

Abstract

The Theory of Planned Behavior (TPB) was used to examine relationships between teacher attitudes and behavior towards children with social, emotional and behavioral difficulties (SEBD). One hundred and eleven elementary school teachers completed questionnaires. Teacher perception of their school principal's expectations (subjective norm) predicted teacher behaviors. Teachers who had attended more in-service training (INSET) sessions held more positive feelings, but teachers with more experience were less willing to work with children with SEBD. Findings suggest that school principals have a central role in promoting an inclusive ethos within their schools. INSET could focus more on challenging beliefs.

Keywords: Behavioral difficulties in the classroom, inclusive education, Theory of Planned Behavior, teacher attitudes, INSET

Segregating children into 'special needs' and 'mainstream' schools prevents equal access to social and curricular opportunities and labels children (United Nations Convention on the Rights of the Child, 1989; UNESCO, 1994). Thus inclusion of children with disabilities and special educational needs in mainstream education has been encouraged through legislation internationally for over 20 years. It is unclear though whether inclusive education is effective in terms of promoting positive educational and social outcomes, due to mixed results and a lack of well-designed studies in this area (e.g., Fuchs & Fuchs, 1995; Kavale & Forness, 2000; Lindsay, 2007; Walther-Thomas, Korinek, & Williams, 2000; Author, 2011).

Mainstream teacher attitudes may be a contributory barrier to successful inclusive practices (Avramidis, Bayliss & Burden, 2000; Bender, Vail, & Scott, 1995; de Boer, Pijl, & Minnaert, 2010). Teachers tend to be broadly positive about the principle of inclusion while at the same time viewing its practical implementation as problematic (e.g., Avramadis & Norwich, 2002; Scruggs & Mastropieri, 1996). However it has been argued that neutral, even negative, attitudes towards inclusion may better characterise teacher viewpoints (de Boer et al, 2010; Soodak, Podell & Lehman, 1998). Indeed teachers in mainstream schools were less positive about the potential of children with learning disabilities than special school teachers (Author et al, 2008; Author et al, 2007). Some studies have reported in-service training (INSET), support (Cagran & Schmidt, 2011), and experience (Avramidis & Kalyva, 2007) to influence teacher attitudes, while others have not (Author et al., 2008; Author et al., 2009).

The inclusion of children with social, emotional and behavioral difficulties (SEBD¹) has consistently been reported as a particularly problematic for teachers, and is accompanied by negative teaching attitudes (Cook, 2001; Cook, Cameron & Tankersley, 2007, Hastings & Oakford, 2003; Shapiro, Miller, Sawka, Gardill, & Handler, 1999). These are children whose learning in the classroom is compromised by complex and long-term difficulties in managing their behavior, emotions and relationships (Simpson, Bloom, Cohen, Blumberg, & Bourdon, 2005). Unlike other groups of students with special needs, they are still as likely to be placed in specialist provision now as 30 years ago (Cooper, 2004). This group is mainly male, with a majority from low socio-economic status backgrounds, and with lower educational attainment than their peers (Farrell & Tsakalidou, 1999; Simpson et al., 2005).

Applying the theory of planned behavior (TPB) to investigate teacher attitudes and behavior

The theory of planned behavior (Ajzen, 1991) provides a useful framework for addressing the relationship between attitude and behavior. It is an extension of the theory of reasoned action (Ajzen, 1991) and proposes that in order to predict a specific behavior, attitudes, subjective norm, perceived behavioral control and behavioral intention in relation to that behavior need to be taken into consideration. Subjective norm is an individual's perception of how significant others will approve of their behavior, perceived behavioral control is the perception of how easy/ difficult it is to

¹ Different countries have adopted differing terminology to describe the same group of children. As the present study was located in Scotland, the Scottish term, social, emotional and behavioral difficulties (SEBD) was adopted in this paper.

perform the behavior, and behavioral intention is willingness to carry out the given behavior. TPB predicts that the behavior is more likely to be performed if each component of these components is favourable. Specifically the model posits that behavioral intention is determined by attitudes, subjective norm and perceived behavioral control. In turn, behavior is determined by attitudes, subjective norm and perceived behavioral control, mediated by behavioral intention. Attitudes furthermore may be considered as consisting of both cognitive (beliefs), affective (feelings) dimensions (Ajzen, 1991; Eagly & Chaiken, 1993). Widely applied in health settings, TPB has been used to a lesser extent in educational settings, to predict, for example, teachers' use of cooperative learning in science classes (Lumpe, Czerniak & Haney, 1998), students' learning behavior (Norwich & Rovoli, 1993), and student behavior toward peers with disabilities (Roberts & Smith, 1999).

There is a gap in the literature however with respect to the application of TPB to teacher attitudes and behavior toward children with special needs in inclusive settings. Using the search engines Science Direct, Web of Knowledge and Google Scholar, the search term, *theory of planned behavior* combined with *inclusion, teacher, education, mainstream* and *school*, produced only six studies. Of these only two, Stanovich and Jordan's (1998) Canadian study and Kuyini and Desai's (2007) Ghanaian study, measured actual behavior as an outcome variable, the others measuring behavioural intention. Of these two studies, one (Stanovich & Jordan, 1998) reported relationships that differed from the typical TPB model outlined above, in that they found subjective norm to be the strongest predictor of effective teaching behavior with students with disabilities. This suggests the importance of school ethos as a predictor of teacher

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behavior. The other study measuring behavior as an outcome (Kuyini & Desai, 2007) did not find this relationship with subjective norm but its finding may have been specific to the educational context in a developing country.

Problems in operationalising TPB measures in a classroom context may also have contributed to these apparently conflicting findings. Because it has been argued that perceived behavioral control can be conceptualised as teacher efficacy (Ajzen, 1991; Eagly & Chaiken, 1993; Fishbein & Cappella, 2006), Stanovich and Jordan employed the Teacher Efficacy Scale (TES; Gibson & Dembo, 1984) as a measure of perceived behavioral control. Teacher efficacy may be more accurately measured using the Teachers' Sense of Efficacy scale (TSES) which has a more unified and stable factor structure than the TES (Tschannen-Moran & Woolfolk-Hoy, 2001).

Measurement of subjective norm too may have been problematic. Stanovich and Jordan (1998) measured it by assessing school principals' attitudes, whereas Kuyini and Desai (2007) measured school principals' expectations. Subjective norm though is defined as an individual's perceptions of how significant others will rate their behavior (Ajzen, 1991; Eagly & Chaiken, 1993). As it is widely accepted that the principal is the key figure in a school environment (Goddard, Neumerski, Goddard, Salloum & Berebitsky, 2010; Praisner, 2003), s/he is often referred to as the 'significant other' in this area of research. Thus, rather than directly measuring principals' attitudes or expectations, subjective norm might be more effectively assessed by measuring teachers' views about how their school principal would react to their inclusive behaviors.

The remaining four studies retrieved in the literature search (Batsiou , Bebetos, Panteli, & Antoniou, 2008; Elik, Weiner, & Corkum, 2010; Oh, Rizzo, So, Chung, Park, & Lei, 2010; Palou & Norwich, 2002), did not actually measure behavior but focused on behavioral intention as the main outcome variable. Batsiou et al's study suggested that experience and training influenced teacher's beliefs and intentions in relation to teaching pupils with special needs, while Palou and Norwich found that teachers who had more positive feelings toward children with behavioral difficulties, accompanied by higher levels of perceived behavioral control, were more likely to report the intention to behave inclusively. Subjective norm did not predict behavioral intention in either Batsiou et al's study or Palou and Norwich's study. Both Elik et al.'s study and Oh et al.'s study were with student teachers, whom their authors argued, had not yet had sufficient experience of teaching to be aware of subjective norms.

TPB studies of teacher inclusive behaviors are limited in number, may not have measured the intended variables, and have components of the model omitted. All aspects of the model need to be considered within a study in order to study the link between attitudes and behavior (Ajzen, 1991). Indeed omitting the measurement of behavior is perhaps the most important limitation of studies if they wish to make inferences regarding teachers' inclusive practices.

The present study

There is then a lack of research investigating the link between teachers' attitudes and behavior toward children with special needs in mainstream schools, using TPB. The study's main aim was to investigate mainstream teachers' attitudes and behavior with respect to students with SEBD in particular, assessing all TPB variables,

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measuring both cognitive and affective components of attitudes, and considering subjective norm and perceived behavioral control as closely as possible to Ajzen's (1991) conceptualisation of these. A second aim was to examine the teacher-related variables which predict attitudes. In doing so it was hypothesised that:

1. Teachers' beliefs, feelings, subjective norm and perceived behavioral control will each predict behavioral intention.
2. Teachers' beliefs, feelings, subjective norm and perceived behavioral control will predict behavior, mediated by behavioral intention.
3. INSET and teaching experience will predict teachers' beliefs towards the inclusion of children with SEBD.
4. INSET and teaching experience will predict teachers' feelings toward pupils with SEBD individually.
5. INSET and teaching experience will predict teachers' willingness to work with pupils with SEBD.

Method

Participants

General classroom teachers in mainstream schools from a convenience sample of 24 Scottish school districts were invited to participate in the study, out of 32 school districts in Scotland. Twelve districts granted permission and all 483 schools were invited to participate. Following up those 61 schools who responded positively, two hundred and eighty-three questionnaire packs were distributed, of which 92 were completed and returned. An email with the link to the online survey was forwarded to 32 schools instead of paper questionnaires, and seven schools asked for both paper

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copies and online survey links (see *Procedure*). The online survey resulted in 32 further responses. Of the 124 questionnaires that were returned, 13 were omitted from the analysis because they were not completed by general classroom teachers. This resulted in a sample of 111 participants (105 female and 6 male teachers) from a possible population of 22 851 elementary school teachers in Scotland as recorded in 2011 (Summary Statistics for Schools in Scotland, 2011). Mean class size of the sample was 21.70 (SD = 5.28).

As our regression analyses were designed to employ 2-5 independent variables, a sample size of 111 was appropriate for multiple regression analysis as it was greater than $104 +$ the number of independent variables, assuming a medium effect size (Tabachnick & Fidell, 2007). Post-hoc power analysis using the G*power program (Faul, Erdfelder, Buchner & Lang, 2007) showed statistical power of 0.97 for a fixed-predictor model linear multiple regression predicting behavioral intention from beliefs, feelings, subjective norm and perceived behavioral control (four predictors) with a large effect size ($f^2 = 0.35$), $\alpha = 0.001$, and with 110 participants. Similarly for the linear multiple regression: fixed-predictor model predicting behavior from beliefs, feelings, subjective norm, perceived behavioral control and behavioral intention with a large effect size ($f^2 = 0.35$), $\alpha = 0.05$, 110 participants and five predictors, post-hoc power analyses showed a statistical power of 0.99. For both above models, power is above Cohen's (1988) recommended level of 0.80.

Demographic teacher information is presented in Table 1 but because responses were anonymous at both teacher and school level, we do not know which schools within

a district completed questionnaires and so cannot report school level demographic information.

Insert Table 1 about here

Materials

1. *Multidimensional Attitudes Toward Inclusive Education Scale (MATIES: Mahat, 2008)*

Teacher attitudes, both beliefs and feelings, were measured using the cognitive and affective subscales of the Multidimensional Attitudes Toward Inclusive Education Scale (MATIES: Mahat, 2008). Each subscale contains six items modified in the present study by describing the child in each item as a child with SEBD. Participants were asked to indicate the degree to which they agreed or disagreed with each statement on a nine point Likert rating scale anchored at five points with: *strongly disagree, disagree, neither agree nor disagree, agree, strongly agree*. As all scales which reflect the determinants of behavior should have an equal number of scale points for equal comparison (Ajzen, 1991), it was altered in the present study to a nine point scale to correspond with the other questionnaires. Two of the items on the cognitive subscale and each item on the affective subscale were reverse coded to ensure that higher scores indicated more positive attitudes toward the inclusion of children with SEBD. With the present sample, Cronbach's alphas were adequate with both scales at .75, similar to reliabilities reported by Mahat (2008).

2. *Teachers' Sense of Efficacy Scale (TSES: Tschannen-Moran & Woolfolk Hoy, 2001)*

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The TSES was used to measure teachers' perceived behavioral control toward the inclusion of children with SEBD, as perception of self-efficacy, in this case self-efficacy in the classroom, can be conceptualised as a form of perceived behavioral control (Eagly & Chaiken, 1993; Fishbein & Cappella, 2006). The shorter 12 item version was employed in order to minimise the time required to complete the questionnaire pack. It contained three efficacy subscales in relation to: instructional strategies, classroom management, and student engagement, with high internal consistency reported ($\alpha = .9$: Tschannen-Moran & Woolfolk Hoy, 2001). In the present study the scale was adapted to measure teaching self-efficacy towards working inclusively with children with SEBD in particular. Participants were asked to indicate the extent to which they felt they could do something to support children with SEBD on a nine point Likert scale anchored at five points with the statements: *nothing, very little, some influence, quite a bit and a great deal*. Higher scores reflect higher perceptions of teaching efficacy. Reliability of the revised scale was .93.

3. *Teachers' Subjective Norm Scale (modified version of the TSES: Tschannen-Moran & Woolfolk Hoy, 2001)*

As was argued earlier, because the principal is the key figure in a school, the measurement of teachers' views about how their school principal would react to their inclusive behaviors would seem to be an appropriate measure of subjective norm in a school environment. Thus was measured using a modified version of the TSES was used to measure subjective norm (teachers' perceptions of their school principal's views) about their working inclusively with pupils with SEBD.

It should be noted that in Scotland the school principal is referred to as the 'head teacher', with the same school management role and responsibilities that accompany the

title of school principal in other countries. Each question therefore now began *Rate your head teacher's approval of how you...*, followed by the same items as in the modified TSES, referring to children with SEBD. Reliability of the scale was high with Cronbach's alpha = .95. Participants were asked to rate their principal's approval of how they performed each of the twelve strategies on a nine point Likert scale anchored at five points with: *strongly disapprove, disapprove, neither approve nor disapprove, approve, strongly approve*. Higher scores represent higher perceptions of approval.

4. *Teachers' Willingness to Work with Severe Disabilities Scale (TWSD: Rakap & Kaczmarek, 2010)*

The behavioral subscale of the TWSD was employed to measure behavioral intention to promote the inclusion of children with SEBD. It consisted of a vignette describing a child with SEBD followed by eight items which asked teachers how committed they would be to having the child in their classroom and to learning skills to support this. Teachers indicated the extent to which they agreed/disagreed with each item on a nine point Likert scale anchored at five points with : *strongly disagree, disagree, undecided, agree, strongly agree*. Higher scores indicated a stronger intention to include children with SEBD. Rakap and Kaczmarek (2010) reported a high internal consistency of $\alpha = .94$, which was replicated with the present sample.

5. *Adaption Evaluation Instrument (AEI: Schumm & Vaughan, 1991)*

Behavior was measured using the AEI, which evaluates views on the feasibility and desirability of 30 planning, social, instructional and curricular adaptations that promote the inclusion of children with additional support needs (Schumm & Vaughan, 1991). The scale was revised in this study to measure teacher's inclusive behavior

specifically towards children with SEBD. The term mainstreamed student (MS) with replaced with SEBD and item 18, *use computers* was removed as using computer-aided technology is now routine. Following initial piloting of the questionnaire pack with nine teachers, in order to reduce possible social desirability effects, scale points were reworded into a five point Likert scale where teachers were asked to indicate the frequency with which they felt they engaged in each adaption : *occasionally, sometimes, quite often, frequently, all the time* . Unlike responses on the other scales, the pilot group's responses had been mainly distributed across the two points, *frequently* and *nearly all the time* and it was felt that teachers were unlikely to disclose that they *never* or *hardly ever* engaged in inclusive behaviors. Higher scores reflect higher engagement in inclusive behavior. Schumm and Vaughan (1991) reported high internal consistency values of .97 when they asked teachers to rate the feasibility of the adaptations and .97 when teachers rated their desirability. With the present sample, Cronbach's alpha was .95.

Procedure

Schools who agreed to participate were given the option of completing the online questionnaire pack via Qualtrics Survey Software or the paper version by post with stamped addressed envelopes for return. Questionnaires were presented in random order to reduce the possibility of order effects.

Results

Log transformations were applied to deal with outliers. The variable, teaching experience, had one outlier ('reporting 42 years experience'), subjective norm had two outliers (both with a low score of 5), behavioral intention had two outliers (low scores

of 5.05 and 5.15), and INSET had three outliers (a high number of 15, 16 and 20 sessions). Log transformation was applied, as suggested by Tabachnick and Fidell (2007) which pulled outliers from the variables teaching experience (SEBD), INSET sessions attended (SEBD) and subjective norm closer to the centre of the distribution. However one outlier remained within the variable behavioral intention: case 103 (low score of 5.05). When square root transformation and reciprocal transformation also had no impact the second option was to change the extreme score to one unit larger or smaller than the next highest score (Field, 2009; Tabachnick & Fidell, 2007). As this procedure was not successful in bringing case 103 nearer to the centre of the distribution, it was removed. Deletion of outliers is only recommended after trying the two options first (Tabachnick & Fidell, 2007). After the log transformation and outlier deletion, assumptions of homoscedasticity and normality were now met for all regression analyses.

Participants' mean scores are displayed in Table 2. On average, participants held moderately positive attitudes and perceived behavioral control, and high levels of subjective norm and behavioral intention concerning the inclusion of pupils with SEBD in their classroom. They also reported on average that they frequently engaged in inclusive practices. Bivariate correlations are presented in Table 3.

Insert Tables 2 and 3 about here

Predicting behavioral intention to engage in inclusive practices from beliefs, feelings, subjective norm and perceived behavioral control

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Standard multiple regression analysis demonstrated that overall there was a significant relationship between predictors and behavioral intention to include children with SEBD, $F(4,105) = 24.81, p < .001, R^2 = .49$. $R^2 > .25$ meet the criterion for a large effect size (Cohen, 1988). Thus a large proportion (49%) of the variability in teachers' behavioral intention toward the inclusion of children with SEBD was predicted by their beliefs, feelings, subjective norm and perceived behavioral control in relation to working inclusively with pupils with SEBD. Unstandardised regression coefficients (B), standardised regression coefficients (β), semipartial correlations – the relationship between (sr^2), R^2 and adjusted R^2 are displayed in Table 4. Unstandardised regression coefficients (B) highlight the nature of the relationship between behavioral intention and each predictor, both in terms of direction and how much behavioral intention scores would change given a one unit increase in each of the predictor scores. However, whereas unstandardised regression coefficients are not directly comparable, standardised regression coefficients (β) are, as they indicate the number of standard deviations that behavioural intention will change given a one standard deviation change in each predictor. They therefore provide a better indication of each predictor's relative importance in the model. The R^2 value suggests how much of the variance in behavioral intention is accounted for by the regression model in the sample, whereas the value of adjusted R^2 indicates the amount of variance in behavioral intention would be accounted for if the model is from the population from which the sample was drawn. Given that R^2 and adjusted R^2 are similar at .49 and .47, the model may be considered to generalise to the wider population of teachers. The semipartial correlations (sr^2)

when combined indicate the amount of R^2 that can be attributed to the significant predictors: beliefs and perceived behavioural control.

Table 4 therefore highlights that when considered individually, only teachers' beliefs and perceived behavioral control predicted teachers' intention to include children with SEBD in a positive direction. Teachers' feelings or subjective norm did not significantly predict behavioral intention. Teachers who held more positive beliefs and felt they had a higher level of perceived behavioral control reported a higher level of intention to promote the inclusion of children with SEBD. Of these two predictor variables, however, teachers' perceived behavioral control was slightly more important as indicated by the squared semipartial correlations. Although bivariate correlations between feelings and behavioral intention and between subjective norm and behavioral intention were significant at, $r(110) = .43, p < .001$ (one-tailed) and $r(110) = .24, p < .02$ (one-tailed), respectively, these variables did not predict behavioral intention individually. This may indicate that the relationship between variables was mediated by, or redundant to, the relationship between behavioral intention and the other independent variables (Tabachnick & Fidell, 2007). Post-hoc correction indicated that this was not the case for subjective norm, $F(4, 105) = 1.12, p > .05$, but for feelings, the test was significant, $F(4, 105) = 6.09, p < .05$. Thus the relationship between teachers' feelings towards children with SEBD and behavioral intention was mediated by the relationships between beliefs and intention and between perceived behavioral control and intention.

Predicting inclusive behavior from beliefs, feelings, subjective norm, perceived behavioral control and behavioral intention

There was a significant relationship between predictors and teachers' inclusive behavior toward children with SEBD, $F(4,105) = 7.59, p < .001, R^2 = .31$. Thus a large proportion (31%) of the variability in teachers' behavior toward children with SEBD was predicted by their beliefs, feelings, subjective norm, perceived behavioral control and behavioral intention, in relation to working inclusively with pupils with SEBD. However individually, only teachers' subjective norm predicted their inclusive behaviour, as demonstrated by the largest normalised beta weights and significance level ($\beta = .35, p < .001$). Thus, teachers with high levels of subjective norm reported that they acted more inclusively with children with SEBD than teachers with lower levels. Bivariate correlations between feelings, perceived behavioral control, behavioral intention and behavior were significant (see Table 3) but did not predict behavior on an individual basis. This may indicate that these relationships were mediated by, or redundant to, the relationship between behavior and subjective norm. Again using post-hoc correction for each variable, the relationships between behavior and feelings and behavior and behavioral intention were found to be non-significant at $F(5, 105) = 1.76, p > .05$ and $F(5,105) = 2.20, p > .05$, respectively, indicating that these relationships were not mediated by the relationship between subjective norm and behavior. However, for the relationship between perceived behavioral control and behavior the test was significant; $F(5,105) = 3.28, p < .05$. Thus the relationship between perceived behavioral control and behavior was mediated by the relationship between subjective norm and behavior.

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Predicting teacher beliefs towards the inclusion of pupils with SEBD from INSET and experience

The relationship between the predictors and teachers' beliefs toward the inclusion of children with SEBD was non-significant, $F(2,107) = 1.00, p = .37, R^2 = .02$. In addition neither INSET ($\beta = .13, p = .191$) nor experience ($\beta = .02, p = .995$), individually predicted beliefs. Teachers with less experience and training held similar beliefs towards the inclusion of children with SEBD as teachers with more experience and training.

Predicting teachers' feelings towards the inclusion of children with SEBD from INSET and experience

There was a significant relationship between predictors and teachers' feelings towards including children with SEBD, $F(2,107) = 3.28, p < .05, R^2 = .06$, indicating a small proportion of the variability (6%) in teachers' feelings can be explained by INSET courses attended and teaching experience of SEBD.

INSET significantly predicted teachers' feelings in a positive direction ($\beta = .20, p < .05$) but teaching experience significantly predicted teachers' feelings in a negative direction ($\beta = -.21, p < .05$), such that teachers who attended more INSET courses held more positive feelings towards children with SEBD than teachers who attended less. On the other hand, those with less experience in teaching children with SEBD held more positive feelings than teachers with more experience.

Predicting teachers' willingness to work with pupils with SEBD from INSET and experience

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There was a significant moderate relationship between predictors and teachers' willingness to include children with SEBD, $F(2,107) = 3.49, p < .05, R^2 = .06$. Therefore only 6% of the variability in teachers' willingness to include pupils with SEBD was explained by INSET and teaching experience with pupils with SEBD. Teaching experience (SEBD) predicted teachers' willingness to work with children with SEBD in a negative direction, ($\beta = -.25, p < .02$) whereas INSET did not have any predictive power, ($\beta = .15, p = .115$). As teachers' experiences of teaching children with SEBD increased, their willingness to work with this particular group of children decreased.

Discussion

The present study employed TPB to examine teachers' attitudes and behavior toward children with SEBD. It was found that teachers who held more positive beliefs and higher levels of perceived behavioral control (teaching self-efficacy) had a higher level of behavioral intention to engage in inclusive practices in working with children with SEBD. These findings support those of Oh et al (2010) and Palou and Norwich (2002). Furthermore, subjective norm, as measured by teachers' views of their school principal's expectations, predicted teacher behavior (social, instructional, curricular adaptations) but not behavioral intention (willingness to work with children with SEBD). Teachers with high subjective norm levels had similar levels of intention to engage in inclusive behaviors compared to teachers with lower levels of subjective norm. In the wider theory of planned behavior literature too, subjective norm is often either found to be a weak predictor of behavioral intention or has no predictive power (Armitage & Conner, 2001).

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We found subjective norm though to be the only predictor of teacher behavior suggesting it may therefore be the most important determinant of teaching adaptive behaviors in relation to working inclusively with children with SEBD. If this is the case, school principals have an important role in communicating clear expectations of an inclusive ethos to staff, providing them with appropriate support and training, and promoting a collective sense of efficacy. While this finding of the importance of subjective norm in predicting teacher inclusive behavior supports that of Stanovich and Jordan's (1998) study, it corresponds less well with TPB findings in health settings, where behavioral intention is typically the strongest predictor of behavior (Ajzen, 1991). Also, with regards to predicting behavior intention rather than behavior, teachers' beliefs and level of perceived behavioral control were found to predict behavioral intention. The relationship between teachers' feelings and behavioral intention was mediated by the relationship between beliefs and intention, and perceived behavioral control and intention. This suggests that holding positive feelings toward children with SEBD may lead to positive beliefs and high perceived behavioral control levels, which in turn may lead to a higher level of behavioral intention.

In TPB though, attitudes, subjective norm and perceived behavioral control predict behavior, mediated by behavioral intention, while in this study subjective norm alone predicted behavior but not behavioral intention. Perhaps TPB does not transfer directly from health settings to education, or to these specific teacher behaviors regarding inclusive education? In order to be perceived by their principal as behaving professionally, teachers may require to suppress personal attitudes and their perceived behavioral control, in favour of the subjective norm. It has been argued that by adding

additional variables to the TPB model the prediction of a specific behavior can be substantially improved (e.g., Heath & Gifford, 2002), so it may be that additional teacher-, environment- and child-related variables need to be added to better predict teacher intention and behavior relationships in schools. For example, teacher-related variables such as self-identity, openness to experience, and enthusiasm have been identified as important for effective teaching (Avramidis & Norwich, 2002; Kunter, Frenzel, Nagy, Baumert, & Pekrum, 2011).

Attendance at INSET sessions positively predicted teachers' feelings toward pupils with SEBD, although did not predict beliefs, or willingness to work with children with SEBD. INSET was measured here as the number of training courses attended. It should be noted however that data were not gathered in the present study on content, duration and intensity of courses, which may be useful variables for future studies to examine (Snyder, Low, Schultz, et al., 2011). This finding on INSET, together with our finding that teachers with more positive beliefs and higher levels of self-efficacy reported greater intention and commitment to having children with SEBD in their classrooms and to learn new skills to facilitate this, suggests that aiming to challenge positive beliefs and develop high levels of teaching efficacy in relation to working with children with SEBD should be a key focus of initial teacher education, INSET, and post-graduate professional development courses. Effective teacher education on exceptional groups of children should not only include specialised knowledge and information, but also should address teacher skill development for inclusion, as well as being contextualised to a greater extent to challenge teacher beliefs about problems in

learning being located within the child (e.g., Symeonidou & Phtiaka, 2009; Author et al., 2008; Author et al., 2009)

In addition, teaching experience predicted teachers' feelings and willingness to work with children with SEBD but in a negative direction. Thus teachers had greater experience of children with SEBD held less positive feelings and were less willing to work with this group than teachers with less experience, a finding that supports Forlin, Douglas and Hattie's (1996) study. Two Greek studies though reported apparently contradictory findings: Batsiou et al. (2008) reported experience and attitudes to be positively correlated, while Avramidis et al. (2000) found no relationship. However it should be noted that these studies were not focused on children with SEBD but on the wider group of children with special educational needs. It may be that it is the nature of the experience that is important, with positive experiences associated with positive teacher attitudes (Praisner, 2003). As children with SEBD often present a range of challenging behaviors it is possible that the more teachers experience these behaviors the more negative they become. Another plausible explanation for this finding may be that teachers with more experience are those who completed their initial teacher training before inclusion was a routine part of mainstream teaching and who have retained these attitudes formed during teacher training (Author et al.; Hastings & Oakford, 2003).

A study limitation was its use of self-report measures. Where all questionnaires in a study utilise self-report methods, there is a possibility of measurement bias because all variables have been measured by the same respondent using a common method (Podsakoff, MacKenzie, Lee, Podsakoff, 2003). Self-report measures can increase the likelihood of social desirability bias (Ganster, Hennessey & Luthans, 1983; King &

Bruner, 2000; Thomas & Kilmann, 1975) in teacher responses about inclusive attitudes and professional practices. In the present study as confidentiality was assured and indeed as there was a range of responses for each measure in both positive and negative directions, social desirability was unlikely to have had a major effect.

Conclusions and implications

Investigating the determinants of teachers' attitudes and behavior and their relative importance is crucial for improving teaching practices, initial teacher education and professional development opportunities for effective inclusion of children with special needs and in particular with SEBD, the focus of the study. Teacher perception of their principals' expectations was identified as the only significant predictor of teaching behavior in relation to children with SEBD. This implied that school principals have a crucial role within their school to communicate their expectations regarding inclusive practices clearly to their teaching staff. In addition, teachers' beliefs and perceived behavioral control predicted behavioral intention. This suggests that initial teacher education, INSET and post-graduate courses should focus on challenging teacher beliefs and developing teaching self-efficacy concerning children with SEBD, to a greater extent. As well as implications for teacher education and day-to-day teaching practices, there are also research implications. Future research should continue to take into consideration the multidimensional nature of attitudes, the role of other teaching staff in the promotion of inclusion and the level of specificity in relation to variables which may influence attitudes and behavior.

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Table 1.

Participants' Characteristics

Characteristic	Frequency (%)	Mean (SD)	Range
Highest level of teaching qualification			
Bachelor in Education	56 (50.5%)		
Postgraduate Certificate	21 (18.9%)		
Postgraduate Diploma	18 (16.2%)		
Masters	3 (2.7%)		
Other	13 (11.7%)		
Age level taught			
4-6 year olds	30 (27.03%)		
7-10 year olds	38 (34.23%)		
11-12 year olds	43 (38.74%)		
Teacher age (years)		40.20 (11.49)	22 to 63
General teaching experience (years)		13.78 (10.25)	1 to 42
Teaching experience (SEBD) (years)		11.47 (9.43)	1 to 42
No. of SEBD INSET sessions attended		4.49 (3.63)	0 to 20

Table 2.

Participants' Mean Scores

	Mean (SD)	Standard Error	Range
Attitude			
Cognitive	6.44 (1.15)	.11	3.83 to 9.00
Affective	6.20 (1.39)	.14	2.50 to 9.00
Subjective Norm	7.76 (.83)	.08	5.00 to 9.00
Perceived Behavioral Control	6.58 (1.08)	.10	4.17 to 9.00
Behavioral Intention			
Behavior	7.74 (.01)	.10	1.00 to 9.00
Behavior	4.03 (.60)	.06	2.83 to 5.00

Table 3.

Correlations Between each of the Theory of Planned Behavior Measures

Variable	2	3	4	5	6
1. Beliefs	.51**	-.17*	.44**	-.52**	.11
2. Feelings		-.30*	.44**	-.43**	.28*
3. Subjective Norm			.50**	-.24*	-.49**
4. Perceived Behavioral Control				-.64**	.37**
5. Behavioral Intention ¹					.31**
6. Behavior					

** $p < 0.001$; * $p < 0.05$

Table 4.

Predicting Teachers' Behavioral Intention from their Beliefs, Feelings, Subjective Norm and Perceived Behavioral Control

	B	SE	β	sr ² (unique)
Beliefs	.04**	.02	.25	.04
Feelings	.02	.01	.08	
Subjective Norm	.12	.10	.12	
Perceived Behavioral Control	.10*	.02	.37	.17

$R^2 = .49^a$
 Adjusted $R^2 = .47$
 $R = .70^{**}$

* $p < .05$, ** $p < .001$

^a Unique variability = .21; shared variability = .28