



# What it means to be a reader at age 11: valuing skills, affective components and behavioural processes

## An outline of the evidence

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This report was prepared by the National Literacy Trust on behalf of the campaign in collaboration with coalition partners: The Reading Agency, Beanstalk, I CAN, BookTrust, the Publishers Association, the Fair Education Alliance, NAHT, TeachFirst, Achievement for All, Harper Collins, SCL, and Save the Children.

## The Read On. Get On. campaign

### Background on ROGO

Every year in England, thousands of children leave primary school without the confidence and fluency in reading they need. This has a significant effect on their learning, life chances and engagement with reading, and it also has a long-term economic and social impact. Indeed, it is estimated that poor reading skills will cost the UK economy £32.1bn by 2025.

The Read On. Get On. (ROGO) campaign was launched in 2014 to address this challenge and to ensure that every child is reading well by the age of 11. ROGO is a partnership initiative involving the National Literacy Trust, The Reading Agency, Beanstalk, I CAN, BookTrust, the Publishers Association, the Fair Education Alliance, NAHT, TeachFirst, Achievement for All, Harper Collins, SCL and Save the Children. The National Literacy Trust holds the secretariat of the campaign.

### The original ROGO definition

Our ambition is that all children will be reading well by the age of 11, by 2025, with “reading well” being defined as achieving level 4b at the end of KS2. With the recent changes in national assessment at age 11, both in what is being assessed and how achievement is expressed (in scale scores, not levels), this definition is now problematic.

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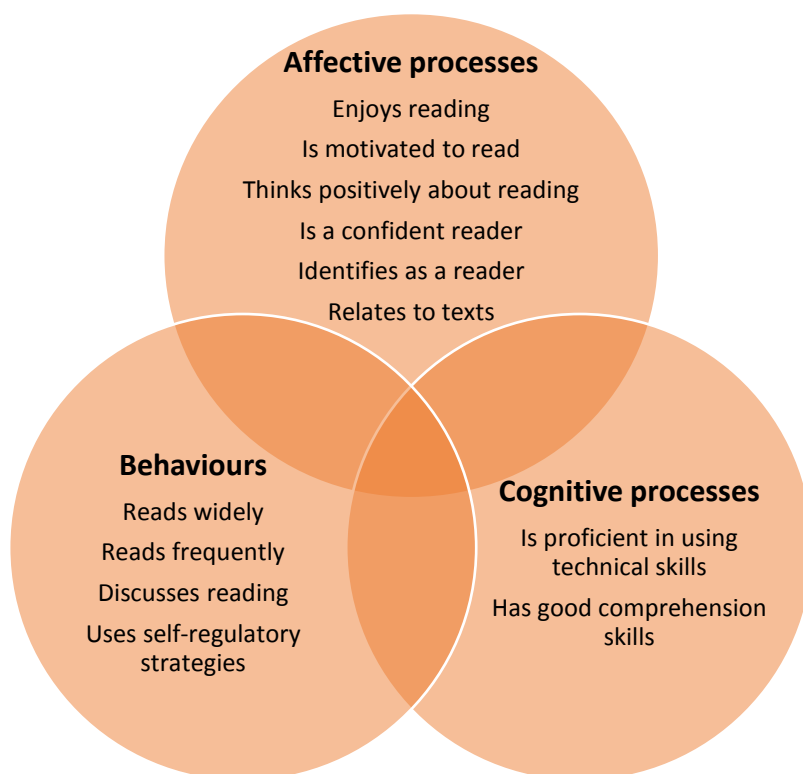
Discussions within the coalition of how “reading well” ought to be reframed led to a wider debate and redefinition of what the coalition means by “reading”. This paper looks at the proposed broadening of the definition, and its current evidence base.

### **Working towards a broader conceptualisation of what we mean by reading**

The initial conceptualisation of reading and reading well was focused on the assessment of reading skills. Most existing conceptualisations of reading skills can be categorised as a composite of two main **cognitive processes**: technical skills and comprehension skills. Reading comprehension forms the simple view of reading that was the basis of Jim Rose’s Independent Review of the Teaching of Early Reading in 2006 and that has subsequently been the basis of government literacy policy. The technical skills, such as decoding and syntactic knowledge, could be argued as forming the basis for the comprehension skills. However, viewing reading as consisting of comprehension and the technical skills is too simplistic.

Therefore, we argue that the conceptualisation of reading needs to be much broader and also needs to take into account **affective processes** and **behaviours**, as outlined in Figure 1. Indeed, in addition to cognitive skills, more complex conceptualisations of reading often include a variety of affective processes, such as emotional valence (referring to attitudes and subjective feelings) and motivational considerations, which help to develop and sustain cognitive processes. These might also include issues of identity – i.e. whether or not individuals see themselves as readers.

**Figure 1: Top-level tripartite conceptualisation of what we mean by “reading”**



This broader view of reading is also supported by academic literature and other relevant organisations. For example, OECD (2016) states that:

**“Changes in our concept of reading since 2000 have led to an expanded definition of reading literacy, which recognises motivational and behavioural characteristics of reading alongside cognitive characteristics.”**

## What is the evidence base for this model

We will first outline existing evidence on the relationship between affective processes within the model and reading skill. Evidence supporting a link between reading behaviour components and reading skill will then be reviewed and, finally, we will explore how affective processes and reading behaviours are linked. Please note that the evidence is heavily focused on the link between reading skill and affective and behavioural components. This is because the overwhelming majority of evidence has focused on reading skill rather than exploring the affective and behavioural variables on their own.

### Linking reading skills and affective components

#### Reading enjoyment

The link between reading enjoyment and reading skills is perhaps the most-researched part of the model. Theoretically, the two are linked, as children who enjoy reading are more likely to seek it out as an activity and engage in reading more often (see below). As a result, they become better at it. Reading enjoyment is a component of intrinsic reading motivation (see below), which is also linked with reading skills.

The link between the two is borne out empirically, although evidence for the direction of the relationship is mixed. A positive relationship between enjoyment and attainment is often believed to be a given (for an overview of reading for enjoyment and its link to reading in general, see Clark and Rumbold, 2006). Indeed, studies have reported a strong positive relationship between the two (see Blunsdon et al., 2003; OECD, 2011), with young people who read for enjoyment doing better in reading tests than their peers who do not enjoy reading. Using 2000 PISA data on 15-year-olds from Ireland, the UK and US, Brozo, Shiel and Topping (2008) found that reading enjoyment was positively associated with reading achievement. Similarly, another study using more-recent PISA data (OECD, 2011) showed that variations in reading enjoyment of 15-year-olds in 65 countries explained 18% of the difference in reading performance. In other words, one could predict nearly a fifth of the differences in students' reading scores based on how much they enjoy reading.

Large-scale surveys of children and young people by the National Literacy Trust have also repeatedly evidenced the link between the two, with 2016 survey data showing that reading enjoyment is a significant predictor of reading skill (measured using the New Group Reading Test; see Clark and Teravainen, 2017). Additionally, the National Literacy Trust's 2016 data (see Appendix 1) also demonstrates a significant positive correlation (.383) between reading enjoyment and reading attainment, further reinforcing the link between the two. This

positive relationship applies to reading both in and out of school (Krashen, 1993; Anderson et al., 1988). There is also evidence that reading enjoyment is related to specific attainment facets, such as text comprehension and grammar (Cipielewski and Stanovich, 1992; Cox and Guthrie, 2001), as well as breadth of vocabulary (Angelos and McGriff, 2002).

However, there is also some evidence to suggest that increases in reading skill are not necessarily mirrored by greater reading enjoyment (e.g. Rieber and Noah, 2008; Taylor et al., 1990). For example, it is possible for children to achieve reading standards while not enjoying reading, and there is evidence from international comparison studies that suggests English primary pupils' relatively high attainment in reading skills (compared with their peers in other countries) is at the expense of their enjoyment of reading (Whetton, Ruddock and Twist, 2007; Sturman and Twist, 2005). Similarly, a longitudinal study of 2,000 Year 4 and Year 6 UK children who completed a survey in 1998, 2003 and 2007, and for whom reading-skill data were also available (Sainsbury and Schagen, 2004), found that over time a decrease in enjoyment of reading was associated with an increase in reading achievement.

### **Reading attitudes**

Compared with enjoyment of reading, the evidence about a relationship between reading attitudes and attainment is more unanimous. Research has repeatedly found that positive reading attitudes are linked to achievement (McKenna and Kear, 1990).

More specifically, studies have time and again shown that lower-attaining pupils hold more negative attitudes towards reading compared with their higher-attaining peers (e.g. Brooks, Schagen and Nastat, 1997; Ofsted, 2004; Twist et al., 2007; Sturman and Twist, 2005). An international study of 10-year-old pupils (PIRLS; Twist et al., 2007) also showed that, on average, those who had scored highly in terms of their reading attitudes had substantially higher reading achievement scores than those at the medium or low levels. At least for reading at this age, it seems that positive attitudes and high achievement in reading go hand in hand. Indeed, a recent meta-analysis (Petscher, 2010) showed that the strength of the relationship between attitudes and attainment is stronger for primary pupils than older pupils.

According to Ofsted (2004; also see Skinner et al., 2009), while most pupils initially feel positive about reading, those who are not good at reading often develop negative attitudes towards it. This then leads to a vicious reinforcing circle whereby pupils who fail to make the necessary progress see the gap between their reading and that of their peers widening, and as a result their negative attitudes harden. Ofsted also reported in their review that these negative attitudes could frequently be reversed by intervention programmes that helped to improve their skills and change their view of themselves as readers, thereby motivating them to persevere and improve.

### **Reading motivation**

The concept of reading motivation is perhaps that which is most grounded in theory. Reading motivation has been defined as "the individual's personal goals, values and beliefs with regard to the topics, processes, and outcomes of reading" (Guthrie & Wigfield, 2000, p. 3).

The most basic distinction between different forms of motivation is made between intrinsic and extrinsic motivation (Ryan, & Deci, 2000), where intrinsic motivation is defined as doing something because it's inherently interesting and enjoyable (Ryan & Deci, 2000), so it's conceptually closely linked to reading enjoyment. Extrinsic motivation, on the other hand, refers to doing something because it leads to a separable outcome (Ryan & Deci, 2000). Other forms of reading motivation exist. For example, Guthrie and Wigfield (2000) define reading motivation as a multifaceted construct that includes motivational goals, intrinsic and extrinsic motivation, self-efficacy and the social motivation for reading.

As reading is an activity that requires effort, it would be expected that children need to be motivated to read so that they will become good readers. Indeed, several studies using different conceptualisation and measures (e.g., Wang & Guthrie, 2004; Becker, MacElvany & Kortenbruck, 2010; McGeown, 2012) have found that motivation, particularly the intrinsic dimension of it, has an impact on reading attainment. For example, Wang and Guthrie (2004) found that intrinsic motivation predicted text comprehension. Similarly, a study by Becker, MacElvany and Kortenbruck (2010) found a link between intrinsic motivation and later reading skill. Their results show that Grade 4 intrinsic reading motivation was positively related to Grade 6 reading literacy, mediated by amount of reading (Becker, MacElvany & Kortenbruck, 2010). The authors suggest that children who see reading as a desirable activity tend to read more frequently and therefore develop their skills as readers (Becker, MacElvany & Kortenbruck, 2010). According to Baumann & Duffy (1997, p. 6), "motivation to read and reading ability are synergistic, mutually reinforcing phenomena".

Data collected by the National Literacy Trust in 2016 offers further, more recent, support for the link between intrinsic motivation and reading attainment, as it shows a significant positive correlation (.349) between being motivated to read by interest and overall reading score (see Appendix 1).

Extrinsic motivation, on the other hand, has been generally found to be unconnected or even negatively associated with reading skills (McGeown, 2016). Wang and Guthrie (2004) found that extrinsic motivation predicted text comprehension negatively, except when it was associated with intrinsic motivation. Deci, Koestner and Ryan (2001) point out that rewards (i.e. extrinsic motivation) can at times undermine rather than enhance self-motivation, curiosity, interest and persistence at learning tasks. In a similar vein, Valentine, Dubois and Cooper (2004) suggest that extrinsic motivation can hinder intrinsically motivated learners as they would not get fully engaged in the learning activity because they are directing their attention to external values rather than appreciating the activity itself.

At the same time, some researchers have concluded that overall extrinsic motivation does not decrease intrinsic motivation. For example, Park (2011) found that a moderate level of extrinsic motivation had a positive effect on reading performance but only when students had at least a medium level of intrinsic motivation as well. This suggests that while intrinsic motivation is more beneficial to reading attainment, extrinsic motivation may also have a positive impact when combined with some degree of intrinsic motivation. It has to be noted that extrinsic motivation can be conceptualised and measured in different ways across the studies, which might partly explain their varying findings.

In fact, the 2016 correlational data (see Appendix 1) seems to support this suggestion. Of the two types of extrinsic motivation included in the survey, motivation to read for achievement was found to be linked to reading attainment (.136), albeit only weakly. At the same time, the relationship between motivation to read for achievement and reading interest (i.e. a type of intrinsic motivation) is also strong (.564). The other type of extrinsic motivation – to read for approval – was found to have a negative relationship with reading attainment (-.262). However, this type of motivation was not found to be linked to reading interest, supporting the idea that extrinsic motivation is only beneficial for attainment if combined with intrinsic motivation.

### **Reading confidence and reading self-efficacy**

Self-efficacy, or people's beliefs that they are capable of carrying out an action to achieve a particular goal (Bandura, 1993), is another motivational component that has been shown to be positively correlated with academic achievement (Webb-Williams, 2006; Barrows, Dunn & Lloyd, 2013). From the theoretical point of view, this is not surprising as perceptions of efficacy determine how much effort people will expend on an activity and how long they will persevere (Pajares, 1995).

With regards to self-efficacy and literacy performance specifically, Bostock and Boon (2012) found that students' literacy self-efficacy related to their literacy competence scores. The 2016 correlational data supports these suggestions: the link between self-efficacy and reading attainment was among the highest in the data (.444). The relationship between self-efficacy and reading performance is also bidirectional: a reader's perceived competence in reading is shaped by their past success in reading (Wigfield, Guthrie, Tonks & Perencevic, 2004). Confidence has also been connected to reading attainment. Bandura (1997) defines confidence as referring to strength of belief but does not necessarily specify what the certainty is about, while self-efficacy refers to a belief in one's agentic capabilities, that one can produce given levels of attainment. A study of young children's attitudes to reading, reading confidence and enjoyment of learning to read found that, among other variables, reading confidence correlated with their word-reading skill (McGeown et al., 2015). Moreover, the study found that only reading attitudes and confidence predicted variance in reading success (McGeown et al., 2015). The 2016 data also demonstrate the connection between these variables as the correlation between them was found to be moderate (.489).

### **Identity as a reader**

Generally, studies have shown that one's self-concept as a reader, that is how one sees oneself as a reader, is linked to reading attainment. However, the strength of the relationship is more complex, and various studies have come to slightly different conclusions. Retelsdorf, Köller and Möller (2014) used structural equation modelling to investigate reciprocal effects between reading self-concept and reading achievement. Their results showed strong support for reading achievement as a predictor of reading self-concept but only weak support for reading self-concept as a predictor of reading achievement.

An earlier study by Lynch (2002) used correlations and t-tests to explore relationships among parents' self-efficacy beliefs, parents' gender, children's reader self-perceptions, reading achievement and gender. The study found that children's self-perceptions as

readers significantly related to their reading achievement. Moreover, De Naeghel, Van Keer, Vansteenkiste, and Rosseel's study (2012), which investigated the relationships between reading motivation, reading self-concept, reading behaviour and reading performance, confirmed the independent contribution of recreational autonomous reading motivation and reading self-concept to reading behaviour and performance. These results suggest that reader self-concept is related to reading attainment but not necessarily a strong predictor of it.

### **Summary**

Overall, numerous previous studies and correlational data from 2016 show that the affective components of reading that were identified are indeed linked to reading skill. Reading enjoyment, attitudes, confidence, self-efficacy and identity as a reader have been found to have a positive relationship with reading attainment. The link between the variables and skill have been both empirically and theoretically established. The relationship between motivation and reading attainment is complex, but some previous studies and the correlational data suggest that while intrinsic motivation is beneficial for reading skill, extrinsic motivation is only beneficial when combined with some degree of intrinsic motivation.

### **Linking skills and behavioural components**

#### **Reading frequency**

Using reading frequency as an indicator of reading behaviour, correlational studies have consistently shown that those who read more are better readers. Rowe (1995) shows that reading activity at home has a significant positive influence on reading achievement. More recently, the link between reading frequency and reading achievement has been supported by an international study of 10-year-olds (PIRLS 2001 and 2006, see Twist et al., 2007). The study showed that in nearly all countries, pupils who reported reading for fun outside school, daily or almost every day, had higher reading achievement than those reading for fun less frequently.

One study conducted by the National Assessment of Educational Progress (NAEP) in 2000 (Donahue et al., 2001) researched fourth-graders' reading habits in the US. This study showed that "reading for fun had a positive relationship with performance" on the reading test. 87% of the students who said they read for fun at least once a month attained a proficient level. On the other hand, students who rarely read for fun only attained a basic level. The highest scorers were children who read for pleasure every day. The correlational data from 2016 also shows that there is a significant positive correlation between reading frequency and overall reading score (.310), indicating that pupils who read more frequently score higher in the reading test.

Children who do not read frequently do not have the benefits that come with reading, and studies show that when struggling readers are not motivated to read, their opportunities to learn decrease significantly (e.g. Baker, Dreher & Guthrie, 2000; Stanovich, 1986). This can lead to strong negative feelings about reading and create a vicious circle in which poor readers remain poor readers (Juel, 1988). By reading less, they also have fewer opportunities to develop reading comprehension strategies (Brown, Palinesar and Purcell 1986).

Cunningham and Stanovich (2001) argue that if reading development is seen as a reciprocal model, many cognitive differences between readers (i.e. differences in reading skills) may in fact be consequences of differential practice that itself might have resulted from early differences in the speed of initial reading acquisition. As frequent reading and higher duration in reading inherently provide practice in reading, by default they would explain differences in reading skills. In a similar vein, Mol and Bus (2011) concluded that the relationship between print exposure and reading components is reciprocal and that children who have a reading routine will acquire more word meanings and forms, which further facilitates their reading development and willingness to read for pleasure. This implies that less-avid readers will not develop their reading skills, which might further discourage them from reading. This is also known as the Matthew Effect, which describes a rich-get-richer and poor-get-poorer phenomenon (Cunningham & Stanovich, 2001).

However, not all studies have linked reading frequency with reading performance. For example, results by Naeghel and her colleagues (2012) showed that with elementary-school pupils the pathway between reading frequency and reading comprehension was not significant. This suggests that frequent reading is not always linked to better skills in reading comprehension.

### **Reading amount and the breadth of reading**

While not many previous studies have been conducted to explore how the amount, breadth and duration of reading are linked to reading attainment, there is some evidence that the amount and breadth of reading is beneficial for reading attainment. For example, Taylor, Frye and Maruyama's study nearly 30 years ago (1990), which looked at grade 5 and 6 students who kept daily reading logs for four months, found that the amount of time spent on reading during a reading period (at school) contributed significantly to gains in students' reading achievement. This suggests that the amount of time spent on reading and reading attainment are linked. However, time spent reading at home was not significantly related to gains in reading achievement (Taylor, Frye & Maruyama, 1990).

Newer evidence comes from PISA 2009 assessments. These findings showed that pupils who read a wide variety of materials performed particularly well in PISA 2009 reading assessments (OECD, 2010). Allington (2012) on the other hand found that voluminous, independent reading is the primary source of reading fluency. Recent correlational data from 2016 show that breadth of reading and the time spent reading a book on a typical day were positively linked to reading attainment (.254 and .254 respectively). In addition, the number of books read in a typical month is linked to attainment, albeit weakly (.103).

### **Summary**

Reading frequency in particular has been consistently linked to reading attainment. Studies have shown that those who read more are better readers. It has also been suggested that the differences in reading skill may in fact be consequences of differences in reading practice. This would also explain the rich-get-richer and poor-get-poorer phenomenon (the Matthew Effect), as less-avid readers are likely to read less and not develop their reading skills, which could further discourage them from reading. On the other hand, the relationship between the amount and breadth of reading, and reading skill is less



researched. Some evidence, including the 2016 correlational data, suggests that breadth and duration of reading are positively linked to reading skill.

## **Linking affective and behavioural components**

### **Reading enjoyment and reading behaviour**

As intrinsic motivation is defined as doing something because it's inherently interesting and enjoyable (Ryan & Deci, 2000), so enjoyment of reading and intrinsic motivation are connected by definition. Likewise, it seems intuitive to suggest that higher enjoyment of reading leads to more-engaged reading behaviour, such as reading more frequently and widely, and spending more time reading. This idea is supported by the report of 2006 PIRLS results (Mullis et al., 2007), which highlights that pupils who enjoy reading and see themselves as good readers usually read more frequently and widely, which in turn leads to better comprehension skills.

The correlational data (see Appendix 1) also supports this, and the strongest relationship was found between reading enjoyment and frequency (.629). Reading enjoyment was also associated with other behavioural variables as positive correlations were found between enjoyment and number of books read (.357), breadth of reading (.223), and time spent reading books (.392).

### **Reading attitudes and reading behaviour**

A 2011 paper exploring the interrelationships between reading enjoyment, attitudes, behaviour and attainment (Clark & De Zoysa, 2011) found that there is a positive relationship between attitudes towards reading and reading behaviour. By using structural equation modelling, the study was able to determine that while reading enjoyment and behaviour were directly related to reading attainment, attitudes towards reading were only indirectly related to attainment through their relationship with reading behaviour (Clark & De Zoysa, 2011).

From a theoretical perspective, Ajzen's Theory of Planned Behaviour (TPB) postulates a positive relationship between reading attitude and leisure-time reading: the more positive the reading attitude components, the higher the expected value of reading and the stronger the probability that an individual will read at a particular point in time, and the higher the reading frequency (Broeder & Stokmans, 2013).

### **Reading motivation and reading behaviour**

Several studies have connected reading motivation and reading behaviour. For example, McGeown et al. (2015) note that motivation to read is recognised to influence the time spent engaging in reading activities. A study by Cox and Guthrie (2001) found that the amount of reading for enjoyment (i.e. a type of reading behaviour) was predicted most highly by motivation, even when other factors such as ability were controlled. Moreover, as reading is an effortful activity that often involves choice, motivation appears crucial to reading engagement (Wigfield et al., 2004). This suggests that motivation is a prerequisite of reading behaviour. Similarly, a review of reading for pleasure by BOP consulting for the

Reading Agency (2015) points out that children must feel motivated to read based on their intrinsic motivation, or attempts to increase reading behaviour will not be successful.

The 2016 correlational data (see Appendix 1) show that there is a strong positive correlation between reading interest and reading frequency (.580). Indeed, this relationship is among the highest in the data. There is also a very strong correlation between a measure of extrinsic motivation (achievement) and reading frequency (.418). The number of books read per month and the time spent reading a book each day were also found to have a nearly as strong correlation with reading interest as reading frequency (.400 and .415 respectively). Their relationship with motivation to read for achievement was also significant, yet not as strong (number of books read per month .351; time spent reading a book .265). Motivation to read for approval, on the other hand, was not linked to the components of reading behaviour. This might suggest that while reading behaviour is linked to intrinsic motivation and some types of extrinsic motivation, it is not associated with the most extrinsic types of motivation.

These findings are in line with a study by Wigfield and Guthrie (1997). They found that motivation predicted children's reading amount and breadth even when the previous amount and breadth were controlled. However, their results also showed that intrinsic motivation predicted the amount and breadth of reading more strongly than extrinsic motivation (Wigfield & Guthrie, 1997).

### **Reading self-efficacy and reading behaviour**

Baker and Wigfield's (1999) study shows that while all of the dimensions of reading motivation were correlated with children's reported reading activity, self-efficacy was one of the dimensions most strongly connected to reading activity. Moreover, a study by Naeghel et al. (2012) showed that a more positive reading self-concept (child's perception of his or her own reading competency) is associated with higher leisure-time reading frequency, qualitatively higher reading engagement, and better reading comprehension. From a theoretical perspective, Schunk (2003) suggests that learners' self-efficacy sustains motivation and promotes learning. It can therefore be assumed that pupils with higher self-efficacy stay motivated and engaged in reading activities.

The 2016 correlational data, on the other hand, suggests that while there is a relationship with reading behaviour and self-efficacy (reading frequency .203; number of books read per month .150; time spent reading a book per day .233; breadth of reading .144), it is not as strong as the relationship between other motivational components and reading behaviour (see the previous section).

### **Identity as a reader and reading behaviour**

Evidence around identity as a reader related to reading behaviour is scarce compared with the evidence around the links between other affective and behavioural components of reading. However, it is known that whether pupils see themselves as readers or not has an impact on their reading habits, reader perceptions and their perceptions of family, friends and school influences (Clark, Osborne & Akerman, 2008). For example, those who see themselves as readers also see themselves as more proficient and read more frequently outside school (Clark, Osborne & Akerman, 2008).

## Summary

All the affective variables in the proposed tripartite model have been linked to reading behaviour. While some evidence is scarce (e.g., the link between reader identity and behaviour), some associations have been well established. For example, studies have shown that those who enjoy reading and see themselves as good readers usually read more frequently. Motivation, in particular, has been linked to reading behaviour: as reading is an effortful activity that often involves choice, motivation can even be seen as a prerequisite for reading behaviour. However, the correlations show that the most extrinsic type of motivation is not linked to behaviour.

## Linking skills, affective components and behavioural processes

As the sections above have demonstrated, there is a wealth of evidence for the proposed tripartite model of reading. However, the 2016 data and previous studies also highlight that the relationships between skills and the affective and behavioural components of reading is not always straightforward.

The data show that reading motivation is more strongly linked to behaviour than to reading attainment. For example, reading frequency and reading interest were found to have one of the strongest relationships in the data (.580). Meanwhile, the link between interest and skill was only moderate (.349). Similarly, enjoyment and frequency were found to be strongly associated with each other (.629) while only moderately correlated with reading skill. Motivation to read for achievement was also linked more strongly to reading frequency (.418) than skill (.136). These findings are in line with Baker and Wigfield's study (1999), which found that there is a stronger relationship between reading motivation and reading behaviour than between reading motivation and reading attainment. At the same time, the findings firmly suggest that skills, affective components and behavioural processes are all linked: pupils who enjoy reading and are motivated to read, read more often and have higher reading scores.

Some components, on the other hand, have stronger relationship with reading skill than other affective or behavioural components. While both enjoyment and skill are associated with self-efficacy, the relationship between self-efficacy and reading skill is stronger than the relationship between reading enjoyment and self-efficacy. In a similar vein, Smith, Smith, Gilmore and Jameson (2012) found that levels of reading enjoyment were not associated with self-efficacy but reading achievement was. The authors suggest that these findings indicate that children enjoy reading and achieve gratification in the process even when they don't feel they are particularly good at reading.

## Conclusion

As this paper demonstrates, numerous studies have connected the skills, affective components and behavioural processes of reading, and findings from the 2016 correlational data support earlier findings. Both affective and behavioural processes have been linked to reading skill, and to each other. Findings also suggest that while all three components of reading are associated with each other, some of the relationships are stronger. Namely, the relationship between motivation and behavioural components appears to be stronger than their relationship with reading skill. The findings of this paper also support the idea of

reading as a holistic experience where engagement in reading happens when motivational processes and cognitive strategies occur simultaneously.

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## Appendix 1

*Correlations among the affective and behavioural variables, and reading attainment based on National Literacy Trust 2016 data*

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Reading enjoyment	1	.629**	.453**	.357**	.392**	-.064	.223**	.708**	-.059	.467**	.303**	.383**
2. Reading frequency		1	.407**	.385**	.379**	-.050	.260**	.580**	.011	.418**	.203**	.310**
3. Confidence			1	.278**	.232**	-.055	.222**	.469**	-.092*	.313**	.586**	.489**
4. Number of books read				1	.237**	-.147**	.051	.400**	.018	.351**	.150**	.103*
5. Time spent reading books					1	.010	.195**	.415**	-.071	.265**	.233**	.251**
6. Time spent reading online						1	.186**	-.204**	.030	-.159**	-.043	-.067
7. Breadth of reading							1	.194**	-.067	.117*	.144**	.254**
8. Reading motivation: interest								1	-.076	.564**	.363**	.349**
9. Reading motivation: approval									1	.308**	-.236**	-.262**
10. Reading motivation: achievement										1	.130**	.136**
11. Self-efficacy											1	.444**
12. Overall reading score												1

\*\*Significant at the 0.01 level (2-tailed)

\*Significant at the 0.05 level (2-tailed)

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