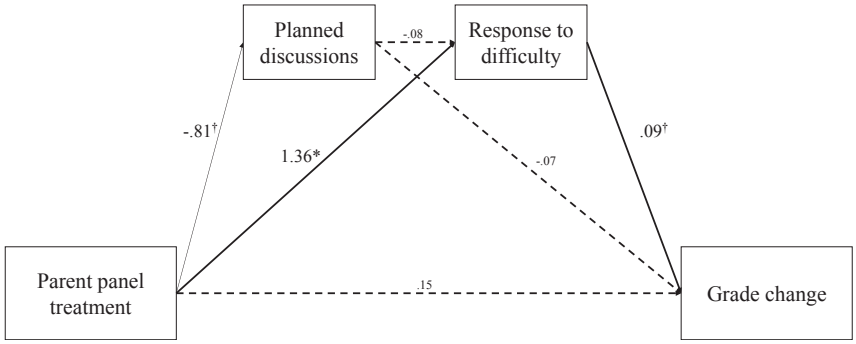

Fig. 2. Mediation of parent panel treatment effect on student grades. Unstandardized coefficients, $^{*}p < 0.05$, $^{\dagger}p < 0.10$.

was mediated by parents' responses to academic difficulty. The intervention may have also influenced other supportive parenting techniques that were not measured in the study, but the nature of these strategies is likely to vary widely across parents and can be investigated in future studies. However, the intervention was remarkably brief and targeted, and the effect on parents' planned discussions with their adolescents did not explain the effect on student grades. Instead, our results suggest that parents' responses to academic difficulty were more consequential than other conversations or other generally supportive behaviors.

The current study was limited by its small sample, and can only be generalized to parents who would attend an after-school event. Further, it is not possible to examine how the effectiveness may have differed across racial-ethnic and socio-economic groups. However, the brief intervention was effective among the diverse group of parents who participated in the study, using a randomized control group, and we anticipate that this demonstration may lead more researchers to extend similar study designs to other theories of student motivation and achievement. Our study is one of the first of its kind to leverage parents, and our findings suggest that they are a powerful resource both as facilitators of an intervention and as catalysts for large, positive effects on student achievement during adolescence.

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Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.adolescence.2017.02.010.

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