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A Directed Research Project

Submitted to the Faculty of
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With the passage of the No Child Left Behind (NCLB) Act of 2001, federal law mandated that all school-age children reach the proficiency level for reading and math skills by the year 2013 (U.S. Department of Education, 2002). According to the National Association of Educational Progress (NAEP) in *The Nation's Report Card in Reading 2005*, only 31% of fourth-grade students were performing at the proficient level (solid performance and understanding) for reading (NAEP, 2006). While the number of proficient readers has increased from 29% to 31% since 1992, the degree of change was not significant (NAEP, 2006). A vast majority of students in American schools are not proficient in the area of reading; therefore, a change in current educational program components such as employee qualifications, school accountability, and teaching methods is warranted.

The Individuals with Disabilities Education Act (IDEA) of 2004 introduced the concept of response to intervention (RtI), a pre-identification strategy that focuses on providing early intervention to students who may otherwise be referred for testing and possibly be labeled as learning disabled (U.S. Department of Education, 2005). The components of the RtI process include intervention, data collection, monitoring, and analysis, which are utilized by the student support team (teachers, counselors, psychologists, and others) in the identification of students with learning disabilities. Funding from IDEA is now authorized for use in providing research-based, supplemental services to students prior to disability identification (Klotz & Nealis, 2005). Interventions provided through the RtI model are based upon three tiers: whole-group instruction provided in the classroom, small-group intensive instruction, and individualized services that may include exceptional student education (ESE). Teachers and support personnel

are responsible for assisting students through the three-tier model. To ensure that students reach the high academic standards mandated by federal law, it is essential that teaching personnel remain faithful in the delivery of educational interventions to students with reading difficulties.

The theory of planned behavior (TPB) has been utilized in various situations to predict teachers' behavioral intentions and overt behaviors (Burak, 2002; Crawley, 1990). However, the applicability of the TPB in predicting teacher intention to provide reading interventions to students with reading difficulties has yet to be demonstrated. Knowledge about the variables that underlie teachers' behaviors with respect to providing reading interventions is paramount to today's educators, administrators, and support staff. As educational personnel attempt to bridge the reading achievement gaps among students, it is essential that teachers are active participants in each child's learning gains. Furthermore, school psychologists function as key consultants when assisting teachers in the design and implementation of evidence-based interventions.

Reading Achievement and Interventions

Within the classroom, variability in student reading achievement may be quite considerable (Diamond, 2006). Therefore, it is necessary and beneficial to differentiate instruction and serve students based on their current reading levels. Students with reading difficulties often test below the 30th percentile on normative measures, demonstrate very low classroom performance, exhibit high frustration and low motivation, present with attendance and homework problems, and have underdeveloped reading skills. These students require intensive, explicit, and systematic intervention to address their needs.

Current research on reading achievement indicates that many students in American schools are currently intensive readers and may not have been able to overcome their reading difficulties prior to graduation (NAEP, 2006). *The Nation's Report Card in Reading 2005* assessed public school fourth-grade and eighth-grade students' reading achievement on the basis of three ranked levels: advanced, proficient, and basic (NAEP, 2006). Results of the analysis indicated that 64% of the fourth-grade students and 73% of the eighth grade students were performing at the basic or lowest level of reading achievement. Many high school students are continuing to perform below the proficient level of reading and are not improving over time. On the NAEP reading assessment in 1999, there were no significant gains in reading achievement levels of 17-year old students from the year 1971 to the year 1999. Nearly 28% of public-school twelfth-grade students scored below the basic level of reading achievement on the NAEP 2002 reading assessment (U.S. Department of Education, 2003). These high school seniors were unable to demonstrate comprehension and interpretation of the material. Early reading intervention is essential to help these students break the cycle of reading achievement failure as quickly as possible.

Reading interventions designed to benefit students with reading difficulties can be delivered through a three-tier model. The first tier of intervention involves professional development for teachers, which aims to improve classroom reading instruction (O'Connor, Harty, & Fulmer, 2005). Additionally, the first tier of intervention is a preventative step designed to assist teachers in delivering high-quality instruction that may decrease the number of students requiring tier-two or tier-three interventions. The second tier of intervention is designed for small-groups of students (five to six students)

who perform in the lower third of the class in reading achievement (O'Connor et al.). The focus is on similar skills taught in the classroom using research-based, systematic, supplemental instruction. The third-tier of reading intervention is focused on servicing the student on an intensive, daily basis. Individualized instruction in classroom and supplemental curriculum is provided to the student at this level. Students who may not be successful at tier one, two, or three interventions may be referred for an evaluation and require services through exceptional student education.

The effectiveness of early intervention on reading achievement has been extensively demonstrated (e.g., Brown, Morris, & Fields, 2005; McIntyre, Petrosko, Jones, Powell, Powers, Bright, & Newsome, 2005). Reading comprehension and phonics achievement of first and second grade students who received daily supplemental reading instruction, in the tier-two format, was compared with the achievement of students who did not receive supplemental instruction (McIntyre, et al., 2005). Comparisons of pretest and posttest achievement scores revealed that the group of students (in both grades) who received daily reading instruction, in addition to classroom reading instruction, showed significant gains in reading comprehension. Another study found that when students consistently received twice weekly supplemental reading instruction sessions (tier-two interventions that focused on guided reading, vocabulary, word study, and reading for fluency), they outperformed a control group of students (who did not receive supplemental instruction) on formal and informal measures of reading achievement (Brown, Morris, & Fields, 2005). Supplemental reading interventions, delivered to students in small group settings, are effective when delivered consistently.

O'Connor, Harty, and Fulmer (2005) measured the effects of providing intervention in the three-tier model on reading achievement and placement in special education. When comparing reading achievement levels of third-grade students who were at-risk (achieving below-grade level) in kindergarten, moderate to large differences were noted between those who had received tiered interventions and those who did not (O'Connor, et al.). Additionally, after the school participated in four years of research using the three-tier model, the incidence of placement in exceptional student education (ESE) decreased from 15% to 8%. The three-tier model of intervention has provided an effective means for increasing student achievement and decreasing ESE placement.

The effectiveness of tier-two reading interventions was examined in a research study at the Center for Early Intervention in Reading and Behavior (Kamps & Greenwood, 2005). First-grade students in small-groups (three to six students) received supplemental, explicit, phonics-based reading instruction. The control group of first-grade students received whole-group, classroom-based instruction. Students in both groups were tested at the beginning and end of first grade using Dynamic Indicators of Basic Early Literacy Skills (DIBELS), which measure phonics and oral reading skills. Initial results indicated that students who received tier-two or tier-three interventions achieved greater academic gains on DIBELS tests than did the control group. Students who did not show growth were identified as disabled, English-language learners, or behavioral risks. Second and third-tier models of intervention have effectively increased first-grade student achievement on DIBELS measures of phonics and oral reading.

Early intervention services provided to intensive learners using the three-tier model are indeed effective means of increasing student achievement (Brown, Morris, &

Fields, 2005; Kamps & Greenwood, 2005; McIntyre, Petrosko, Jones, Powell, Powers, Bright, & Newsome, 2005; O'Connor, 2000; O'Connor, Harty, & Fulmer, 2005). Federal law mandates that all children must be reading at a proficient level by 2013 (NCLB, 2001). Therefore, it is the responsibility of educational professionals (teachers, administrators, and paraprofessionals) to ensure that students are receiving intervention services, on one of the three-tier levels, to adequately meet their reading needs.

The Theories of Reasoned Action and Planned Behavior

The theory of reasoned action (TRA), developed by Ajzen and Fishbein (1970), was built upon Dulany's (1967) theory of propositional control (as cited in Ajzen & Fishbein, 1970). TRA posits that an individual's behavioral intentions (efforts to ensure performance of the behavior) are dependent upon both his or her attitude about the performance of the behavior (the result of underlying behavioral beliefs, or positive or negative evaluations about the behavior) and his or her subjective norm (the result of underlying normative beliefs, or perceptions of what valued individuals expect him or her to do in that situation) (Ajzen & Fishbein, 1970; Ajzen & Fishbein, 1972; Ajzen & Fishbein, 1973). Thus, overt behavior is the product of three distinct types of variables: individual (attitudes), social (subjective norm), and/or a combination of individual and social (behavioral intention). The pathway from attitudes and subjective norm to overt behavior is not direct; behavioral intention functions as a mediator between the variables (Leone, Perugini, & Ercolani, 1999).

An individual's attitude toward performing a behavior is the sum of his or her evaluation of the consequences of performing the behavior and the value of the behavior to the individual (Ajzen & Fishbein, 1973). In the TRA model, attitudes function as

predictors of behavior in that strong attitudes are frequently indicative of future behavior (Armitage & Christian, 2003) and a strong relationship exists between attitudes and intentions (Kelly & Breinlinger, 1995). The normative component of the TRA is influenced by beliefs of other individuals about the performance of the behavior (Ajzen & Fishbein). The TRA also includes a motivational component (the individual's motivation to comply with the normative beliefs), so that the theory alone can adequately account for the prediction of behavior that is under total volitional control (Fishbein & Ajzen, 1980). Volitional control is defined as a lack of inhibition by external or internal variables, and it requires that an individual is motivated to perform the behavior (Armitage & Conner, 2001). Intentions toward performing the behavior include personal motivation to perform the behavior (i.e., the amount of exertion the individual is willing to put forth to achieve the behavior). The more robust the intention to perform the behavior, the greater the likelihood of achieving the overt behavior when it is under volitional control (Ajzen, 1991; Kelly & Breinlinger, 1995).

The TRA has been applied to a variety of contexts to predict behavior (e.g., Ajzen & Fishbein, 1970; Ajzen & Fishbein, 1972; Ajzen & Fishbein, 1973; Chen & Chen, 2006; Kelly & Breinlinger, 1995; Vincent, Peplau, & Hill, 1998). Ajzen and Fishbein (1970) investigated the role of attitudes, social normative beliefs, behavioral intentions, and overt behavior, with respect to choices on a prisoner's dilemma (PD) game. On the PD game, participants were grouped into three motivational conditions: cooperative, competitive, or individualistic. Then, each member was instructed to act in the respective manner of their condition (e.g., cooperative group told to work as a team). However, all three groups were instructed to win as many points as possible, despite their

condition assignment. Each player was given a payoff schedule prior to making a choice; then, each player was given a dilemma and asked to choose a response that is cooperative, competitive, or individualistic in nature. The responses of both players were then combined to determine their individual payoffs. Only the players in the cooperative and competitive conditions were shown their opponents payoffs. After completing the dilemmas, players were given questionnaires to measure attitudes, social normative beliefs, behavioral intentions, and overt behavior. Behavioral intentions were highly predictive of overt behavior (choices on PD's game), and attitude toward the behavior and normative beliefs were both found to predict behavioral intention and overt behavior (Ajzen & Fishbein, 1970). However, normative beliefs carried more weight than attitudes in predicting behavioral intention under a cooperative situation (choice) and attitudinal beliefs carried more weight than normative beliefs in predicting behavioral intention under a competitive situation (choice).

Ajzen and Fishbein (1972) examined the effectiveness of attitudinal and normative beliefs in predicting choice behavior on a hypothetical situation task involving risk. Both attitude about the behavior and normative beliefs were predictors of behavioral intention; attitudinal beliefs were the primary component of predicting choice behavior in hypothetical situations involving both risk and varying probabilities of success (high versus low).

In another context, the TRA's applicability of predicting behavior in career situations was tested. The TRA's utility in predicting participation in teaching online courses (courses which used technology to deliver instruction without face-to-face interaction) at various universities was demonstrated (Chen & Chen, 2006). Results

indicated that the TRA was effective in predicting intentions to teach online courses; both attitudes and subjective norms were successful in predicting behavioral intentions.

Additionally, attitude about teaching an online class was highly correlated with intention to teach the class. Vincent, Peplau, and Hill (1998) explored the longitudinal feasibility of the TRA in predicting women's career intentions. Career intention was assessed in 1973 while the women were presently in undergraduate or graduate programs and career behavior was assessed in 1987 after they completed the programs. Gender-role attitudes, parental and significant other subjective norms, and career intention and career behavior were considered. Results of the study indicated that women's career intentions during undergraduate and graduate programs predicted career behavior after graduation. Career intention functioned as a mediator between subjective norms and career behavior; gender-role attitudes and subjective norms predicted career intention, and ultimately, career behavior.

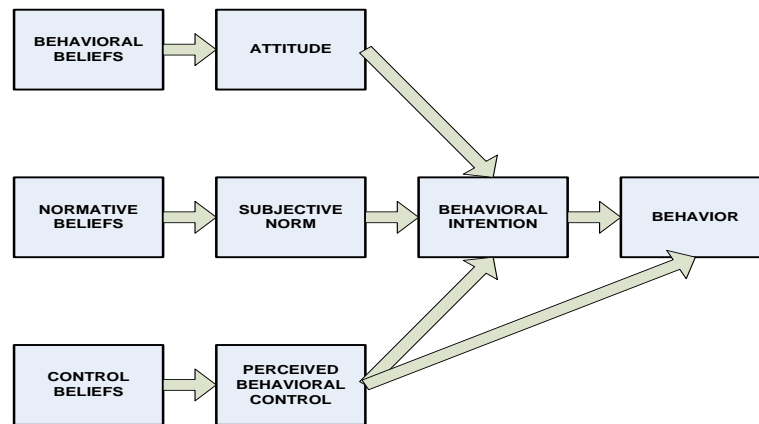


Figure 1. The theory of planned behavior (Madden, Ellen, and Ajzen, 1992).

The theory of planned behavior (TPB) is an extension of the TRA (see Figure 1). Ajzen and Fishbein (1980) postulated that the TRA is effective in predicting behaviors under total volitional control, yet many behaviors do not fit this requirement. The TPB is

comprised of three belief systems: behavioral beliefs, normative beliefs, and control beliefs, or beliefs about the existence of factors that inhibit or facilitate performance of the behavior (Ajzen, 2002). Additionally, such beliefs underlie three variables that function as predictors of behavioral intention and overt behavior: attitude, subjective norms, and perceived behavioral control (the evaluation of performing the behavior with ease or difficulty and the perception of the extent to which the individual has control over the behavior). Behavioral intention is a precursor to overt behavior when actual control over the behavior exists. A division between the two components of PBC (perceived ease of performing the behavior and perceived control over the behavior) exists; with respect to predictability of behavioral intention and overt behavior, a more significant predecessor may be the perceived ease of performing the behavior (Ajzen, 2001).

According to the TPB, PBC can either function as a precursor to behavioral intention or act as a direct pathway to overt behavior (see Figure 1). When PBC influences overt behavior as a function of behavioral intention, there is an assumed motivational component: the belief that little control exists over acting on the behavior may create minimal intention despite positive attitudes and positive valuations from others (subjective norms). PBC influences overt behavior directly when perceptions of control are accurate and the behavior is not under total volitional control. Thus, PBC is a reflection of actual control over performing a behavior. The likelihood of achieving overt behavior is dependent upon the degree of PBC an individual assumes, as well as a positive attitude, favorable valuation from others, and an affirmative behavioral intention (Armitage & Conner, 2001; Ajzen, 2002; Madden, Allen, & Ajzen, 1992).

The TPB has demonstrated efficacy in predicting overt behavior (e.g., Ajzen & Madden, 1986; Armitage & Conner, 2001; Christian & Armitage, 2002; Elliott, Armitage, & Baughan, 2003; Madden, Allen, & Ajzen, 1992; Schifter & Ajzen, 1985; Wated & Sanchez, 2005). The first study to employ the effectiveness of predicting behavior with the TPB was undertaken by Ajzen and Madden (1986). Data regarding students' class attendance was analyzed and results of the study indicated that PBC was a significant predictor of intentions, but not a direct predictor of overt behavior, with respect to students' class attendance. Class attendance has high volitional control, so PBC would not likely function as a direct predictor of overt behavior. A second experiment measured the effectiveness of the TPB in predicting intention to obtain "A" grades (Ajzen & Madden, 1986). Results from this study indicated that as the students became more involved in the class and familiar with methods to receiving an "A" grade, their perceptions of behavioral control became more precise and equivalent to the actual level of control. PBC then became a direct predictor of the overt behavior of receiving an "A" grade when perceptions of control were accurate.

Madden, Ellen, and Ajzen (1992) compared the effectiveness of both the TRA and the TPB in predicting behavioral intentions and overt behavior of college students. The TPB contributed significantly more prediction of behavioral intention and overt behavior than did the TRA. Additionally, in situations with a low perception of behavioral control, a direct pathway from PBC to the overt behavior existed. The PBC remained a significant predictor of intentions in situations where a high perception of behavioral control existed.

The TPB has also been applied to health-related contexts within the field of social psychology. Christian and Armitage (2002) established the TPB's effectiveness in predicting behavioral intentions and overt behaviors in terms of service provision for homeless people. The leading predictor of intention to seek services from outreach programs, when controlling for demographic, subjective norm, and PBC variables, was attitude toward the use of the program. Behavioral intentions, PBC, and subjective norms were all significant predictors of participation in outreach programs. One possible explanation why subjective norms functioned as a direct predictor of overt behavior in this population may be the fact that the homeless are often subject to stigmatization and social pressure. In another study, intentions to lose weight were predicted from the TPB (Schifter & Ajzen, 1985). The relationship between attitudes, intentions, subjective norms, and PBC in terms of weight loss was investigated among a sample of college-age women. TPB variables (attitude, subjective norms, and PBC) successfully predicted intention to lose weight; intention and PBC also predicted actual weight loss, but PBC was not mediated by intention to lose weight. Beliefs that the women held about personal control over weight loss impacted their intentions to lose weight and their actual weight loss.

The effectiveness of the TPB in predicting teacher intention to teach health and science education has also been examined (e.g., Burak, 2002; Crawley, & Black, 1990). Burak explored the effectiveness of the TPB in predicting teacher's intention to teach health education; PBC represented the strongest predictor of teacher intention, with attitude as the weakest. The perception of the availability (or lack) of resources was responsible for the facilitation (or inhibition) of an intention to perform the behavior.

Teachers' intentions to utilize investigative science teaching methods has also been assessed (Crawley, & Black, 1990). Attitudes, subjective norms, and PBC effectively predicted teacher intention to use investigative methods for teaching science. Attitude was the strongest predictor of behavioral intention; PBC functioned as a predictor of intention, with no significant interaction with subjective norms. Hence, teacher attitude toward the teaching method had the strongest predictive relationship with the overt behavior (teaching with investigative methods). The intention to teach with the investigative method was a function of teacher control and perception of available resources, with less emphasis placed on social support of the behavior.

Study Rationale and Hypotheses

The objective of the present study was to evaluate the effectiveness of the TPB in predicting teachers' intentions to provide reading interventions to students with reading difficulties. It was expected that a positive attitude toward providing reading interventions would be a significant predictor of teachers' intentions to provide reading interventions. It was also expected that positive valuations from others (subjective norms) within the school environment, in regards to providing reading interventions, would be a significant predictor of teachers' intentions to provide reading interventions. Finally, teachers' positive perceptions of the ease of performing, and positive perceptions of control over providing, the reading interventions was expected to operate as a significant predictor of teachers' intentions to provide reading interventions.

Method

Participants

Participants were 86 elementary school teachers (pre-Kindergarten through fifth

grade) from a south Florida school district. A power analysis was conducted using Cohen's (1992) guidelines; a sample size of approximately 85 participants was recommended to increase the probability of detecting significant results. All survey data was collected during the 2008-2009 school year. Participants ranged in age from 26 to 65 years of age ($M = 41.75$; $SD = 10.53$). Ninety-six percent of the participants were female and 4% were male. Forty-seven percent of the participants endorsed their ethnicity as African-American, 22% Caucasian, 22% Hispanic, 1% Asian-American or Pacific Islander, and 8% endorsed other. Forty-nine percent of the participants reported completing a Bachelor's degree, 38% a Master's degree, 5% a Specialist's degree, 2% High School, 1% an Associate's Degree, 1% a Ph.D., and 3% reported other education.

Measures

Elliott, Armitage, and Baughan's (2003) scales were adapted to measure attitude, subjective norms, and perceived behavioral control (see Appendix A for all measures). An analysis revealed high internal reliability for the *attitudes* scale ($\alpha = .84$) and the *perceived behavioral control* scale ($\alpha = .88$). However, one item ("My principal and other teachers would want me to provide reading interventions to students during the Fall 2008 semester") was removed from the *subjective norms* scale due to poor reliability. Once the item was removed, the internal reliability of the *subjective norms* scale increased from $\alpha = .61$ to $\alpha = .68$. Demographic items on the survey included age, gender, ethnicity, highest degree earned, school grades currently taught, and years of teaching experience.

Responses to the three items that measure teachers' *attitudes* toward providing reading interventions were scored on a Likert-type scale ranging from -3 to 3 (harmful to beneficial; unpleasant to pleasant; negative to positive). On the *attitudes* scale, higher

scores indicate a more positive attitude toward providing reading interventions to students. A sample item is: “If I provided reading interventions to students this semester it would be (harmful to beneficial).” An overall measure of attitude toward teachers’ intentions was computed by calculating the mean score of the three attitude items.

Responses to the three items that measure the role of *subjective norms* in predicting teachers’ intentions to provide reading interventions were scored on a Likert-type scale ranging from 1 to 7 (strongly-agree to strongly disagree; approve to disapprove; should to should not). On the *subjective norms* scale, lower scores indicate a more positive perception of the expectations of valued individuals, such as other teachers or the school principal. An example of an item is: “My principal and other teachers would want me to provide reading interventions to students this semester.” An overall subjective norms measure was computed by calculating the mean score of the two subjective norms items.

Responses to the five items that measure the role of *perceived behavioral control* in predicting intentions to provide reading interventions were scored on a Likert-type scale ranging from 1 to 7 (definitely do not to definitely do; definitely no to definitely yes; strongly disagree to strongly agree; not confident to very confident; difficult to easy). On the *perceived behavioral control scale*, lower scores indicate a lesser degree of perceived control over providing the interventions. A sample item is: “I believe that I have the ability to provide reading interventions to students this semester.” An overall measure of perceived behavioral control was computed by calculating the mean score of the five perceived behavioral control items.

Responses to the three items used to measure teachers' *intentions* to provide reading interventions were scored on a Likert-type scale ranging from -3 to 3 (definitely do not to definitely; not at all to very much; unlikely to likely). Higher scores on the *intentions* scale indicate a greater likelihood of providing reading interventions. A sample item is: "How likely or unlikely is it that you will provide reading interventions to students this semester?" An overall measure of intentions was computed by calculating the mean score of the three intention items.

Procedure

After obtaining Institutional Review Board permission from the affiliated university and public school system, a recruitment letter (see Appendix B) was sent to principals in six randomly chosen elementary schools that participate in the on-going Student Teacher Support Team model. The Student Teacher Support Team project utilizes research-based interventions to address the reading needs of students. After obtaining school principals' approval, the principal investigator solicited teachers' voluntary participation via a letter sent through e-mail and through fliers posted in the participating schools (see Appendices C and D). A link to the survey was included in the recruitment e-mail. The cover letter, which explains study procedures, was reviewed by teachers on the website entitled "Survey Monkey" prior to completing the survey (see Appendix E). All surveys were completed and submitted anonymously.

Results

Descriptive Statistics

Means, standard deviations, reliability coefficients, and correlations were calculated (see Table 1). Participants seemed to hold a positive attitude in regard to

providing reading interventions to students ($M = 2.44$; $SD = .93$), feel that principals and other teachers would want them to provide reading interventions ($M = 1.65$; $SD = 1.11$), and believe that they had some control over their ability to provide reading interventions ($M = 5.65$; $SD = 1.38$). Additionally, participants indicated positive intentions to provide reading interventions ($M = 1.57$; $SD = 1.72$). Attitudes, subjective norms, and perceived behavioral control were all significantly associated with behavioral intention.

Table 1

Descriptive Statistics and Correlations

Variable	M	SD	1	2	3	4	5	6
1. Age	41.75	10.53						
2. Years Teaching Experience	15.73	10.48	.87**					
3. Attitudes	2.44	.93	.17	.16	(.84)			
4. Subjective Norms	1.65	1.11	-.25*	-.28*	-.43**	(.68)		
5. Perceived Behavioral Control	5.65	1.38	.11	.12	.52**	-.44**	(.88)	
6. Behavioral Intention	1.57	1.72	.11	.10	.51**	-.45**	.70**	(.84)

Note. Values enclosed in parentheses represent Cronbach's alpha.

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

Regression Analysis

Multiple regression analysis was conducted to identify the key predictors of behavioral intention (see Table 2). Attitudes, subjective norms, and perceived behavioral control significantly predicted behavioral intention, $F(3, 82) = 31.86$, $p < .001$. The multiple correlation coefficient was .73, suggesting that 54% of the variance in behavioral intention was accounted for by the linear combination of the TPB variables

($R^2 = .54$). Perceived behavioral control was a significant predictor of behavioral intention ($\beta = .56, p < .001$). Subjective norms and attitude did not significantly predict behavioral intention, although attitude approached significance.

Table 2

Predictors of Intentions to Provide Reading Interventions

Variable	<i>B</i>	<i>SE B</i>	β
1. Attitudes	.31	.17	.17
2. Subjective norms	-.21	.13	-.14
3. Perceived behavioral control	.69	.11	.56**

Note. $R = .73$; $R^2 = .54$.

** $p < .01$.

Discussion

The current study adds support to the TPB's applicability to the fields of education and school psychology. Teachers' attitudes toward providing reading interventions, positive valuations from others (subjective norms), as well as perceived ease of providing interventions and perceived control over the interventions (PBC) functioned as predictors of teachers' intention to provide reading interventions to students with reading difficulties. PBC contributed the greatest weight to the prediction. Even though attitude was approaching significance as a predictor of intention, attitudes did not significantly predict intention in the current study. The role of attitude in predicting behavior is a function of the current situation (Zanna, Olson, & Fabio, 1980). Therefore, teachers may not have consistently endorsed a positive attitude toward providing interventions to students with reading difficulties due to the novelty, and lack of through

awareness of the RtI model. RtI as a process of providing interventions to students was introduced through The Individuals with Disabilities Education Act (IDEA) of 2004 (James, 2004), but has recently become a state-mandated process (Florida Department of Education, 2008). As a result, this strategy of providing assistance to students who have academic difficulties is a relatively new idea to many teachers and staff development continues to be required to broaden awareness. Consistent with previous research, in the current study, subjective norm was the weakest predictor of intention in the model (Sparks, Shepherd, Wieringa, & Zimmermans, 1995; Trafimow & Finlay, 1996). One possible explanation for the lack of predictability of subjective norm found in the literature is that previous studies have used single-item measures, which often failed to conceptualize the subjective norms factor of the TPB (Armitage & Conner, 2001). In the current study, one item from the scale was removed due to poor reliability; thus, the two-item *subjective norms* scale may have failed to capture the components of social influence experienced by elementary school teachers. Conner and Armitage (1998) note that TPB frameworks may fail to address additional aspects of influence, such as moral norms and self-identify. Additional research that focuses on alternative conceptualizations of subjective norms may provide further insight with regard to teachers' intention to provide interventions.

Practical implications of the results of this study include targeting staff development opportunities to impact teachers' confidence and beliefs related to providing interventions. More specifically, as suggested by Ajzen (n.d.), relative weights of predictor variables should be considered when modifying a behavior. To increase a behavior, interventions designed to develop the strongest predictors of the behavior,

changing underlying beliefs, will likely influence the intention and/or behavior. With respect to the current study, PBC was the strongest predictor of behavioral intention. Expanding intervention program resources for teachers within the school, ensuring that all teachers have access to the materials, and providing workshops for the implementation of interventions may be among the key factor to target in order to increase teachers' perceived control over, and ease of performing, the reading interventions.

Training opportunities for teachers may also be a key factor in strengthening PBC and, ultimately, behavioral intention and/or actual behavior. In light of the RtI process that requires educational professionals to provide research-based interventions, it would be beneficial for educators to receive additional training and access to intervention materials. Future research aimed at investigating the effect of staff development training on teachers' perceptions of control over providing interventions may offer valuable insight for school districts when planning workshops for educators.

PBC is closely related to the concept of self-efficacy, in that both constructs have underlying internal factors, yet distinct from it (Manstead & van Eekelen, 1998). Self-efficacy may be defined as an individual's internal beliefs about his or her ability to perform an action (Bandura, 1997 as cited in Motl et al., 2005). Internal factors include beliefs about an individual's skills, abilities, and/or willpower (Ajzen, 1991). On the other hand, PBC includes a reflection of external factors, such as time and opportunity, that are not reflected in self-efficacy. However, there is evidence suggesting a strong, positive relationship between self-efficacy and intention (Ajzen, 1991; Conner & Armitage, 1998). Individuals will intend to engage in behaviors for which they feel they have the skills to undertake. With respect to teachers, focusing on developing self-

efficacy through training opportunities may enhance skills and willpower related to providing interventions. The opportunity to provide reading interventions has become more prevalent with the onset of the RtI process and requirement for research-based interventions to address student needs in the classroom (U.S. Department of Education, 2009). As teachers become more confident in their ability to provide interventions, and as the time and opportunity arise through the RtI model, the intention to provide intervention may become more prevalent. Future studies may include self-efficacy as a predictor of intention above and beyond the current components of the TPB model.

Limitations of the study include characteristics of the sample and survey. The majority of participants were elementary school, female teachers of African-American descent. Due to the demographics of the sample, generalizability of the study results may be impacted. Future studies should expand the participant pool to include a diverse ethnic group as well as a greater number of male and secondary teachers to better understand the TPB's applicability in a wide range of educational settings. Also, the study was limited in that there was mono-method bias with respect to data collection. The TPB survey was utilized as a self-report measure, which brings into question the validity of responses. However, to address the issue of validity, this study was voluntary, anonymous, and all information remained confidential. Future research that involves a variety of data collection procedures may provide additional information related to the applicability of the TPB to teachers' decisions to provide interventions to students with reading difficulties.

Another limitation of the present study is that the predictors of intention rather than predictors of the actual behavior to provide reading interventions were investigated.

Although previous research has demonstrated the TPB's effectiveness in predicting behavioral intention from attitude, subjective norms, and PBC (e.g., Burak, 2002; Crawley, & Black, 1990; Madden, Ellen, & Ajzen, 1992; Schifter & Ajzen, 1985), it would be beneficial to investigate the TPB's effectiveness in predicting teachers' actual behavior. Additional research that takes into consideration both teacher intention and actual behavior may offer more in depth information regarding the TPB's applicability to the fields of education and school psychology. Also, the current study did not identify the salient behavioral, normative, and control beliefs that underlie the TPB variables. Future research that adds the belief component to the TPB prediction model may offer valuable insight and practical implications for modifying teachers' behavior in providing reading interventions

In conclusion, the present study sheds light on the importance of increasing teachers' perceptions of ease and control related to implementing reading interventions. Implications include focusing on developing a positive sense of control and self-efficacy in providing interventions through continued training and increasing access to materials. Due to recent changes in educational laws related to the identification of students with disabilities, it is imperative for teachers to be willing and able to provide research-based interventions to struggling students. A problem-solving team of educational professionals, access to intervention techniques and materials, and staff development training opportunities are all necessary supports to aid teachers in implementing interventions designed to foster learning in all children.

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Appendix A

Reading Interventions Survey

Directions: Read each item and circle the number that reflects your choice.

A. *Attitudes Scale*

1. If I provide reading interventions to students during the Fall 2008 semester it would be:

-3	-2	-1	0	1	2	3
harmful						beneficial

2. If I provide reading interventions to students during the Fall 2008 semester it would be:

-3	-2	-1	0	1	2	3
unpleasant						pleasant

3. If I provide reading interventions to students during the Fall 2008 semester it would be:

-3	-2	-1	0	1	2	3
negative						positive

B. *Subjective Norms Scale*

4. My principal and other teachers would want me to provide reading interventions to students during the Fall 2008 semester.

1	2	3	4	5	6	7
strongly agree						strongly disagree

5. My principal and other teachers would (approve - disapprove) of my provision of reading interventions to students during the Fall 2008 semester.

1	2	3	4	5	6	7
approve						disapprove

6. My principal and other teachers think that I (should not-should) provide reading interventions to students during the Fall 2008 semester.

1	2	3	4	5	6	7
should not						should

C. Perceived Behavioral Control Scale

7. I believe that I have the ability to provide reading interventions to students during the Fall 2008 semester.

1	2	3	4	5	6	7
I definitely do						I definitely do not

8. Do you think that you will be able to provide reading interventions to students during the Fall 2008 semester?

1	2	3	4	5	6	7
definitely no						definitely yes

9. If it were entirely up to me, I am confident I would be able to provide reading interventions to students during the Fall 2008 semester.

1	2	3	4	5	6	7
strongly agree						strongly disagree

10. How confident are you that you will be able to provide reading interventions to students during the Fall 2008 semester?

1	2	3	4	5	6	7
not at all confident						very confident

11. If I provide reading interventions to students during the Fall 2008 semester, it would be (difficult-easy).

1	2	3	4	5	6	7
difficult						easy

D. Intention Scale

12. Do you intend to provide reading interventions to students during the Fall 2008 semester?

-3	-2	-1	0	1	2	3
definitely do not						definitely do

13. How much do you want to provide reading interventions to students during the Fall 2008 semester?

-3	-2	-1	0	1	2	3
not at all						very much

14. How likely or unlikely is it that you will provide reading interventions to students during the Fall 2008 semester?

-3	-2	-1	0	1	2	3
unlikely						likely

Directions: Please complete the following demographic information.

15. Gender: _____Male _____Female

16. Ethnicity (select one)

African American ____ Asian or Pacific Islander ____ Caucasian ____
 Hispanic ____ Native American or Alaskan Native ____ Other ____

17. Age:_____

18. Education (select one)

High School ____ Associate’s Degree ____ Bachelor’s Degree ____
 Master’s degree ____ Specialist’s degree ____ Doctoral degree ____
 Other ____

19. Grade(s) currently teaching this year (select all that apply)

Pre-Kindergarten ___ Kindergarten ___ First Grade ___ Second Grade ___

Third Grade ___ Fourth Grade ___ Fifth Grade ___

Exceptional Student Education ___

20. Number of years of teaching experience, not including internships/practica:

Appendix B

Principal Letter

Dear Principal:

I am a graduate student attending Barry University, and I am conducting a research study under the supervision of Dr. Guillermo Wated. The title of my research project is “The Role of Attitudes, Subjective Norms and Perceived Behavioral Control in Predicting Intentions to Provide Reading Interventions in Teachers.” My research seeks to explore teachers’ attitudes toward providing reading interventions as well as other factors that influence their intention to provide reading interventions.

I would like to conduct this study in the district during August and December 2008. Please note that teacher participation is completely voluntary. The principal researcher will provide the principal of each school with information regarding the study and request permission to recruit study participants from among the teachers at the school. Upon obtaining permission of the principal for each school, the principal researcher will solicit teacher participation via a letter that will be delivered to all teachers. All surveys will be completed and submitted anonymously.

There are no known risks associated with participation. Teachers who opt not to participate will remain anonymous. A potential benefit of this study is adding to the existing knowledge in the area of school psychology and education. More specifically, the information that will be obtained from this study can help school psychologists identify ways to assist teachers in providing evidence-based interventions to students. Please take time to review the enclosed proposal for approval and complete the section below.

Sincerely,

Jeana Knickerbocker, M.S.
Barry University Student

I give permission for Jeana Knickerbocker to conduct the study which is described above.

Principal School Date

I decline participation in the study which is described above.

Principal School Date

Appendix C

Flier

Calling All Classroom Teachers!

What: We want to know what you think about providing reading interventions to students.

Who: We are looking for teachers who teach elementary students in grades Pre-Kindergarten through five.

When: Fall 2008-Spring 2009

How: A link to a short on-line survey will be e-mailed to your school account. Please respond to the survey once you receive our recruitment e-mail. All responses are anonymous.

Why: To gain knowledge about providing reading interventions in schools.

If you have any questions, please contact:

Jeana Knickerbocker, M.S.
Palm Beach County School Psychologist Intern
Specialist Candidate at Barry University
Phone: 305-899-3270
e-mail: knickerbockerj@bucmail.barry.edu

This study has been approved by the Barry University Institutional Review Board and the Miami-Dade County School District

THANK YOU ☺

Appendix D

Teacher Email

Dear Teachers,

My name is Jeana Knickerbocker and I am a graduate student in the Psychology Department at Barry University. I am conducting a research study that is seeking information that will be useful in the field of School Psychology. The title of the study is providing reading interventions to students. The aim of this research study is to investigate the use of reading interventions within the school setting. In accordance with this aim, I am requesting your participation in anonymously completing a 14-item interventions survey and a 6-item demographics questionnaire using the online Survey Monkey website:

http://www.surveymonkey.com/s.aspx?sm=TNgdPAMuUWd4E30DhDqxGA_3d_3d

If you agree to participate in this study, the completion of the survey should take no longer than 10 minutes. All information you provide will be kept anonymous, that is, no names or other identifiers will be collected on any of the instruments used. If you have any questions, you may contact me, Jeana Knickerbocker, at (305) 899-3270.

Thank-you for your participation,

Jeana Knickerbocker, M.S.
Barry University Student

Appendix E

Survey Cover Letter

Dear Teacher:

Your participation in a research project is requested. The title of the study is providing reading interventions to students. The research is being conducted by Jeana Knickerbocker, a student in the Psychology Department at Barry University, and is seeking information that will be useful in the field of School Psychology. The aim of this research study is to investigate the use of reading interventions within the school setting. In accordance with this aim, the following procedures will be used: teachers will be given a paper-pencil questionnaire at the beginning and at the end of the semester at a faculty meeting. We anticipate the number of participants to be 100.

If you decide to participate in this research, you will be asked to complete a survey. Your consent to be a research participant is strictly voluntary and should you decline to participate, there will be no adverse effects on your employment. There are no known risks associated with participation. A potential benefit of this study is adding to the existing knowledge in the area of school psychology and education. If you agree to participate in this study, the completion of the survey should take no longer than 10 minutes.

As a research participant, information you provide will be kept anonymous, that is, no names or other identifiers will be collected on any of the instruments used. Data will be kept in a locked file in the researcher's office. By completing and returning this survey you have shown your agreement to participate in the study.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Jeana Knickerbocker, at (305) 899-3270, or my supervisor, Dr. Guillermo Wated, at (305) 899-3274, or the Institutional Review Board point of contact, Ms. Nildy Polanco, at (305) 899-3020.

Thank you for your participation.

Sincerely,

Jeana Knickerbocker, M.S.
Barry University Student