Relationships between emotion and educational achievement in Arabic children

John Everatt[1*], Yousuf Almurtaji[2], Abir Al-Sharhan[3] and Gad Elbeheri[4]

1 University of Canterbury, New Zealand
2 Public Authority for Applied Education & Training, Kuwait
3 Center for Child Evaluation & Teaching, Kuwait
4 Australian College of Kuwait

Abstract

This work examined the relationship between measures of emotion and achievement in basic curriculum areas (literacy and mathematics) amongst Arabic children. Arabic speaking children in grades 4 to 7 of mainstream Kuwaiti schools (approximately 250 children) were assessed on measures of reading, spelling and arithmetic, as well as scales of locus of control, self-esteem and anxiety. The results indicated that achievement levels, particularly spelling, were related to self-esteem, but not anxiety. However, only those students who scored in the mid-range for locus of control (i.e., they were neither internalizers or externalizer) showed the self-esteem/achievement relationship. In addition, high externalizers presented evidence for high levels of anxiety to be related to poor achievement. Finally, those with weaknesses (one standard deviation below the mean or worse) in more than one of the curriculum areas assessed showed lower self-esteem scores than those with a weakness in just one area across the grades tested. The potential effects of poor achievement on the well-being of children in education, how this may interact with learning disabilities, particularly dyslexia, and implications across different education systems and cultures will be discussed.

Keywords: Learning difficulties; Emotion; Educational achievement;
             Arabic language and culture; Self-esteem; Locus of Control

* Correspondence to:
John Everatt, School of Teacher Education, College of Education, Health and Human Development, University of Canterbury, Dovedale Avenue, Private Bag 4800, Christchurch 8140, New Zealand. Email: john.everatt@canterbury.ac.nz

Introduction

Learning Disability (LD) has been seen as a difficulty in the acquisition of reading, spelling, writing and/or mathematical skills, with performance in one or more of these basic academic areas being below the child's general ability level or skills in other areas (see discussion in Elbeheri & Everatt, 2009). The main LD that has been discussed in the literature is that in which individuals have specific literacy learning problems or specific reading disability, which is often reduced to the term developmental dyslexia; though increasing number of papers in developmental mathematics learning disabilities, or dyscalculia, are appearing. Although the current work does not focus on dyslexia or dyscalculia (the work did not included assessment/diagnostic procedures, for example), the implications for those with poor levels of learning in literacy and mathematics were an important consideration.

Clearly, difficulties associated with LD will lead to problems with academic endeavours, which can lead to low qualifications and poor employment opportunities. However, they can also lead to negative emotional or psycho-social consequences. Although they have been much less studied, these additional negative consequences of learning problems have been discussed for as long as LD itself (see Critchley & Critchley, 1978). For example, Gates in the 1940s was arguing that 'personality maladjustment is frequently found to co-exist with reading disability' (Gates, 1941, cited in Athey, 1982), estimating that, among cases of very marked specific

reading disability, about 75% would show personality maladjustment. Subsequent research has supported this hypothesised link between LD and negative emotional/psychological well-being. Maughan (1995) cites evidence that students with LD are more likely to suffer psychiatric disorders after middle childhood than their peers. Similarly, Huntington & Bender (1993) cite evidence that adolescents with LD demonstrate more frequent and more serious bouts of depression (see also Livingstone, 1990, and Duane, 1991), and higher rates of suicide than adolescents without such disabilities. Those with LD also present increased evidence of attentional and behavioural problems (Duane, 1991; Hinshaw, 1992) and negative emotion/behaviour-related responses to failure to acquire literacy skills can also lead to greater problems for intervention procedures (Miles, 2004; Murray, 1978). The present research, therefore, aims to further investigate this potential link within a relatively under-studied population: Arabic speaking children.

Anxiety and stress

Clearly, all individuals in everyday life will suffer some degree of stress when undertaking, or being confronted with, something difficult. Stress, under the right circumstances can provide increased energy (motivation) to accomplish a task. However, prolonged or intense stress, particularly if it is perceived as uncontrollable, can have negative consequences. It has been found that higher stress levels can affect an individual's capacity to study and that it can lead to poorer memory, which may

decrease problem solving abilities (Mueller, 1976; Ray, Katahn & Snyder, 1971).

Those individuals who find learning difficult, therefore, are likely to be prone to stress under learning conditions (i.e., school or other education contexts) that may accentuate their difficulties by increasing processing problems. For example, Everatt & Brannan (1996) found that a difficult spelling task for adult students with dyslexia can lead to weaker performance in subsequent memory and problem solving tasks. Consistent with a relationship between LD and stress, individuals with educational learning difficulties have been found to have significantly higher levels of anxiety (Casey, Levy, Brown & Brooks-Gunn, 1992; Cornwell & Bawden, 1992; Griffiths 1975; Huntington & Bender, 1993) and Peelo (1994) has concluded that all students with learning problems fit the general pattern of study stress.

Comparisons of dyslexic and non-dyslexic adult students also argue for dyslexic samples to be more anxious than their peers, despite their apparent ability to access higher education (Gregg, Hoy, King & Moreland, 1992; Riddick, Farmer & Sterling, 1997). The corollary to this is that more successful adults have been found to be those who can reduce their stress levels (Boetsch, Green & Pennington, 1996), and counselling in stress management has been seen as a way to overcome problems that disrupt academic progress and to increase positive traits that should change problems into strengths (Miles, 2004).

Self-esteem and self-awareness

Self-esteem, typically, is considered in terms of how closely an individual's perceived self matches their ideal self. As such, self-esteem has been linked to general self-concept, which includes behavioural, affective and cognitive appraisal of the self, and may be influenced by cultural factors that can determine characteristics of the ideal self. Coopersmith (1967) also suggested that self-esteem develops hierarchically with age. It has been argued that different elements of self-esteem can change somewhat independent of each other over time: for example, academic self-esteem is vulnerable to under achievement from middle childhood when the child becomes more aware of his successes and failures (Chapman, Silva & Williams, 1984). However, this negative consequence may not be confined to school and low self-concept may be generalized to all other aspects of life (Thomson, 1990; Thomson & Hartley, 1980). Coopersmith (1967) discusses the view that individuals with high self-esteem are more successful in both academic and social environments compared to those with low self-esteem. Consistent with a relationship between educational failure and poor self-esteem, LD children have been found to have lower self-esteem than their peers (Gjessing & Karlsen, 1989; Rosenthal, 1973). Huntington & Bender (1993) linked poor literacy levels and weak general academic performance to low self-esteem and Humphrey and colleagues (Humphrey, 2002; Humphrey & Mullins, 2002a) have argued for associations between self-concept, self-esteem and academic achievement.

Additionally, individuals with LD may be poor appraisers of their own abilities, meaning that their perceived self may be further from their ideal self than their abilities should suggest. For example, McLoughlin, Fitzgibbon & Young (1994) found that individuals with dyslexia had poor perceptions about their spelling abilities even though they may not be as bad as they considered, and Butrowsky & Willows (1980) found that poor readers had low expectations of success not only in reading but also in drawing, arguing for the poor self-worth feelings to extend beyond the specific area of disability. Lawrence (1996) has argued that an individual's levels of achievement can be influenced by how they feel about themselves suggesting a potential downwards spiral of poor achievement leading to poor self-esteem, which further affects performance (see also Goldberg, Higgins, Raskind & Herman, 2003).

Learned helplessness and locus of control

Self-awareness may also be related to feelings of being in control. Chan (1994) identified a pattern of learned helplessness (i.e., feelings of having no control of their lives) among many poor learners. When children with LD experience failure, they may not look for internal factors, such as ability and effort, but rather external controls, such as luck, which may affect achievement motivation (Oka & Paris, 1987). Indeed, Mruk (1990) proposes that positive levels of self-esteem are linked with having an internal sense of control, which increases an individual's motivation and achievement in the learning situation. Consistent with

this potential relationship Margerison's (1996) work has identified an association between self-esteem and locus of control in children with emotional problems and Humphrey & Mullins (2002b) argued from their data that children with dyslexia were more likely to attribute success to external factors, such as the teacher, rather than their own ability, which, as discussed above, may lead to feelings of learned helplessness.

The relationship between control and success has been studied in a small number of studies focusing on LD. Gerber, Ginsberg & Reiff (1992) studied a group of highly successful adults with learning disabilities and considered factors such as the individual's desire to achieve (an internal factor) and adaptations to the environment (an external factor). The researchers argued that control was a key to success. The higher the internal and external control, the more likely an individual was to take control of their life and the higher was their ability to adjust to their disability and succeed in life. The work of Burden (Burden, 2005; Burden & Burdett, 2007) identified a relationship between improved academic performance and confidence (in terms of predicating success on a task) and personal control. These data were derived from work in a specialist school that produced positive attitudes towards learning suggesting that being educated in an environment with a strong internalizing focus may result in positive learning outcomes. Overall, such findings with children and adults suggest that a stronger level of control may be related to overcoming negative emotional consequences and improve success both

within and outside educational contexts. Hence, the relationship between achievement and emotion may be moderated by factors such as locus of control.

Null relationships

As acknowledged by Athey (1982), the type of personality maladjustment referred to by Gates need not appear in all cases of reading failure. In addition to the potential moderating effects of control, perceptions of the importance of literacy/math skills, and school in general, seem likely to influence the emotional effects of poor academic performance (see also Hettinger, 1982). Family support and comprehension of the condition are further moderating factors (Scott, Scherman & Phillips, 1992), with the quality, acceptance and extent of parental attention received being major contributors to the development of self esteem in children (Coopersmith, 1967). Consistent with this, not all studies find a relationship between emotional/ behavioural problems and difficulties with literacy acquisition (see discussions in: Bachman & O'Mailey, 1977; Baumeister et al., 2003; Jorm, Share, Matthews & Maclean, 1986; Lamm & Epstein, 1992; Miller, Hynd & Miller, 2005; Vaughn, Zaragoza, Hogan & Walker, 1993). Additionally, studies that suggest emotional difficulties are a result of specific learning problems have been criticised methodologically (see Hansford & Hattie, 1982). For example, many employ samples of children engaged in special programs where the frequencies of co-occurring or co-morbid problems are likely to be high, meaning that factors

such as home life disruption, parental marital stress, etc, may be the underlying cause of the emotional problems (see Caron & Rutter, 1991). Conversely, such programs may help overcome the negative affect associated with LD, leading to no relationship between emotional problems and LD (e.g., Burden, 2005). Therefore, Maughan (1995) emphasized the need for more research in school/community based settings to reduce potential problems, such as co-morbidity amongst special education populations.

Present research

The differences evident within the literature and the lack of understanding of the implications of these potential emotional effects make further research in this area vital (see also Pumfrey & Reason, 1991). Furthermore, ethnic identity and differences between cultures/ countries can influence perceptions about educational achievement and attitudes (Hufton, Elliott & Illushin, 2002; Nasser & Birenbaum, 2005; O'Brien, Martinez-Ponz & Kopala, 1999; Roeser, van der Wolf & Strobel, 2001; Scholz, Doña, Sud & Schwarzer, 2002), which argues for the need to assess these potential negative effects in different communities. Arabic children are an interesting group to study given the relative lack of research, particularly on gulf countries cohorts, reported in the literature (though see Al-Khawaja, 1998; El-Safty, 1995). In addition, El-Zahhar & Hocevar (1991) reported anxiety levels that were higher amongst Arabic students versus students in the USA, possibly due to the perceived greater importance of achievement for

Arab high school students compared to their Western counterparts. Also, Dahlin & Regmi (2000) found that Western students viewed knowledge as something personal (internal), whereas for Asian students knowledge was more likely to be perceived as social (external) in nature, which may lead to differing moderating effects of locus of control between Western and children from Moslem or more oral background traditions. Hence, variations amongst Arabic background groups compared to Western cultures, where much of the research has been conducted, may lead to different relationships between emotion and educational achievement.

Method

Participants

The current research aimed to investigate the relationship between emotional levels and academic achievement among Arab speaking children in Kuwait. Four school grades were selected: grades 4 and 5 (primary stage), and grade 6 and 7 (intermediate stage). Several schools were targeted to allow the testing of boys and girls – there are separate Government schools for boys and girls in Kuwait and the differences in numbers of boys and girls in the sample reflected class sizes and attendance across the schools. However, all Kuwaiti Government schools follow the same education ministry curriculum. In total, 246 Kuwaiti pupils were tested on all of the measures included in this paper (27 male and 36 females in grade 4; 24 male and 44 females in grade 5; 26 male and 31 females in grade 6; 24 male and 34

females in grade 7). Data from pupils who did not complete all of the tests due to absence or other reasons unconnected with the study were excluded.

Test materials and procedure

Six measures were administered. Educational achievement levels were assessed by a reading comprehension test, a spelling to dictation task, and a measure of basic mathematic ability requiring addition, subtracting, multiplying or dividing. Emotional areas were assessed via an anxiety scale, a self-esteem scale and a measure of locus of control. The emotion measures used in the research were standardized for the Arab environment (see details below). The literacy measures were based on those developed for learning difficulties assessment purposes, with connected text being used given that Arabic uses an orthography in which context can play an important part in reading and spelling (see discussions in: Mahfoudhi, Elbeheri & Everatt, 2009). Each of the achievement measures required a certain amount of fluency in responding to allow an assessment of ease of task completion (or confidence) under slightly pressured circumstances. All measures were presented in the pupil's native language. Test items and procedures were piloted prior to the start of the study. In each school, testing was performed in groups in a quiet classroom supervised by an Arabic researcher. Each task was preceded by verbal instructions, together with one or more examples of the required task. The anxiety, self-esteem and locus of control measures were administered first. The researcher read

each item to the children leaving intervals of 5 seconds for the children to respond by marking a multiple-choice option. This ensured that literacy difficulties did not interfere with responding to the emotion questionnaires. In the second stage, the achievement measures were administered following the test procedures described below.

Anxiety scales

This measure was an Arabic language questionnaire, based on the State-Trait Anxiety Inventory for Children of Spieleberger (1973) and modified for an Arabic-speaking context by Al-Behairy (2005). The questionnaire consisted of two parts, with the first assessing how the individual feels at a particular point in time (state anxiety) and the second providing an indication of how the individual feels in general (trait anxiety). State anxiety can be considered as an emotional reaction in a specific self threatening situation and trait anxiety as a relatively stable personality characteristic – the studies outlined in the introduction argue for LD individuals to experience higher levels of trait anxiety than their peers (e.g., Huntington & Bender, 1993). Each part was made up of a series of 20 statements that the child simply has to tick one of three alternatives which are used to indicate positive, negative or neutral levels of anxiety. Two total scores were produced, one for state and one for trait, with high scores indicating higher levels of anxiety.

Self-esteem scale

This measure was published by Mousa &

Dosouki (1991), and is an Arabic language version of the Coopersmith Self-Esteem Inventory (Coopersmith, 1967). The questionnaire comprised twenty-five statements to which the pupil simply indicated with a tick whether the statement applied to them or not. The children were made aware that there were no correct or incorrect answers. The 25 statements were coded based on manual instructions with the total score for the measure indicating the child's reported level of self-esteem. Higher scores on the scale indicated higher levels of self-esteem.

Locus of Control scale

This measure was based on the scale of Mousa (1991), which was modified for Arabic from the work of Nowicki & Strickland (1973). The questionnaire consisted of forty items which required marked yes or no responses. As with the other scales, children were made aware that there were no correct or incorrect answers and that they should tick the response that reflected how they felt about the statements. Based on manual instructions, the responses of the children were coded on an internal-to-external scale. In this scale, a high total score indicated responses consistent with external feelings of control, whereas lower scores were considered indicative of more internalized views of control.

Reading comprehension

A measure of Arabic reading comprehension fluency was used to assess reading skills. The test has been developed specifically for use with Arabic

speaking children and extensively tested prior to the work reported in this paper. The test comprised 50 incomplete sentences, each of which required the addition of one word to form a whole meaningful sentence. Following each sentence, four words were presented, only one of which was a correct completion of the sentence. In the administration of the reading comprehension test, the fourth and fifth year primary stage pupils were allowed three minutes to complete as many items as they could, but the sixth and the seventh intermediate years pupils were given two and half minutes. Children were informed of the time constraints and were stopped when the time allowed was over. The score for this test was the number of sentences completed correctly in the time allowed. The measure was used because of its good levels of reliability and validity in terms of relationships with other measures of Arabic reading (see Elbeheri, Abu Al Diyar, Taibah, Everatt, Mahfoudhi & Haynes, 2013).

Spelling to dictation

The spelling test consisted of two passages, one 56 words in length and the other 85 words in length. The researcher read out the passage at a slow pace, with suitable gaps in speech to allow the children to write what was dictated, but also to allow context to support word recognition. The pace was determined by pilot work and exerted a certain amount of pressure to complete the task. After the dictation was completed, papers on which the children had written were collected and words marked for correct spelling. The shorter passage was treated as

practice for the test, with the number of correct spellings on the longer (85 word) passage being used in the current analyses. The measure has reasonable levels of reliability and shows relationships with other literacy areas (see Elbeheri et al., 2013).

Mathematics measure

This test was divided into four parts; addition, subtraction, dividing and multiplying. The first three parts, addition, subtraction and multiplying, comprised thirty six arithmetic calculations, whereas the division part comprised thirty three. One minute was allowed for the child to complete as many of the addition and subtraction items as they could and two minutes were allowed to complete as many dividing and multiplying items as they could. The number of items completed correctly in the time limit was used as the measures for these tasks, with the scores being combined for the current analyses. Such tasks have been used in assessment measures in Arabic and found to show good levels of reliability and relationships with other measures of mathematics (Everatt, Elbeheri & Al-Manabri, 2012).

Results

Table 1 presents descriptive statistics comprising of mean, standard deviation and minimum/maximum scores for the grades tested. These indicate improvements in average scores for all curriculum areas across the four grades (note that for reading comprehension fluency, grades 6 and 7 were given less time to complete the task). There was also

Table 1. Mean scores, standard deviations (in round brackets) and range of scores (in square brackets) for all measures in the study

|	Grade 4	Grade 5	Grade 6	Grade 7
Reading (max 50)	19.33 (9.01) [2-39]	25.32 (9.57) [3-47]	25.86 (10.04) [7-48]	30.62 (10.95) [4-50]
Maths (max 141)	63.81 (23.04) [14-108]	84.66 (26.69) [20-133]	76.00 (25.20) [19-117]	87.76 (26.90) [27-141]
Dictation (max 85)	56.59 (24.02) [0-80]	62.51 (23.44) [0-84]	63.81 (22.49) [0-82]	70.47 (15.76) [0-83]
Self-esteem level	14.41 (3.39) [6-21]	14.65 (3.16) [8-21]	15.07 (3.87) [2-23]	16.07 (3.43) [9-25]
Locus of control level	16.17 (3.97) [2-24]	14.21 (3.48) [5-24]	14.18 (3.97) [6-23]	14.02 (4.84) [5-35]
Trait anxiety level	36.37 (7.60) [20-60]	35.10 (8.00) [20-50]	35.72 (7.58) [24-53]	35.93 (6.11) [22-48]
State anxiety level	30.24 (5.88) [21-43]	29.65 (5.58) [22-45]	29.96 (5.27) [20-48]	30.60 (5.84) [20-42]
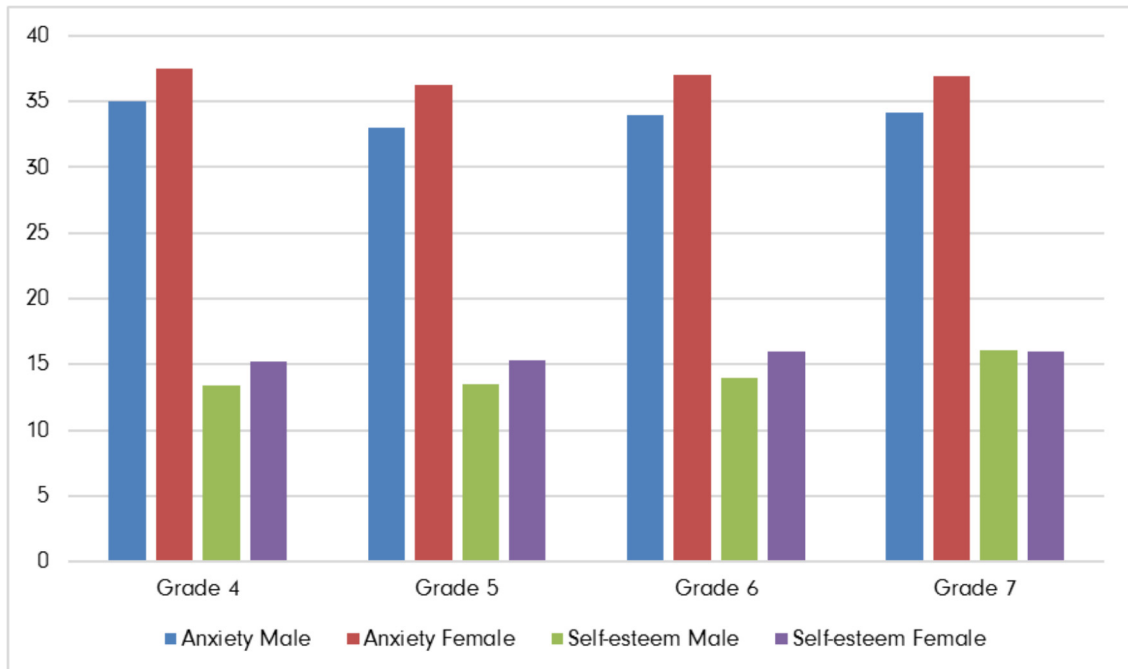
Figure 1. Male versus female self-esteem and anxiety levels across the four grades

evidence of increases with grade in self-esteem, though locus of control and anxiety levels were relatively stable, particularly from grade 5. Although not the focus of the current work, sex differences were also considered (given the evidence for sex differences within Arab cohorts found in previous research: El-Zahhar & Hocevar, 1991; Nasser & Birenbaum, 2005). Analyses of covariance (controlling for grade) indicated better performance by the females in all curriculum areas (reading: $F(1,243)=51$, $p<.001$; mathematics: $F(1,243)=171$, $p<.001$; spelling: $F(1,243)=55$, $p<.001$) and for females to have generally high levels of self-esteem but also high trait anxiety levels (self-esteem: $F(1,243)=9.37$, $p=.002$; locus of control: $F(1,243)<1$; trait anxiety: $F(1,243)=9.36$, $p=.002$; state anxiety: $F(1,243)=3.26$, $p=.072$). The sex differences are presented in figure 1, and argue for stable effects across grade in trait anxiety, but for the self-esteem levels of the males to catch-up those of the females by grade 7.

The primary focus of this work was to assess the relationship between educational achievement and emotion. Therefore, correlations and partial correlations (controlling for the sex and grade of the child) were calculated (see table 2). These results indicated relationships between the three achievement measures, which reduced when grade was controlled, and relationships between the emotion scales that were relatively less influenced by controlling for grade. The specific correlations of interest though were those between achievement measures and emotion scales. These statistics indicated

small but significant relationships between self-esteem and each of the achievement areas, although only that with spelling remained significant when grade and sex were controlled. Grade and sex were controlled in the partial correlations due to the effects of both of these variables on the achievement measures, as well as self-esteem and anxiety. Consistent with a potential influencing effect, when grade and sex were controlled, a small but significant partial correlation between trait anxiety and mathematics score emerged.

In order to assess the relationship between multiple problems and emotion, the children were divided into groups based on their scores in each of the three curriculum areas. Any child scoring at or worse than one standard deviation below the mean for their grade on the reading, mathematics or spelling measures was considered to be weak in that area. Children were then classified as being weak in one, two or all areas and their emotion scores were contrasted with those with no weak areas (see table 3).

Analyses of variance contrasting the four groups indicated that there was a significance effect of group for the self-esteem measure ($F(3,242) = 4.45$; $p = .005$) but not for locus of control nor the anxiety scores ($F(3,242) < 1$ in each case). Dunnett post-hoc comparisons, treating the no weaknesses group as the control, indicated significant ($p<.05$ one-tailed) differences for the groups with all and two areas of weakness, but not for the group with only one weak area. Combining the groups with all and two areas weak and contrasting with the one and no areas

Table 2. First order (above-right of diagonal) and partial correlations (controlling for grade and sex), with p-values below each, for the measures in the study (cells with p-values less than .05 are bolded)

	self esteem	locus of control	trait anxiety	state anxiety	Reading score	Maths score	Spelling score
Self esteem	.	**-.146**	**-.138**	**-.276**	**.181**	**.216**	**.261**
	.	**.022**	**.030**	**<.001**	**.004**	**.001**	**<.001**
Locus of control	**-.126**	.	.122	**.140**	-.091	-.076	-.032
	.049	.	.057	**.028**	.156	.238	.614
Trait anxiety	**-.182**	.120	.	**.320**	.062	.014	.048
	.004	.062	.	**<.001**	.335	.822	.449
State anxiety	**-.315**	**.146**	**.306**	.	.020	<-.001	-.036
	<.001	**.023**	**<.001**	.	.755	.887	.572
Reading score	.056	-.043	-.011	-.041	.	**.535**	**.466**
	.388	.506	.866	.525	.	**<.001**	**<.001**
Maths score	.074	-.059	**-.141**	-.120	**.321**	.	**.486**
	.247	.358	**.027**	.062	**<.001**	.	**<.001**
Spelling score	**.170**	-.004	-.034	-.103	**.302**	**.261**	.
	.008	.951	.592	.109	**<.001**	**<.001**	.

Table 3. Mean scores and standard deviations (in brackets) for the difficulties versus control groups on the emotion measures

	All weak N=9	Two weak N=31	One weak N=47	No weak N=162
Self-esteem level	12.78 (3.42)	13.45 (2.87)	14.91 (3.13)	15.48 (3.59)
Locus of control level	15.33 (3.04)	14.84 (4.17)	14.50 (3.48)	14.63 (4.38)
Trait anxiety level	37.78 (6.91)	35.71 (5.50)	34.41 (9.42)	36.05 (7.02)
State anxiety level	29.67 (3.71)	29.45 (4.14)	30.24 (5.52)	30.21 (6.01)

weak groups across the grades indicated little evidence of an interaction with grade (F(3,238) < 1), suggesting that there was no evidence for the relatively low self-esteem experienced by those with weaknesses in two or more basic curriculum areas to vary across the grades assessed.

A final analysis considered the effect of locus of control on the relationships between emotional problems (in self-esteem and anxiety) and educational achievement levels. For these analyses, the children were divided into three groups, those with low, middle and high scores on the locus of control scale. For each grade, those children scoring in the lowest 30% of the locus of control scale were treated as 'internal', those scoring in

the top 30% of the scale were considered 'external' and those scoring in the mid 40% were labelled 'neither'. Partial correlations were again performed, controlling for grade and sex (categorization procedures ensured no relationship between locus of control level and grade, and there was no association between locus of control level and sex: χ2 (2)=.08, p=.96). Again relationships between the emotion (self-esteem/anxiety) scales and the achievement measures were the focus, but this time for each of the three locus of control groups. These statistics can be found in table 4.

Correlations indicated that the relationship between spelling and self-esteem found in the whole cohort analysis (table 2) disappeared for the 'internal'

Table 4. Partial correlations (controlling for grade and sex), with p-values below each, between the achievement measures and self-esteem/anxiety for the three locus of control groups (bolding indicates that the p-value is less than .05)

	Low LoC level (more internal) N=78			Medium LoC level (neither) N=96			High LoC level (more external) N=72		
	self esteem	trait anxiety	state anxiety	self esteem	trait anxiety	state anxiety	self esteem	trait anxiety	state anxiety
Reading score	.010	.104	-.154	.105	.011	.068	.008	-.160	-.055
	.933	.372	.183	.316	.913	.512	.946	.185	.653
Maths score	.050	-.075	-.053	.100	-.112	-.162	.098	**-.269**	-.150
	.671	.519	.649	.340	.282	.119	.420	**.024**	.215
Spelling score	.062	-.139	-.154	**.398**	.109	-.137	-.024	-.093	-.030
	.595	.230	.185	**<.001**	.295	.187	.845	.443	.806

and 'external' groups, but was retained and increased for the 'neither' group, suggesting that those Arabic children with middling levels of locus of control show the predicted relationship between low self-esteem levels and poor basic literacy skills. Additionally, these partial correlations also indicated a relationship between mathematics scores and trait anxiety for the high locus of control group, arguing for the poorer maths students in the more 'external' group to be more anxious compared to their good maths peers.

Discussion

The findings derived from these Arabic speaking children, who were learning to read, spell and be numerate in an Arabic educational context, indicate relationships between educational achievement levels and self-esteem, but less evidence of a relationship between the curriculum areas assessed and anxiety. The association with self-esteem seemed most evident when the spelling data were considered, suggesting that lower self-esteem may be more likely to be linked with weak basic literacy skills than with poor mathematics or comprehension. This finding of a more specific relationship with spelling may not be unusual. For example, Bonifacci, Candria & Contento (2008) found children at risk of emotional problems made more spelling mistakes than peers, although there was no difference in reading levels. However, the evidence from the present study also argues for poor self-esteem to be more likely amongst those with weaknesses in more than one of the curriculum area tested – which may be more consistent with an association with

learning disabilities than a transient weakness. Taken together, these data suggest that weak basic literacy skills are related to poor self-esteem, particularly when other areas of academic skill are also weak. If mathematics or reading comprehension has developed well, then these may compensate for poor performance in spelling, thereby overcoming negative feelings about the self. Although this effect was relatively small when considered across the full distribution of scores on the individual achievement tests, when weaknesses in several curriculum areas were considered, the size of the effect was medium to large (e.g., the difference between the 'all weak' group and the 'no weak' group was about 0.8 standard deviations of the whole cohort).

Additionally, the evidence for a lack of an interaction with grade in the present data argues for somewhat consistent effects on self-esteem across the late elementary and intermediary grades studied, or at least no reduction in the association between educational weaknesses and low self-esteem. Again, this may not be surprising. Battle (1990) has argued that once self-esteem is established and stable it is difficult to change. Therefore, individuals with LD with damaged self-esteem during early education may be destined to feel negatively about themselves throughout schooling and into adulthood. Consistent with this view, Kosmos & Kidd (1991) found that dyslexic adults often dispute their own judgment, have self-defeating thoughts and have little self confidence. The findings argue for a potentially important effect on self-esteem of weaknesses in basic curriculum

areas that seems to be relatively consistent across a period of educational opportunity for these Arabic children.

Finally, the evidence for differences across categories of locus of control may indicate that internalized or externalized feelings of control may influence the relationship between negative affect and educational achievement. Those with externalizing views would be expected to consider problems with learning as due to external factors, possibly the teacher or education system, rather than their own ability. Such externalizing of the problem should protect self-esteem, but may lead to learned helplessness (see Humphrey & Mullins, 2002b; Oka & Paris, 1987) and increased likelihood of higher levels of anxiety when struggling, particularly in groups who have been found to be prone to higher levels of anxiety (El-Zahhar & Hocevar, 1991). Additionally, as Mruk (1990) has proposed, those with an internal sense of control should have a generally higher level of self-esteem based on feelings of 'can-do', which may protect against experiences of failure. In addition, the experience of positive outcomes in the presence of the adverse circumstance have been seen as factors leading to resilience (Rutter, 2012; Schoon, 2006), which may be an important coping strategy for those with learning difficulties.

Social/cultural differences may need to be considered also. In most cases, the life of a Kuwaiti individual is rooted in an extended, but private, family group and is based on Arab traditional social values embedded in the teachings of Islam. Family and societal traditions tend to govern an individual's day-to-day behaviour and conduct. Thus a Kuwaiti child, from his infancy, has learnt of an external power, imposed through habits, traditions or religion, which controls and observes their experiences. How this externalizing perspective affects behaviour requires further study, but it may be that some of those who report high levels of external locus of control may not be those with high levels of learned helplessness, as might be expected from the Western literature. Traditional views of locus of control suggest that Western societies value the development of an internal locus of control (see Walker, 2004). A child who has control over his/her own thoughts and behaviour in this model would be held in esteem. In contrast, Arab societies often value external factors that control individual responses, meaning that Arab students are generally externalizers who consider that an outer power governs their behaviour (see also discussions in Dahlin & Regmi, 2000). An Arab child who shows high levels of internal locus of control may be seen as more of a problem, rather than someone to be held in esteem. Arab societies normally do not encourage individual independence, in contrast to Western societies where dependency may be considered as immaturity (Dwairy, 1998; Walker, 2004). One of the prominent features of the Arab culture is that young adolescents identify with the family and base their self-esteem upon family status and reputation, and on support and approval from the family (Dwairy, 2002). Consequently, the relationship between locus of control, self-esteem and behaviour will potentially vary between Arab and Western cultures and

may vary within different groups depending on the influence of traditional versus more modern family and societal factors.

The implications of relationships between emotional well-being and educational achievement may extend beyond the individual. Emotional, social and academic performance factors may lead to individuals being vulnerable to increased anxiety, lower self confidence and/or poor self esteem, which can lead to further difficulties in school. For example, Lindquist (1989) argued that some children with literacy learning problems might disrupt a class and become the class clown because they believe the class work is too difficult for them and so will use attention seeking to protect their self-esteem. Indeed, in its extreme case, these problems may extend to offending behaviour (Elbeheri, Everatt & Al-Malki, 2009). Interventions, therefore, may have to extend beyond specific educational areas. For example, social and emotional learning programs can improve learning in school by increasing attendance and decreasing dropout rates (Wilson, Gottfredson & Najaka, 2001). Consistent with this, Lewis (1984) found that a structured group counselling programme improved reading achievement, as well as self-concept, amongst elementary school children, and similar effects may be apparent for LD children, particularly those in middle school (see also Daki & Savage, 2010; and review by Elbaum & Vaughn, 2001).

The views and findings discussed above argue for a combined educational and psychological response to LD, particularly for those who may have developed negative self-worth feelings following failure in educational achievement. A study by Al-Sharhan & Everatt (2015) investigated training in self-management techniques with a group of Arabic LD children similar in background (social and educational) to the children tested in the present paper. These students showed evidence of learning problems coupled with poor levels of attention and increased off-task behaviours, and learnt to use positive self-statements aimed at boosting self-esteem and self-regulation of thoughts, feelings and behaviours. Findings indicated reductions in continuous off-task behaviours, as well as improved scores on a literacy learning task, in comparison to students not undergoing the intervention.

Therefore, given improvements in achievement, changes in self-concept would be expected to follow if those achievements were related to the self (Omizo & Omizo, 1988; Ozimo, Ozimo & D'Andrea, 1992). One interpretation is that improvements in self-concept are more likely to occur following a prolonged period of positive achievement combined with counselling that leads to a more internal locus of control. If the LD child has focused on considering educational achievement as external to their own control, in order to protect self-esteem, then counselling may have to target locus of control so that achievement is perceived as an aspect of the self, thereby increasing self-esteem. This viewpoint also argues for the need to implement counselling-based strategies targeted at internalising locus of control and improving self-esteem once gains in

achievement have started and are likely to continue. If gains in achievement are short-lived or perceived as external to the individual, then there is likely to be little effect on self-concept. Strategies that build on strengths (e.g., the LD child may show abilities in certain areas while showing weaknesses in others) have been found to have positive effects on educational achievement in older LD children when trying to remediate areas of weakness have been less effective (see Weeks, Brooks & Everatt, 2002). If using what the child can do increases achievement for some period of time, then targeting locus of control along with counselling aimed at improving self-esteem should lead to the achievement gains being internalised, leading to an increased likelihood of self-concept improvements, and a reduction in learned helplessness that should increase motivation to learn even if literacy-based interventions move to attempting to remediate areas of weakness. Clearly further research is necessary, but this strategic combined approach may prove useful particularly for older LD children who have experienced a prolonged period of failure during their education and it may provide one way of counteracting the reduction in success found for current LD intervention programmes as the child grows older (see discussions of age-intervention effects in Torgesen, 2005). Such further research investigating these strategic combined intervention approaches for LD children would be valuable.

References

Al-Bahairy A. A. (2005). *STAIC instruction manual, 2nd edition.* Faculty of Education, Assuit University, Egypt.

Al-Khawaja, J. M. A. (1998). Locus of control. In R. A. Ahmed, & U. P. Gielen (Eds.), *Psychology in the Arab countries.* Menoufia, Egypt: Menoufia University Press.

Al-Sharhan, A., & Everatt, J. (2015). Behavioural interventions and developmental learning difficulties: Factors influencing effectiveness in a Kuwaiti school context. *Asian Pacific Journal of Developmental Differences, 2*, 114-131.

Athey, I. (1982). Reading: The affective domain reconceptualised. *Advances in Reading and Language Research, 1*, 203-217.

Bachman, J. G., & O'Malley, P. M. (1977). Self-esteem in young men: A longitudinal analysis of the impact of educational and occupational attainment. *Journal of Personality and Social Psychology, 35*, 365-380.

Battle, J. (1990). Self-esteem: The new revolution. Edmonton: James Battle Associates.

Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest, 4,* 1-44.

Boetsch, E. A., Green, P. A., & Pennington, B. F. (1996). Psycho-social correlates of dyslexia across the life span. *Development and Psychopathology, 8,* 539-562.

Bonifacci, P., Candria, L., & Contento, S. (2008). Reading and writing: What is the relationship with anxiety and depression? *Reading and Writing, 21,* 609-625.

Burden, R. L. (2005). *Dyslexia and self-concept: Seeking a dyslexic identity.* London: Whurr.

Burden, R. L., & Burdett, J. (2007). What's in a name? Students with dyslexia: Their use of metaphor in making sense of their disability. *British Journal of Special Education, 34,* 77-81.

Butrowsky, I. S., & Willows, D. M. (1980). Cognitive-motivational characteristics of children varying in reading ability: Evidence for learned helplessness in poor readers. *Journal of Educational Psychology, 72,* 408-422.

Caron, C., & Rutter, M. (1991). Comorbidity in child psychopathology: Concepts, issues and research strategies. *Journal of Child Psychology and Psychiatry, 32,* 1063-1080.

Casey, R., Levy, S. E., Brown, K., & Brooks-Gunn, J. (1992). Impaired emotional health in children with mild reading disability. *Developmental and Behavioural Paediatrics, 13,* 256-260.

Chan, L. K. S. (1994). Relationship of motivation, strategic learning, and reading achievement in Grades 5, 7, and 9. *Journal of Experimental Education, 62,* 319-339.

Chapman, J. W., Silva, P., & Williams, S. (1984). Academic self-concept: Some developmental and emotional correlates in nine year old children. *British Journal of Educational Psychology, 54,* 284-292.

Coopersmith, S. A. (1967). The *antecedents of self-esteem.* San Francisco: Freeman.

Cornwell, A., & Bawden, H. N. (1992). Reading disabilities and aggression: A critical review. *Journal of Learning Disabilities, 25,* 281-288.

Critchley, M., & Critchley, E. A. (1978). *Dyslexia defined.* London: Acford.

Dahlin, B. & Regmi, P. M. (2000). Ontologies of knowledge, East and West: A comparison of the views of Swedish and Nepalese students. *International Journal of Qualitative Studies in Education, 13,* 43-61.

Daki, J., & Savage, R. S. (2010). Solution-focused brief therapy: Impacts on academic and emotional difficulties. *The Journal of Educational Research, 103*(5), 309-326.

Duane, D. D. (1991). Dyslexia: Neurobiological and behavioral correlates. *Psychiatric Annals, 21,* 703-708.

Dwairy, M. (1998). *Cross-cultural counseling: the Arab-Palestinian Case.* New York: Hamworth Press.

Dwairy, M. (2002). Foundations of a psychosocial dynamic personality theory of collective people. *Clinical Psychology Review, 22,* 343-360.

Elbaum, B., & Vaughn, S. (2001). School-based interventions to enhance the self-concept of students with learning disabilities: A meta-analysis. *The Elementary School Journal, 101,* 303-329.

Elbeheri, G., Abu Al Diyar, M., Taibah, N., Everatt, J., Mahfoudhi, A., & Haynes, C. (2013). A *Test of Reading & Spelling for Children (in Arabic).* Kuwait: Centre for Child Evaluation & Teaching.

Elbeheri, G., & Everatt, J. (2009). IQ and dyslexia: From research to practice. In G. Reid, G. Elbeheri, J. Everatt, D. Knight & J. Wearmouth (Eds), *The Routledge companion to dyslexia.* Abingdon: Routledge.

Elbeheri, G., Everatt, J., & Al-Malki, M. (2009). The incidence of dyslexia among young offending population in Kuwait. *Dyslexia, 15,* 86-104.

El-Safty, M. M. (1995). Test anxiety and its relation to achievement motivation: A cross-cultural study between high school students in Egypt and Arab Emirates [translated title]. *Derasat Nafseyah, 5,* 71-106.

El-Zahhar, E. N., & Hocevar, D. (1991). Cultural and sexual differences in test anxiety, trait anxiety and arousability: Egypt, Brazil and the United States. *Journal of Cross-Cultural Psychology, 22,* 238-249.

Everatt, J., & Brannan, P. (1996). The effects of

a spelling task on the subsequent performance of dyslexics. *Dyslexia, 2,* 22-30.

Everatt, J., Elbeheri, G., & Al-Manabri, M. (2012). *A computer-based Dyscalculia Screener (in Arabic).* Kuwait: Centre for Child Evaluation & Teaching.

Gerber, P. J., Ginsberg, R., & Reiff, H. B. (1992). Identifying alterable patterns in employment success for highly successful adults with learning disabilities. *Journal of Learning Disabilities, 8,* 475-487.

Gjessing, H. J., & Karlsen, B. (1989). *A longitudinal study of dyslexia.* New York: Springer.

Goldberg, R., Higgins, E., Raskind, M., & Herman, K. (2003). Predictors of success in individuals with learning disabilities: A qualitative analysis of a 20 year longitudinal study. *Learning Disabilities Research and Practice, 18,* 222-236.

Gregg, N., Hoy, C., King, W. M. & Moreland, C. M. (1992). The MMPI-2 profile of adults with learning disabilities in university and rehabilitation settings. *Journal of Learning Disabilities, 25,* 386-395.

Griffiths, A. N. (1975). Self concepts of dyslexic children. *Academic Therapy, 11,* 83-90.

Hansford, B. C., & Hattie, J. A. (1982). The relationship between self and achievement/performance measures. *Review of Educational Research, 52,* 123-142.

Hettinger, C. (1982). The impact of reading deficiency on the global self concept of the adolescent. *Journal of Early Adolescence, 2,* 293-300.

Hinshaw, S. P. (1992). Externalising behavior problems and academic underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. *Psychological Bulletin, 111,* 127-155.

Hufton, N., Elliott, J. G., & Illushin, L. (2002). Achievement motivation across cultures: Some puzzles and their implications for future research. In J. Bempechat & J. G. Elliott (Eds.), *Learning in culture and context: Approaching the complexities of achievement motivation in student learning.* San Francisco: Jossey-Bass.

Humphrey, N. (2002). Teacher and pupil ratings of self-esteem in developmental dyslexia. *British Journal of Special Education, 29,* 29-36.

Humphrey, N., & Mullins, P. M. (2002a). Self-concept and self-esteem in developmental dyslexia. *Journal of Research in Special Educational Needs, 2,* 1-13.

Humphrey, N., & Mullins, P. M. (2002b). Personal constructs and attribution for academic success and failure in dyslexia. *British Journal of Special Education, 29,* 196-203.

Huntington, D. D., & Bender, W. N. (1993). Adolescents with learning disabilities at risk? Emotional well-being, depression, suicide. *Journal of Learning Disabilities, 26,* 159-166.

Jorm, A. F., Share, D. L., Matthews, R., & Maclean, R. (1986). Behavioural problems in specific reading retarded and general reading backward children: A longitudinal study. *Journal of Child Psychology and Psychiatry, 27,* 33-43.

Kosmos, K. A., & Kidd, A. H. (1991). Personality characteristics of dyslexic and non-dyslexic adults. *Psychological Reports, 69,* 231-234.

Lamm, O., & Epstein, R. (1992). Specific reading impairments: Are they associated with emotional difficulties? *Journal of Learning Disabilities, 25,* 605-615.

Lawrence, D. (1996). *Enhancing self-esteem in the classroom.* London: Paul Chapman.

Lewis, H. W. (1984). A structured group counseling program for reading disabled elementary students. School *Counselor, 31,* 454-459.

Livingstone, R. (1990). Psychiatric comorbidity with reading disability: A clinical study. *Advances in Learning Disabilities, 6,* 143-155.

Mahfoudhi, A., Elbeheri, G., & Everatt, J. (2009). Reading and dyslexia in Arabic. In G. Reid, G. Elbeheri, J. Everatt, D. Knight, & J. Wearmouth, (Eds), *The Routledge companion to dyslexia.* Abingdon: Routledge.

Margerison, A. (1996). Self-esteem: Its effect on the development and learning of children with EBD. *Support for Learning, 11,* 176-180.

Maughan, B. (1995). Behavioural development and reading disabilities. In C. Hulme & M. Snowling (Eds), *Reading development and dyslexia.* London: Whurr Publishers.

McLoughlin, D., Fitzgibbon, G., & Young, V. (1994). *Adult dyslexia: Assessment, counselling and training.* London: Whurr Publishers Ltd.

Miles, T. R. (Ed), (2004). *Dyslexia and stress,* 2nd edition. London: Whurr.

Miller, C. J., Hynd, G. W., & Miller, S. R. (2005). Children with dyslexia: Not necessarily at risk for elevated internalizing symptoms. *Reading and Writing, 18,* 425-436.

Mousa, F. A. (1991). *Arabic version of the Locus of Control Scale for Children.* Cairo, Egypt: Nahdat Misr Publishing Co.

Mousa, F. A., & Dosouki, A. M (1991). *Arabic version of the Coopersmith Self-Esteem Inventory.* Cairo, Egypt: Nahdat Misr Publishing Co.

Mruk, C. (1990). *Self-esteem: Research, theory and practice.* London: Free Association.

Mueller, J. H. (1976). Anxiety and cue utilization in human learning and memory. In M. Zuckerman & C.D. Speilberger (Eds.), *Emotion and anxiety: New concepts, methods and application.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Murray, M. E. (1978). The relationship between personality adjustment and success in remedial programs for dyslexic children. *Contemporary Educational Psychology, 3,* 330-339.

Nasser, F., & Birenbaum, M. (2005). Modeling Mathematics Achievement of Jewish and Arab Eighth Graders in Israel: The Effects of Learner-Related Variables. *Educational Research and Evaluation, 11,* 277-302.

Nowicki, S., & Strickland, B. R. (1973). A locus of control scale for children. *Journal of Consulting and Clinical Psychology, 40,* 148-154.

O'Brien, V., Martinez-Ponz, M., & Kopala, M. (1999). Mathematics self-efficacy, ethnic identity, gender and career interests related to mathematics and science. *Journal of Educational Research, 92,* 231-235.

Oka, E. R., & Paris, S. G. (1987). Patterns of motivation and reading skills in under-achieving children. In S.J. Ceci (Ed), *Handbook of cognitive, social and neurological aspects of learning disabilities, Vol II.* Hillsdale, NJ: LEA.

Omizo, M. M., & Omizo, S. A. (1988). Group counseling's effects on self-concept and social behavior among children with learning disabilities. *Journal of Humanistic Education and Development, 26,* 109-117.

Ozimo, M. M., Ozimo, S. A., & D'Andrea, M. J. (1992). Promoting wellness among elementary school children. *Journal of Counseling & Development, 71,* 194-198.

Peelo, M. (1994). The experience of study counseling. *Adults Learning, 5,* 151-152.

Pumfrey, P. D., & Reason, R. (1991). *Specific Learning Difficulties (Dyslexia): Challenges, responses and recommendation.* London: Routledge.

Ray, W. J., Katahn, M., & Snyder, C. R. (1971). Effects of test anxiety on acquisition, retention and generalization of a

complex verbal task in a classroom situation. *Journal of Personality and Social Psychology, 20,* 147-154.

Riddick, B., Farmer, M., & Sterling, C. (1997). *Students and dyslexia: Growing up with a Specific Learning Difficulty.* London: Whurr Publishers.

Roeser, R. W., van der Wolf, K., & Strobel, K. ,R. (2001). On the relation between social-emotional and school functioning during early adolescence: Preliminary findings from Dutch and American samples. *Journal of School Psychology, 39,* 111-139.

Rosenthal, J. H. (1973). Self esteem in dyslexic children. *Academic Therapy, 9,* 27-39.

Rutter, M. (2012). Resilience: Causal pathways an social ecology. In M. Ungar (Ed.), The social ecology of resilience: *A handbook of theory and practice.* New York, NY: Springer Science+Business. (pp. 33-42)

Scholz, U., Doña, B. G., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. European *Journal of Psychological Assessment, 18,* 242-251.

Schoon, I. (2006). *Risk and resilience: Adaptations in changing times.* Cambridge: Cambridge University Press.

Scott, M. E., Scherman, A., & Phillips, H. (1992). Helping individuals with dyslexia succeed in adulthood; Emerging keys for effective parenting, education and development of a positive self concept. *Instructional Psychology, 19,* 197-204.

Spieleberger, C. D. (1973). *State-trait anxiety inventory for children.* Palo Alto, CA: Consulting Psychologists Press.

Thomson, M. (1990). *Developmental dyslexia.* London: Whurr.

Thomson, M. E., & Hartley, G. M. (1980). *Self concept in dyslexic children.* Academic Therapy, 16, 19-36.

Torgesen, J. K. (2005). Recent discoveries on remedial interventions for children with dyslexia. In M.J. Snowling & C. Hulme (Eds.), *The science of reading: A handbook.* Malden, MA: Blackwell Publishing.

Vaughn, S., Zaragoza, N., Hogan, A., & Walker, J. (1993). A four-year longitudinal investigation of the social skills and behaviour problems of students with learning disabilities. *Journal of Learning Disabilities, 26,* 404-412.

Walker, K. (2004). Teachers and teacher world-views. *International Education Journal, 5,* 433-438.

Weeks, S., Brooks, P., & Everatt, J. (2002). Differences in learning to spell: Relationships between cognitive profiles and learning responses to teaching methods. *Educational and Child Psychology, 19,* 47-62.

Wilson, D. B., Gottfredson, D. C. & Najaka, S. S. (2001). School-based prevention of problem behaviors: A meta-analysis. *Journal of Quantitative Criminology, 17,* 247–272.