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## Implementation Intentions Increase Parent-Teacher Communication Among Latinos

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### Abstract

This research tested an implementation intentions intervention to increase parent-teacher communication among Latino parents of young children. Parents ( $n=57$ ) were randomly assigned to form implementation intentions or simply goal intentions to communicate with their child's teacher. They completed measures of communication and goal intentions immediately prior to the manipulation, and after the manipulation for 6 consecutive weeks. Implementation intentions increased parent-teacher communication among parents with higher initial (pre-manipulation) goal intentions, but not among those with lower initial goal intentions. The findings support existing work on the conditions for implementation intentions to work, and address an important aspect of Latino children's educational success.

### Keywords

implementation intentions; goals; parent involvement; Latinos

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Parents who communicate with their child's teacher tend to become more involved in their child's education (Westat & Policy Studies Associates, 2001), which in turn predicts better child educational outcomes (Bates, 2005; Jenyes, 2007). Most parents intend to communicate with their child's teacher (e.g., "I plan on talking with my child's teacher soon"), but their intentions may not translate into action. Despite valuing academic success as much as non-Latinos (Ryan, Casas, Kelly-Vance, Ryalls, & Collette, 2010), Latino parents are less involved, which could contribute to lower scores on educational indicators (Driscoll, 1999; Marshall, 2006; Turney & Kao, 2009). The current research addressed this issue by testing an implementation intentions intervention to increase Latino parents' communication and contact with their child's teacher (Gollwitzer, Wieber, Myers, & McCrea, 2010).

There were several reasons to test an implementation intentions manipulation with Latino parents to target communication with their child's teacher. First, communicating with teachers is a complex behavior that involves several steps, especially for Latinos who primarily speak Spanish (e.g., finding time to send a message, getting help translating to English). This research thus adds to the small but growing number of implementation intention studies testing behaviors that are complex/difficult to enact (Gollwitzer et al., 2010). Second, we sought to examine a novel behavior in a novel group; implementation intention interventions typically do not examine interpersonal communication and none to

our awareness have focused on Latinos or other ethnic subgroups. Third, this research was driven by practical value; there is much to be gained in providing an intervention that is easy to enact and inexpensive to implement, thus addressing the needs of Latinos and others who are unlikely to follow time-consuming or demanding interventions. Latinos are the largest ethnic subgroup of the US population (US Census Bureau, 2010), yet they face substantial obstacles in getting involved in schools and specifically in trying to communicate with teachers. If successful, the intervention tested could be of significant use.

### Targeting Latino Parents

Latinos attempting to communicate with teachers must overcome many challenges, as is often the case when goals do not align with behavior. Communicating with teachers is difficult for parents who have demanding work schedules, feel underqualified academically, lack transportation, or must travel in unsafe areas to reach schools, all of which predominantly affect lower income parents. US Latinos are overrepresented in lower income groups but also face additional obstacles, often lacking sufficient language skills to communicate with teachers or facing resistance from teachers (e.g., anti-immigration sentiments, expectations of lower involvement by Latino parents, or resistance to straying from conventional communication practices; Crozier, 2001).

The literature on Latino involvement has become increasingly focused on how educators might address the unique challenges Latino parents face (e.g., change teacher expectations, embrace culturally-diverse practices, promote positive interactions with Latino parents; DeGaetano, 2007; Riojas-Cortez & Bustos-Flores, 2009). Yet past interventions have failed using a variety of methods specifically targeting Latino parents (e.g., sending letters home in two languages, accommodating parents' work schedules, arranging parent potluck dinners, posting event flyers in targeted neighborhoods; DeGaetano, 2007). From a goals perspective, the issue remains how to maximize parents' motivation and convert it into action.

### Implementation Intentions

Why is it the case that even individuals who have a strong desire or goal – a strong goal intention to communicate with a teacher – may not necessarily act on their goal? Individuals too easily become distracted or diverted by everyday situations (e.g., not meeting a teacher because one must stay late at work). In contrast, extensive research shows that individuals with a goal intention are much more likely to act to achieve their goal when they form implementation intentions, specifying when, where, and how action will occur (Gollwitzer et al., 2010). For example, in a study where women intended to perform breast self-exams, only those with high intentions who also formed implementation intentions actually did the exam (100%, versus 53%; Orbell, Hodgkins, & Sheeran, 1997).

Why do implementation intentions increase the intended behavior? They involve mentally rehearsing if-then statements, specifying the conditions under which the action will occur (e.g., "If it is *Friday afternoon* and I am *at home*, I will *find a neighbor to write a note in English* for my child's teacher"). Gollwitzer has argued that rehearsing if-then statements increases the salience and cognitive accessibility of things that facilitate the behavior, forging a cognitive link between the cue to act (the "if" component) and the action itself (the "then" component; Gollwitzer, 1999). One becomes more alert to acting on conditions and situations that make the behavior likely (Gollwitzer et al., 2010). When the cognitive representation of the conditions/situations becomes activated, the actions associated with the implementation intention automatically also become activated.

Forming implementation intentions has reliable and positive medium-to-large effects ( $d = .65$ ) on successful goal attainment (see Gollwitzer & Sheeran, 2006). Implementation intentions have been used to help individuals attain simple goals (e.g., having US students write a report within 48 hours of Christmas Eve; Gollwitzer & Brandstätter, 1997) and more challenging goals (e.g., maintaining a vigorous exercise regimen; Milne, Orbell, & Sheeran, 2002). They also have been demonstrated to work on populations who struggle to exert conscious control over their actions (e.g., schizophrenic patients, Brandstätter, Lengfelder, & Gollwitzer, 2001).

Having established the large effect of implementation intentions, more recent research has focused on identifying variables that moderate their effectiveness (Prestwich & Kellar, in press). One such moderator is how strongly a person intends to enact a behavior and suggests that having strong goal intentions makes implementation intentions more effective (Sheeran, Webb, & Gollwitzer, 2005). We anticipated, therefore, that implementation intentions would be more effective when the initial goal intention to communicate with a teacher was high. We also anticipated that the effect of the manipulation would be specifically on behavior, and not on increasing goal intentions, consistent with past research (Webb & Sheeran, 2008).

We also examined whether implementation intentions might be less effective among individuals who are less acculturated into a dominant culture, which has not been examined in previous research. Individuals who are less acculturated – those who speak less English, have spent less time in the U.S., have not adopted the dominant cultural attitudes and values and thus are less familiar with the education systems – may find it even more challenging to communicate with their child's teacher.

## Current Research

Our predictions concerned change in communication (pre- versus post-manipulation), given that some parents may already communicate with their child's teacher. We hypothesized that among parents who had a goal intention to communicate with their child's teacher, those who specifically formed implementation intentions would communicate more often in the weeks following the manipulation, compared with parents who did not form implementation intentions. In contrast, we did not expect the manipulation to have an effect on those with relatively weak initial intentions (Prestwich & Kellar, in press), or to increase goal intentions.

Participants in our study were part of a broader longitudinal study testing a parenting program for Latino parents of young children (Dumas, Arriaga, Moreland, & Longoria, 2011). The program consisted of eight weekly sessions. One to two weeks prior to the start of the program, pre-manipulation measures and the manipulation were administered during in-home interviews. During the weekly parenting program sessions (post-manipulation), groups of participants completed a short questionnaire that tapped teacher communication (dependent variable) and goal intention to communicate (moderating variable).

Our sample was parents of young children because we aimed to elicit parent-teacher communication early on in a child's education. Even if a child has older siblings (who were not the target of the manipulation), the parent may establish a new pattern with the target child. We specifically sought a demographically homogenous sample to isolate the effect of the manipulation.

## METHOD

### Participants and Recruitment

Participants were Latino parents of young children (3–6) from the broader parenting study, who were recruited at the start of the school year at local primary schools, Head-start centers, and churches with Spanish language services. Interested parents provided recruiters with their contact information and were later contacted by telephone for the parenting program. The parenting program consisted of eight weekly two-hour sessions, each session covering a parenting topic (e.g., setting limits, using praise, developing children's self-esteem). Group sessions were conducted in Spanish by a trained group leader and assistant; sessions involved guided discussions, role-play activities, and short video clips. Each group contained up to 15 parents (both couple members in some cases, only one couple member in others). Each week participants were provided with a meal, \$5 to defer travel expenses, and free on-site childcare.

The current analysis included the 57 participants who (1) had a school-aged child, and (2) completed the pre-manipulation measures and at least one post-manipulation measurement occasion tapping the dependent variable. Of the 83 individuals who completed pre-manipulation measures, 26 (31%) were dropped from the current study, either because of attrition (i.e., they did not attend the program and thus did not provide responses on the dependent variable,  $n = 18$ , 22%) or because they did not have any children in school ( $n = 8$ , 10%). The 18 participants lost to attrition did not differ significantly from the 57 retained in: pre-manipulation communication with their child's teacher,  $M_{Lost} = 1.89$ ,  $SD = 2.02$  vs.  $M_{Retained} = 1.78$ ,  $SD = 1.76$ ,  $F(1, 73) = 0.06$ ,  $ns$ ; intention to communicate with their child's teacher,  $M_{Lost} = 4.47$ ,  $SD = 0.49$  vs.  $M_{Retained} = 4.38$ ,  $SD = 0.41$ ,  $F(1, 73) = .52$ ,  $ns$ ; or acculturation level,  $M_{Lost} = -1.99$ ,  $SD = 0.61$  vs.  $M_{Retained} = -1.81$ ,  $SD = 0.86$ ,  $F(1, 73) = 0.00$ ,  $ns$ .

Participants ( $N = 57$ ; 53 female, 4 male) on average were age 33 ( $SD = 5.24$ ) and had between 1 and 6 children ( $M = 2.7$  children,  $SD = 1.34$ ; age range from infant to 25-years,  $M_{child\ age} = 6.77$ ,  $SD = 4.8$ ). The target children of this study primarily were in Head Start (14%)<sup>1</sup>, prekindergarten/preschool (19.3%), or kindergarten (35.1%); the other 31.6% were in elementary school, primarily in first grade. Most participants classified themselves as Mexican or Mexican-American (96.5%), reported primarily speaking Spanish at home (94.7%; 5.3% English), were born in a Latin-American country (93%), and were low in US acculturation (68%).

### Design and Procedure

The design of this study was a  $2 \times 2$  mixed factorial design, with the manipulation (between-subjects) and measurement time (pre- vs. post-manipulation, within-subject) as independent variables, and amount of parent-teacher communication as the dependent variable (mean communication over all times after manipulation). Initial intention to communicate (i.e., the goal intention prior to the manipulation) and acculturation were examined as moderators. We also measured goal intentions at every time after the manipulation, as we expected the manipulation to affect communication behavior only and not the goal intention. Table 1 summarizes the design.

<sup>1</sup>This sample only included 8 Head Start parents, who did not differ significantly from other parents in their pre-manipulation communication,  $M_{non-HS} = 1.73$ ,  $SD = 1.78$ ,  $M_{HS} = 2.00$ ,  $SD = 1.77$ ,  $t(55) = .39$ ,  $ns$ , or post-manipulation communication,  $M_{non-HS} = 2.26$ ,  $SD = 2.08$ ,  $M_{HS} = 2.93$ ,  $SD = 2.12$ ,  $t(55) = .84$ ,  $ns$ . Although these means are consistent with the idea that Head Start parents are more involved at the outset, and possibly benefit less from the intervention, the small number of HS parents in the current sample did not allow a sound empirical test of this idea.

All experimental activities were administered in Spanish. All the measures were translated by a fluent Spanish-speaker of Mexican origin (matching most participants in our sample), then examined and revised as needed by a three additional fluent Spanish-speakers.

At Time 0 prior to the manipulation, a trained interviewer administered an extensive survey packet as part of the broader parenting project. The end of the packet included materials for this study. Specifically, interviewers asked participants to think about their youngest child in school between the ages of 5 and 6 ( $M = 5.75$ ,  $SD = 1.79$ ), and respond to a short survey that tapped pre-manipulation communication with their child's teacher, intention to communicate, and demographic characteristics. Interviewers then administered the manipulation (described below). Random assignment was done using a random numbers table prior to the start of the T0 interview, and the assigned materials were included in packets.<sup>2</sup> Interviewers were trained to read through the measures in the entire survey packet, including those for the current study. There were six interviewers, all blind to the study hypotheses.

When the eight weekly sessions of the parenting program started, participants completed post-manipulation measures at the end of each weekly session. When both couple members were interested in the parenting program ( $n=4$  couples), only one was allowed to complete pre- and post-manipulation measures that comprised the current study, but both could attend parenting sessions. The dependent variable was based on data from weeks 1 to 6 (T1 to T6) of the program; data from weeks 7 and 8 were excluded from analyses.<sup>3</sup>

## Manipulation

Interviewers read a script for the experimental portion of the study, eliciting simply goal intentions (control condition,  $n = 30$ ) or implementation intentions (experimental condition,  $n = 27$ ). We manipulated implementation intentions as in published studies whereby participants develop "if-then" plans specifying the conditions under which they plan to enact the desired behavior (Gollwitzer & Sheeran, 2006). Participants in both conditions did identical activities that varied only in creating a specific plan.

In both conditions, interviewers told participants that parents communicate with their child's teacher for a number of reasons, listed various reasons, and asked parents to communicate with their child's teacher in the coming weeks. At that point, participants in the control condition were asked to: recite their goal out loud three times (*"In the coming weeks I will communicate with (child's name) teacher."*); memorize their recited goal; and write out their goal three times on a sheet of paper provided by the interviewer, which the participant kept.

Prior to reciting their goal out loud and writing it down, participants in the experimental condition were told that they were more likely to communicate with their child's teacher if they created a plan, and were asked to specify when (e.g., what time of day), where (e.g., at home), and how (e.g., call the school) this would occur. Similar to control participants, experimental participants were then asked to recite their goal out loud three times, modified from the control condition so as to underscore the if-then components (*"In the coming weeks*

<sup>2</sup>Random assignment to conditions occurred before parents were assigned to specific group sessions for the parenting program. Participants' group affiliation was not a factor in random assignment, but it was included as a covariate in analyses. Groups did not differ in the distribution of control versus experimental participants,  $\chi^2(5,57) = 2.67$ , ns.

<sup>3</sup>Week 7 of the parenting program explored ways in which parents can help their children do well in school, including developing a positive relationship with teachers. During that week, all parents were asked to develop a plan to communicate with their child's teacher, in essence comprising an implementation intentions intervention for all parents. When treatment and control conditions were compared for weeks 7 and 8, they did not differ ( $M_{intervention}=3.16$ ,  $M_{control}=2.93$ ),  $F(1,29)=0.61$ ,  $p=.441$ . Descriptively, both conditions increased communication with teachers relative to weeks 1 through 6 ( $M_{control}=2.08$ ,  $M_{treatment}=2.66$ ), but especially control participants who until then had not benefitted from implementation intention strategies.

*I will communicate with (child's name) teacher. If, it is (when) and I am (where), then I will (how). ”*); memorize their recited goal; and write out their goal three times on a sheet of paper, which the participant kept. This specific method followed other research in which participants wrote down (Gollwitzer & Brandstätter, 1997, Study 2; Sheeran & Orbell, 1999; Sheeran & Orbell, 2000; Sheeran et al., 2005, Study 1) or recited (Gollwitzer & Brandstätter, 1997, Study 2; Sheeran et al., 2005, Study 2) specific goals.

Comparable implementation intention manipulations have been validated in previous research (Gollwitzer & Sheeran, 2006). To ensure its validity in this study, we contacted participants ( $n = 46$ ) by telephone 3 months after the parenting program and asked them to respond to two manipulation checks (“Did you intend to communicate with your child’s teacher?”, “Did you have a plan about how you were going to communicate with your child’s teacher?”; yes/no to each question). All but one participant answered yes to the first question; as expected, both conditions elicited an intention to communicate with their child’s teacher. The second question provided evidence of an effective implementation-intention manipulation: Experimental participants were significantly more likely to report having a plan (61%) than control participants (13%),  $\chi^2(1, N=46) = 11.29, p = .001$ .

## Measures

Table 2 provides the means, standard deviations, and intercorrelations for the main study variables. Prior to the manipulation, participants completed the demographic, acculturation, communication, and intention measures. Post-manipulation, participants completed the communication measure, followed by the intention measure.

**Communication**—At T0 to T6, three questions assessed whether participants communicated with their child’s teacher (adapted from Kohl, Lengua, & McMahon, 2000): “During the last week, how many times did you or someone on your behalf make an appointment to meet with your child’s teacher?”, “During the last week, how many times did you or someone on your behalf call your child’s teacher?”, “During the last week, how many times did you or someone on your behalf drop by the school to speak to your child’s teacher?” (0=*never*, 1=*once*, 2=*twice*, 3=*3 times*, 4=*more than 3 times*; average alpha, T0 to T6 = .77). An open-ended question asked participants to report any other way in which they communicated with their child’s teacher during the week, not captured by their prior responses. Open-ended responses were seldom provided but yielded additional parent-teacher communication (e.g., exchanging notes with teachers). At each time, a summary score was created by summing the number of times the participant communicated with their child’s teacher across the 3 items, adding 1 or more (as appropriate) to the summary score when an additional communication was listed in the open-ended item. The dependent variable was the mean post-manipulation communication across all times (i.e., adding a participant’s T0-T6 summary scores and dividing by the number of times), where higher numbers reflected more communication.

**Intention to communicate**—At T0 to T6, participants’ goal intention to communicate with their child’s teacher was measured using 8 items modeled after existing intention measures (Ajzen, 1991; Ajzen & Fishbein 1980; e.g., “In the next week, I intend to communicate with my child’s teacher”, “I intend to be involved with my child’s teacher”, 1 = *strongly disagree*, 5 = *agree*; average alpha = .75). At each time, all 8 items were averaged, where higher numbers reflect a higher intention to communicate with the child’s teacher. We calculated each participant’s mean post-manipulation intention (i.e., mean intention from T0-T6).



**Acculturation**—Participant's level of acculturation was measured at T0 using an established scale in Spanish for individuals of Mexican origin (ARSMA II; Cuéllar, Arnold, & Maldonado, 1995). Wording references to "Mexican" were replaced with "Latino". Seventeen items tapped a Latino orientation ( $\alpha = .86$ ; e.g., "My thinking is done in the Spanish language", "My friends, while I was growing up, were of Latino origin", "I have difficulty accepting some values held by some Anglos"), and 13 items tapped an Anglo orientation ( $\alpha = .70$ ; e.g., "My thinking is done in the English language"; all items: 1=*not at all*, 5=*extremely often or almost always*). Following guidelines by the scale authors, the overall acculturation score was computed by subtracting mean Latino orientation from mean Anglo orientation, where more negative numbers reflect stronger Latino orientation. The current sample was very low in U.S. acculturation ( $M = -1.81$ ,  $SD = 0.86$ , a score that is interpreted as being "Very Latino oriented").

**Other characteristics**—Demographic characteristics obtained at T0 included parent age and gender, child age and gender, and Head Start status.

## RESULTS

### Data Analysis Overview

Our hypothesis was that parents who intended to communicate with their child's teacher would be more likely to do so following the implementation intentions manipulation. We anticipated that the manipulation would influence communication, moderated by initial goal intention, and not influence post-manipulation goal intentions. The two experimental groups were compared at pre-manipulation (T0) and post-manipulation (average across T1-T6) using a standard repeated measures analysis, with condition (between-subjects), measurement time (pre- vs. post-manipulation, within-subject), and initial intention (continuous between-subjects) as independent variables. Participants completed the dependent measures at the end of parenting group sessions. Therefore we included group membership as a categorical covariate to account for possible clustering of responses by group.<sup>4</sup> Child age was also included as a covariate, as it was negatively correlated with parent-teacher communication ( $r = -.34$ ,  $p < .01$ ).<sup>5</sup>

### Randomization Check

In analyses verifying whether randomization was successful, both conditions were comparable prior to the manipulation. Conditions did not differ on pre-manipulation parent-teacher communication, pre-manipulation intention to communicate with their child's teacher, level of acculturation, child age, and participant age, MANOVA  $F(1, 55) = 0.28$ , ns, all univariate  $F$ s  $< 1$ . Similarly, chi-square analyses indicated no significant associations between experimental condition and child gender  $\chi^2(1, N = 57) = 0.90$ ,  $p = .34$ , or Head Start status (non-Head Start vs. Head Start)  $\chi^2(1, N = 57) = 0.36$ ,  $p = .55$ .

### Parent-Teacher Communication

We expected to find a three-way interaction between condition, time, and initial intention, such that the manipulation would cause experimental parents to communicate more with their child's teacher than control parents, but only if they had an initial (pre-manipulation) goal intention to communicate. There was a two-way interaction between condition and time

<sup>4</sup>There was a marginal main effect of group membership in the full model predicting parent-teacher communication,  $F(5,47)=2.36$ ,  $p=.054$ , such that some groups varied in total communication reported. Group membership, however, did not moderate the effects of any variables (i.e., the effectiveness of the manipulation did not differ between groups).

<sup>5</sup>We repeated all analyses including as a covariate the number of times/sessions a participant completed. The results did not vary with this covariate, which was dropped from further analysis.

(pre- versus post-manipulation),  $F(1,47) = 8.18, p = .006$ , controlling for child age and group membership. Parents reported more post-manipulation parent-teacher communication in the implementation intentions condition ( $M = 2.66, SD = 2.65$ ) than in the control condition ( $M = 2.08, SD = 1.37$ ),  $F(1,47) = 5.78, p = .020$ , but they did not differ prior to the manipulation ( $M_{experimental} = 1.93, SD = 2.07$ ;  $M_{control} = 1.64, SD = 1.45$ ),  $F(1,47) = 0.22, p = .638$ . As expected, there was also a three-way interaction,  $F(1,47) = 8.47, p = .006$ . Initial intentions moderated the effect of the experimental condition on post post-manipulation,  $F(1,47) = 6.32, p = .015$ , but not on pre-manipulation communication,  $F(1,47) = 0.17, p = .686$ , controlling for child age and group membership.

We centered initial intentions and child age (Aiken & West, 1991) to decompose the predicted two-way interaction on post-manipulation communication. Figure 1 depicts the results. The implementation intentions manipulation caused more communication when the initial goal intention was high (1SD above the mean),  $t(47) = 2.31, p = .025$ , but not when it was low,  $t(47) = -0.95, p = .346$ .

We also obtained the slope of post-manipulation communication on initial intent, for the experimental versus control conditions. Initial intention was significantly related to parent-teacher communication for experimental participants,  $\beta = .44, p = .013$ , but not control participants,  $\beta = -.23, p = .255$ , controlling for age and group membership. This provides further evidence that initial intentions translate into action under conditions where participants form implementation intentions, not when they focus only on their intentions.

### Goal Intention to Communicate

The theory behind implementation intentions suggests that forming implementation intentions does not influence the goal to act, but rather creates automatic triggers between situational cues that will be encountered and the plan to act. We examined whether the manipulation affected post-manipulation intentions (T1-T6), controlling for child age and group membership. The interaction between the manipulation and time was not significant,  $F(1,44) = 0.77, p = .384$ ; forming implementation intentions did not increase subsequent goal intentions.

### Moderation by Acculturation

Additionally, we explored whether the manipulation was less effective on relatively unacculturated parents. We repeated the main analysis above (three-way interaction) adding acculturation as a continuous predictor to test whether it moderated any of the findings already described. Acculturation did not moderate the three-way interaction (nonsignificant four-way interaction),  $F(1,43) = 1.11, p = .298$ , the two-way interaction between condition and time,  $F(1,43) = 0.39, p = .538$ , or the main effect of acculturation on communication (collapsed across time),  $F(1,43) = 0.31, p = .580$ .

## DISCUSSION

We examined a complex behavior – interpersonal communication – with a community sample of relatively unacculturated Latinos. Our focus on Latino parents' communication with their child's teacher provided a test of eliciting a complex behavior, in a group that faces many challenges when attempting to enact that behavior. Increasing parent-teacher contact and communication is an important step in parental efforts to ensure their child's future well-being. At the start of the study, all participants were comparable in their goal intention to communicate with their child's teacher. However, those who had a high goal intention were more likely to act on their intention – they communicated more with the teacher in the weeks following the manipulation – as a result of forming implementation



intentions (experimental group). The manipulation did not influence those with relatively lower initial goal intentions.

What implications do these findings have for those with low initial intentions to communicate with their child's teacher? Careful scrutiny of the data suggest that these parents do not necessarily lack motivation to communicate with teachers, given that mean initial intention in the sample was 4.38 on a scale of 1 to 5 (range 3.38 to 5.00). These parents intended to communicate with teachers, or at least reported as such. Despite relatively high intentions to communicate with teachers in the sample as a whole, we nonetheless found that parents' initial intention reliably moderated the effect of the manipulation, as has been shown in previous research (Sheeran et al., 2005).

Are there parents who genuinely have weak intentions to communicate with their child's teacher? Those who have lower intentions may face greater barriers than those who report higher intentions. We explored this idea in follow-up analyses, in which we examined whether those high versus low in their intention to contact their child's teacher differed in the primary language spoken at home, their marital status, employment status, highest level of education, household income, or number of children. The two groups were comparable on all of these characteristics. Low intentions, however, may reflect other barriers not captured in this study, such as teacher's behavior (e.g., not reaching out to parents, having hostile attitudes towards Latinos). Beyond our current focus on parents, future research might identify inexpensive and useful interventions with teachers.

More generally, this study has implications for designing practical interventions. The effect of the manipulation in this study,  $d = .68$  or  $r = .32$  (time  $\times$  condition interaction; Cohen, 1988) was comparable to the medium-to-large effects typically obtained in implementation intention studies ( $d = .65$ ; for a review see Gollwitzer & Sheeran, 2006). This is noteworthy given the current sample of relatively unacculturated Latinos, who often do not feel welcome in schools and in the past have confronted negative beliefs from educators (DeGaetano, 2007) that might fuel a general lack of trust toward education interventions (Turney & Kao, 2009). Furthermore, many of our participants did not speak English and had to go through complex channels to communicate with a teacher. These factors make the large effect obtained using a simple intervention all the more impressive.

Even stronger effects could possibly be obtained in future research. One strategy would be to supplement the current manipulation with "reminders" of the implementation plan. Recent research has shown the effectiveness of text messaging in priming plans and eliciting behavior (Prestwich, Perugini, & Hurling, 2010). Saturating the environment with primes might compensate for missed opportunities when favorable conditions for acting arise, but the conditions do not match the specific conditions outlined in an implementation plan (e.g., specifying Monday afternoons as "when" one might contact a teacher and failing to notice opportunities at other times).

A limitation of the current research is the small sample size, which limited the statistical power in detecting significant effects (power level = .19; Cohen, 1988). Indeed, many studies with samples that are difficult to obtain suffer from the same problem. For that reason, it is promising that even with a small and unacculturated sample, we identified conditions that increase parent-teacher communication. Acculturation did not moderate the findings, possibly because there was little variation in acculturation scores. Another limitation is that we intervened only with parents, rather than parents and teachers both. Future research on implementation intentions might address both sides of the parent-teacher relationship.

These findings are particularly promising given that previous research documents barriers to recruiting Latinos for training/treatment groups (Land & Hudson, 1997; Miranda et al., 1996). The barriers that may keep Latinos from committing to contacting their child's teacher may be the same barriers to completing parenting and other helpful programs. An implementation intentions manipulation is precisely the type of intervention that is well-validated, inexpensive to implement, not overly demanding, and thus very useful. Our research has shown that forming implementation intentions makes Latino parents more inclined to *act* on their good intentions. A small step, such as communicating with a child's teacher, can be one of many steps parents take to ensure their child's education.

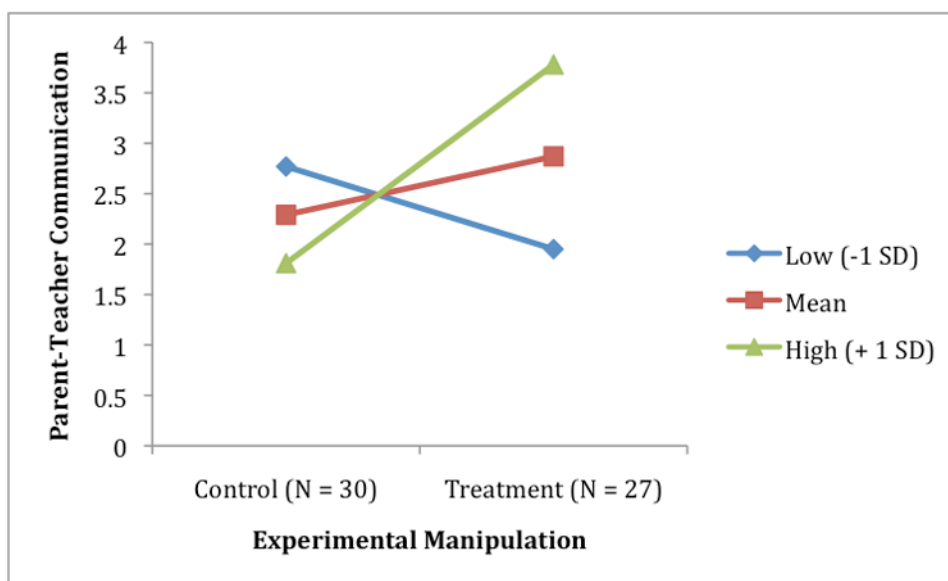
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**Figure 1.** Simple slopes of experimental versus control condition, at different levels of initial intention (one standard deviation below the mean, mean initial intention, one standard deviation above the mean).

**Table 1**  
Timing of experimental manipulation and measures collected at each measurement occasion.

Measure	Time 0 (Pre-manipulation)	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6
(Post-manipulation)							
Dependent variable:							
Parent-Teacher communication	x	x	x	x	x	x	x
Experimental manipulation	x						
Moderators:							
Intention to communicate	x	x	x	x	x	x	x
Acculturation	x						
Demographic and control variables:							
Head Start status	x						
Age of child	x						
Parent characteristics	x						

*Note.* At Time 0, participants completed the measures of parent-teacher communication, intention to communicate and parent acculturation level. They were randomly assigned to conditions and received either the experimental manipulation or control at Time 0. One to two weeks, later they started post-manipulation measures that comprised the dependent variable.

**Table 2**

Means, standard deviations, and inter-correlations for the main study variables

Variable	M	SD	%	2. INT	3. Pre-COM	4. Pre-INT	5. ACC	6. AGE	7. Gender	8. HS
<u>Post-manipulation Measures</u>										
1. Communication (COM)	2.35	2.08	--	.21	.55**	.23 <sup>+</sup>	.06	-.34**	.06	.11
2. Intent to communicate (INT)	4.53	0.40	--	--	.11	.21	.18	-.20	-.12	.13
<u>Pre-manipulation Measures</u>										
3. Communication (Pre-COM)	1.77	1.76	--	--	--	.15	.21	-.36**	.04	.05
4. Intent to communicate (Pre-INT)	4.38	0.41	--	--	--	--	.02	-.03	-.14	-.07
5. Acculturation (ACC)	-1.81	0.86	--	--	--	--	--	-.28**	-.03	.24 <sup>+</sup>
6. Child age (AGE)	5.75	1.79	--	--	--	--	--	--	-.03	-.34**
7. Child gender (Gender)	--	--	47%	--	--	--	--	--	--	.08
8. Head Start status (HS)	--	--	14%	--	--	--	--	--	--	--

*Note:* Child gender was coded 1 for male and 2 for female; percent reported is percent male. Head Start status is percent enrolled in Head Start.

\*\*  
 $p < .01$

\*  
 $p < .05$

+  
 $p < .10$