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Relationship between motivation, attribution and performance expectancy in children's reading

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Abstract

The importance of reading engagement and reading attainment in the development of children has been well established in research; however, there is significantly less research into the factors that motivate children to read. This study looks to build upon previous reading motivation literature and, specifically, it aims to examine the relationship between reading motivation, attribution of success and failures, and performance expectancy. Data was collected from year six pupils (n=27) at a primary school through a series of tests and self-report questionnaires. Results indicated that neither reading motivation, attribution style or performance expectancy correlated significantly with reading test score. Analysis did reveal that intrinsic reading motivation and extrinsic reading motivation were strongly associated. The study revealed that there were strong relationships between reading motivation, attribution of success and failures, and performance expectancy. The academic implications of these relationships and scope for future research are discussed.

Introduction

The amount of time a child spends engaged in reading activities is thought to be critical in developing children's vocabulary, verbal fluency, reading comprehension, visual word recognition and general knowledge (Echols, West, Stanovich, & Zehr, 1996; Griffiths & Snowling, 2002; Guthrie, Schafer & Huang 2001; Guthrie, Wigfield, Metsala, & Cox, 1999; Sénéchal, LeFevre, Hudson, & Lawson, 1996). For example, Leppanen, Aunola & Nurmi, (2005) studied the potential associations between reading performance and reading habits between children during their two first grades of primary school. The study revealed that children's reading habits could be predicted by their reading skill. The higher the children's competence in reading at the end of their first grade, the higher the chances that they would engage in out-of-school reading one year later. Additionally, reading habits predicted reading skills. The amount of reading the children did out of school at the end of their first grade helped with the development of word recognition. This is in keeping with previous research (Anderson, Wilson & Fielding, 1988; Cipelewski & Stanovich, 1992; Cunningham & Stanovich, 1991, 1997; McBride-Chang, Manis, Seidenberg, Custodio & Doi, 1993; Taylor, Frye & Maruyaama, 1990). Despite the fact that research has made it clear that spending time reading is beneficial to language, cognitive and reading development there still appear to be many children who do not spend much time reading (Anderson et al., 1988). Even children who are very good readers will still choose to do other activities. Developing our understanding of the factors that predict children's reading habits is crucial. Motivation, attribution style and performance expectancy have all previously been linked with attitudes to learning and attainment (Eccles & Wigfield, 2002; McGeown, Norgate & Warhurst, 2012; Schunk, 1991)

Reading motivation

Motivation has to be a fundamental factor involved in the engagement of any activity that demands both choice and personal effort. Studies have suggested that children's reading for pleasure decreases throughout their progression through primary school (Clark & Foster, 2005; Sainsbury & Schagen, 2004) and that motivation in general is shown to deplete as children move through the stages of schooling (Eccles & Midgley, 1989). Because of the depletion in reading for pleasure and motivation it is important to research what motivates young children to read and encourage them to develop good reading habits early. If more about the motivations that underlie a child's reading habits are known, it could enable teachers and parents to choose better approaches both to teach reading and to encourage children to read in their own time.

Wigfield and Guthrie (1997) designed The Motivation for Reading Questionnaire (MRQ) to define pupils' motivations, specifically in respect to reading. Motivation models can vary and there is no set model that can easily be incorporated in to all aspects of life. The MRQ was designed expressly to measure motivation with regards to reading. The theory proposes three central questions: "How well can I read?", "do I want to read?" and "why do I want to read?". "How well can I read?", looks at the pupils' beliefs about their reading ability. An ability belief is an opinion about ones aptitude in a subject (i.e. reading ability). The central idea, however, is that it is a belief about ability. This belief does not have to be related to how capable the child actually is at reading.

“Do I want to read?” looks at whether a child sees reading as being worth their while. This can be measured by looking at how important a child thinks reading is. If a child feels that reading is important, then it should follow that the child is much more likely to read in their own time than a child who values reading less. The formation of this attitude is likely to be highly influenced by the attitudes of friends and family (Baker, Scher, & Mackler, 1997)

“Why do I want to read?” is the most important question as this looks at motivation. Quite often motivation is thought of as a single construct, yet Wigfield and Guthrie talk about different types of motivation, suggesting that a variety of factors can add to the reasons children want to take part in classroom activities. Based on this theory, reading motivation can be seen as a multi-dimensional construct. Within the field of reading motivation research one of the most common conceptualisations is that of intrinsic and extrinsic reading motivation (Wigfield & Guthrie, 1995). Broadly speaking, intrinsic reading motivation refers to reading purely for its own sake whereas extrinsic reading motivation refers to reading for external reasons, such as to gain recognition or a reward. These two categories can be further divided into more specific reasons, which explain why children choose to read. For example, intrinsic reasons may reflect a curiosity to learn more about a topic or a desire to master more challenging texts. Alternatively, extrinsic reasons may reflect reading for social purposes or to compete and be better than friends. This distinction between intrinsic and extrinsic reading motivation demonstrates that children’s motivation can vary, both in strength and focus (Ryan & Deci, 2000).

Previous research has shown that, while intrinsic reading motivation is consistently positively related to reading attainment (McGeown et al., 2012; Wang & Guthrie, 2004), the relationship between attainment and extrinsic reading motivation is unclear. Children’s reading motivation has been constantly linked to engagement in an assortment of reading activities (Baker & Wigfield, 1999; Guthrie et al., 1999; Wang & Guthrie, 2004; Wigfield & Guthrie, 1997). Typically intrinsic motivation is more closely associated with reading engagement than extrinsic motivation is, but there is potential for the suggestion that some aspects of extrinsic reading motivation can be linked with a certain types of reading activities. An example of this could be reading school books. If a child is motivated by the extrinsic factor of wanting to achieve high grades, they may spend more time reading school books or factual books. Because reading motivation could be regarded as the impetus behind children’s engagement in reading activities, it is important to find out if distinctive dimensions motivate children differently. This could then be used to aid teaching. If children score higher in extrinsic motivations, teachers will be aware that they can focus on external factors to motivate that particular child, whilst also focusing to improve their intrinsic motivation. However, to date, there appears to be a dearth of research examining this.

Attributing successes and failures

Attribution beliefs refer to how people explain their successes and failures and, in an academic context, to how students perceive their educational outcomes (Eccles and Wigfield, 2002; Weiner, 1985, 1994). These have been shown to impact students’ reading performance, performance expectancy, cognitive behaviours, and emotion (Law, 2009; O’Sullivan and Howe, 1996; Weiner, 1994). Individuals

will usually attribute their successes and failures to four main causes; ability, effort, task difficulty and luck (Weiner, 1985, 1994). Weiner (1994) went on to suggest that these causes can be organised in to three dimensions; controllability, stability and locus of control. Controllability is whether or not one can control the cause. Stability refers to whether or not the cause can change over time. Locus of control can either be internal or external. An example of these dimensions is demonstrated by looking at the difference between ability and effort. Whilst the locus of control is internal for both, effort is controllable and unstable whereas ability is uncontrollable and quite often thought to be stable (i.e. cannot be changed). Weiner (1994) measures task difficulty and luck as external factors but other research (Relich, 1983) place the multitude of external factors under just one heading. External attributions can include: the teacher, other children, the environment, timing, bias, as well as task difficulty and luck.

Performance expectancy

Performance expectancy essentially refers to an individual's belief about how they will perform at a task or activity. Theories in this area tend to focus on individual's beliefs about their expectations for their success or failure. Eccles and Wigfield, (2002) stated that beliefs about whether one will succeed or fail in a task can be summarised as the question, "can I do this task?". They found that in general, those who believe they can do a task tend to perform better and will be motivated to take on more challenging tasks. Self-Efficacy is a theory proposed by Bandura (1997) about one's belief in one's ability to succeed in specific situations. Bandura states that there are two types of expectancy beliefs; outcome expectations and efficacy expectations. Outcome expectations refer to believing that certain behaviors will lead to certain outcomes and efficacy expectations refer to believing whether or not one can effectively produce the behaviors necessary for a certain outcome. Bandura suggested that efficacy expectation is the more central determinant. For example, it is more influential when it comes to goal setting, activity choice, eagerness to expend effort and persistence.

Both performance expectancy and students' attributions for failure and success could be closely linked with motivation. Experiences of failure and success in school may have an impact on how children are motivated. If students have previously failed in school it is doubtlessly harder for them to carry on with the same level of motivation. Past success is likely to establish strong ability beliefs and thus generate motivation. Additionally, how children perceive these failures could have even more of an impact. For example, students who believe that failure is due to low ability and hence out of their control may be more disheartened and lose motivation. Alternatively, if an individual attributes bad results to effort (which they can change) or external factors (which aren't their fault) they are less likely to lose motivation. It is therefore important for teachers to understand how children are interpreting their academic performances within school. Whilst usually inadvertent, teachers will often express attitudes on ability and their expectations for certain pupils simply through how they teach (Graham, 1990).

Present study

The aim of this study is to further the knowledge on the different dimensions of reading motivation, and then examine any relationships between reading motivation, attribution and performance expectancy. Such relationships may help

in educational settings when trying to improve a child's motivation towards reading. Based on previous research (McGeown et al., 2012), the first hypothesis of this study is that those who have high intrinsic motivation will be more likely to score better on the reading test (Hypothesis 1). This study also wants to examine the relationship between reading motivations and how children attribute their success and failures in reading (i.e. internally or externally). It is expected that those who are motivated intrinsically will attribute success to ability and effort (Hypothesis 2), but will not attribute failure internally (Hypothesis 3). Because children who are motivated more by extrinsic factors are more likely to have an external locus of control, it was thought that the extrinsically motivated children will attribute failure to external reasons more than intrinsically motivated children (Hypothesis 4). It is also expected that the scores in the reading test should be positively correlated with attributing reading success to ability, and negatively correlated with attributing reading failure to ability (Hypothesis 5). When measuring performance expectancy, it is predicted that those with high expectancy beliefs will also get better reading grades (Hypothesis 6). Additionally, children with high performance expectancy are more likely to be intrinsically motivated than extrinsically (Hypothesis 7). Finally, it's expected that children with high performance expectancy are more likely to attribute success to ability (Hypothesis 8).

Method

Participants

In total, 27 pupils from one primary school participated in the study. These pupils were in Year 6 ($n = 27$, 41% boys, average age 10 years and 6 months (127 months), 3.96 S.D. 59% girls, average age 10 years and 6 months (127 months), 3.62 S.D). Of the 27 pupils, all spoke English as their first language. Student and parent consent (via opt-out) was required.

Materials

The Motivation for Reading Questionnaire (MRQ; Wigfield & Guthrie, 1997) was used to measure children's intrinsic and extrinsic reading motivation, their self-efficacy, how important reading is to them and their wish to avoid reading. Reading efficacy refers to judgments about one's reading skill. Avoidance is an index of how aversive children find the reading experience. Importance looks at how important reading is to them compared to other activities. The intrinsic items refer to being motivated from within (i.e. to engage in reading due to internal factors), whereas the extrinsic items refer to being motivated by external reasons (i.e. to engage in reading because of external values or demands). Intrinsic dimensions include curiosity (desire to learn things from books), involvement (child's level of reading engagement) and challenge (desire to work with and master complex texts). Extrinsic dimensions include recognition (desire for their reading to be recognised by others), grades (desire to achieve good reading marks), social (social reading interactions), competition (desire to outperform others in reading) and compliance (conformity to an external requirement to read). The MRQ consists of 43 statements coded as a 1 – 4 point Likert scale with the response options being: "Very different from me", "A little different from me", "A little like me", and "A lot like me". Pupils are asked to tick the relevant box for each statement. Cronbach's alpha values were: reading efficacy (3 items, $\alpha = .85$), avoidance (4 items, $\alpha =$

.43), curiosity (6 items, $\alpha = .77$), involvement (6 items, $\alpha = .79$), challenge (5 items, $\alpha = .89$), recognition (5 items, $\alpha = .76$), importance (2 items, $\alpha = .76$), grades (4 items, $\alpha = .59$), social (6 items, $\alpha = .75$), competition (6 items, $\alpha = .89$), and compliance (5 items, $\alpha = .27$).

A pre-test questionnaire modelled from research by Stipek and Gralinski (1991), measured performance expectation. It consisted of four questions; what grade they think they would get in the reading test, from F (lowest) to A (highest), how good are they at reading, from 1 (bad) to 5 (very good), how will they do in the reading test compared to their classmates, from 1 (much worse) to 5 (much better), and how difficult reading is for them, from 1 (very hard) to 5 (very easy). The three questions that were measured on the 5-point Likert scale were then combined to create an overall performance expectancy score.

Each child completed a group-administered test of reading comprehension based on Group Reading Test II (Macmillan Test Unit, 2000) to measure reading skill. Sentence completion was used to test reading comprehension (e.g., The ___ was covered with wild flowers. Options: window, field, seat, dog, swing). The test took approximately 15 minutes to complete.

The Sydney Attribution Scale (SAS) was developed by Marsh, Cairns, Relich, Barnes and Debus (1984). This study used an adapted version of this to specifically measure attribution of successes and failures in reading. The SAS consists of 12 brief scenarios describing reading successes or failures. With each scenario there were three plausible causes for the outcome that were randomly ordered. For each cause the child marked one of five boxes representing the response for that cause. The five boxes were "false", "mostly false", "sometimes true sometimes false", "mostly true", and "true". The causes would attribute success or failure to ability, effort or an external cause.

Design and procedure

Firstly children's parents were given a brief about the study their children were partaking in and asked to complete a consent form. On the day of the test the participants were given the MRQ (53 items long) and the performance expectancy questionnaire (4 items long) with a front cover sheet. The cover sheet included a brief for the children to read. When read, children were asked to complete the MRQ and then move straight on to the performance expectancy questionnaire, taking roughly 30-minutes to complete. Participants were required not to talk to their neighbours and raise their hand once the questionnaires were completed. The reading test was handed out when the children were ready. The test took about 15-minutes and children were asked to complete it individually and in test conditions. Four days later, the children completed the SAS (12 items long) to measure attribution style. After the children finished and the material was collected, the children were thanked for their participation and a debrief was sent home to the parents.

Results

MRQ

Initially, analysis was carried out to examine the scores in the Motivation for Reading Questionnaire (MRQ). The means and standard deviations are reported in Table 1.

Table 1: Means and standard deviations of MRQ scores.

	M (n=27)	SD
Reading Efficacy	3.33	0.73
Challenge (I)	3.33	0.72
Recognition (E)	3.31	0.62
Importance	3.30	0.72
Reading Involvement (I)	3.23	0.65
Curiosity (I)	3.19	0.63
Grades (E)	3.16	0.65
Competitive (E)	3.12	0.86
Compliance (E)	2.84	0.48
Social (E)	2.46	0.76
Avoidance	2.08	0.63

Note. All dimensions that are a component of intrinsic motivation are followed by (I), and all dimensions that are components of extrinsic motivation are followed by (E).

Following this, the relationships between the MRQ measures were analysed. The correlations between variables are reported in Table 2, with significant correlations noted in the table.

Table 2: Correlations between MRQ measures

	Reading Efficacy	Importance	Avoidance	Intrinsic	Extrinsic
Reading Efficacy					
Importance	.71**				
Avoidance	-.32	-.54**			
Intrinsic	.77**	.76**	-.43*		
Extrinsic	.76**	.63**	-.24	.74**	

n=27

** $p < .01$, two-tailed

* $p < .05$, two-tailed

Analysis was carried out to examine the strength of association between children's reading skill and motivation within the whole sample (n=27). Intrinsic reading motivation was not significantly correlated with reading test grade, $r(27) = .12$, $p = .56$, two tails. Nor was there a significant correlation between extrinsic reading motivation and reading skill $r(27) = .10$, $p = .61$, two tails. The relationship between reading motivation and attribution was then analysed. First, the analysis examined

the relationships between intrinsic motivation towards reading, the sub-components of intrinsic motivation, attributing success to ability, and attributing success to effort. The correlations between variables are reported in Table 3, with significant correlations noted in the table.

Table 3: Correlations between intrinsic motivations and internal attribution of success

	Intrinsic (composite)	Challenge	Curiosity	Reading Involvement	Attribute Success- Ability	Attribute Success- Effort
Intrinsic		.88**	.87**	.80**	.65**	.63**
Challenge	.88**		.70**	.52**	.74**	.70**
Curiosity	.87**	.70**		.53**	.56**	.54**
Reading Involvement	.80**	.52**	.53**		.34*	.34*
Attribute Success- Ability	.65**	.74**	.56**	.34*		.85**
Attribute Success- Effort	.63**	.70**	.54**	.34*	.85**	

n=27

** $p < .01$, two-tailed

* $p < .05$, two-tailed

Secondly, the analysis examined the relationships between intrinsic motivation, the sub-components of intrinsic motivation, attributing failure to ability, and attributing failure to effort. The correlations between variables are reported in Table 4. Significant correlations are noted in the table.

Table 4: Correlations between intrinsic motivations and internal attribution of failure

	Intrinsic	Challenge	Curiosity	Reading Involvement	Attribute Failures- Ability	Attribute Failures- Effort
Intrinsic		.88**	.87**	.80**	-.45**	-.25
Challenge	.88**		.70**	.52**	-.55**	-.21
Curiosity	.87**	.70**		.53**	-.40*	-.29
Reading Involvement	.80**	.52**	.53**		-.19	-.15
Attribute Failures- Ability	-.45*	-.55**	-.40*	-.19		.59**
Attribute Failures- Effort	-.25	-.21	-.29	-.15	.59**	

n=27

** $p < .01$, two-tailed

* $p < .05$, two-tailed

In regard to extrinsic motivation, data revealed that extrinsic motivation and attributing reading failures externally were not significantly related, $r(27) = -.14$, $p = .48$, two tails. It also showed that intrinsic motivation and attributing reading failures externally were not significantly related $r(27) = -.09$, $p = .67$, two tails.

Additionally, analysis examined the relationships between extrinsic motivation, attributing success to ability, attributing success to effort, attributing failure to ability, and attributing failure to effort (Table 5), with significant correlations noted in the table.

Table 5: Correlations between extrinsic motivations and internal attribution

	Attribute success- Ability	Attribute success- Effort	Attribute failure- Ability	Attribute failure- Effort	Extrinsic
Attribute success- Ability		.85**	-.72**	-.41*	.70**
Attribute success- Effort	.85**		-.64**	-.29	.69**
Attribute failure- Ability	-.72**	-.64**		.59**	-.46*
Attribute failure- Effort	-.41*	-.29	.59**		-.41*
Extrinsic	.70**	.69**	-.46*	-.41*	

n=27

** $p < .01$, two-tailed

* $p < .05$, two-tailed

Attribution

To determine the validity of the test, the relationship between S.A.S scales were analysed. The results showed that attributing success to ability and success to effort were highly correlated, $r(27) = .85$, $p < .01$, two tails. Attributing failure to ability and failure to effort were also significantly correlated, $r(27) = .59$, $p < .01$, two tails.

Attributing reading success to ability and attributing reading failure to ability were strongly negatively correlated, $r(27) = -.72$, $p < .01$, two tails. Attributing reading success to effort and attributing reading failure to effort were negatively correlated but not strongly or significantly, $r(27) = -.29$, $p = .15$, two tails.

There was no relationship between reading grade and attributing success to ability, $r(27) = .05$, $p = .81$, two tails. Nor was there a relationship between reading grade and attributing failure to ability, $r(27) = .02$, $p = .93$, two tails.

Performance expectation

There was no relationship between high performance expectations and reading test grades, $r(27) = .11$, $p = .60$, two tails. Performance expectation was strongly correlated with intrinsic motivation, $r(27) = .54$, $p < .01$, two tails. Performance expectation was also strongly correlated with extrinsic motivation, $r(27) = .58$, $p < .01$, two tails.

Data additionally revealed that children who had high performance expectations had extremely high correlations with attributing reading success to ability, $r(27) = .83$, $p < .01$, two tails. Correspondingly, high performance was negatively associated with attributing failure to ability, $r(27) = -.65$, $p < .01$, two tails. High performance expectations also correlated with attributing reading success to effort, $r(27) = .70$, $p < .01$, two tails.

Discussion

The present study aimed to identify different factors in reading motivation and looked at how these related to reading skill, attribution style and performance expectancy. Initially, the scores of the MRQ were examined. Reading efficacy and challenge had the highest mean scores. This identification of pupil's motivations towards reading can then be applied in schools to relevant cases of children who fail to make anticipated progress or where there appears to be particular motivation difficulties. For example, if a child scores highly in challenge then setting up a checklist with the task to read all the books on it, might motivate this particular child. Alternatively, if a child is more highly motivated by social aspects, they could be invited to write reviews, give presentations or join discussion groups about their favourite books.

When looking at the relationship between the MRQ components, it was shown that reading efficacy was very strongly associated with intrinsic and extrinsic motivation. Similarly, the factor reading importance had a strong relationship with both types of motivation, although slightly stronger with intrinsic motivation. It was also revealed that intrinsically motivated children were less likely to actively avoid reading activities. Previous research suggests that whilst intrinsic motivation is positively associated with reading skill, extrinsic motivation is negatively associated or unrelated to reading skill (Becker, McElvany and Kortenbruck, 2010; Logan & Medford 2011; McGeown et al., 2012; Wang & Guthrie, 2004). Controversially, analysis found a very strong relationship between intrinsic and extrinsic motivation. Recent studies have begun to suggest that extrinsic reading motivation can in fact be valuable to reading skill if it is paired with high intrinsic motivation (McGeown et al., 2012). The present study, however, failed to replicate any of these findings. Instead, there was no relationship between reading skill and extrinsic or intrinsic motivation, thus rejecting hypothesis one. Nor did reading skill correlate with attribution style or performance expectancy, rejecting Hypotheses 5 and 6.

Intrinsic motivation was highly correlated with attributing successes in reading to both ability and effort, providing support for hypothesis two. Additionally, intrinsic motivation was negatively correlated with attributing reading failures to ability. These results allow us to partly accept hypothesis three, yet intriguingly there was no relationship between intrinsic motivation and attributing failure to effort. Well motivated readers will attribute success internally, yet it could also be argued that they would also attribute failure internally but only to factors they can control. Ability is seen as fixed, so if failures were attributed to ability it would be likely to reduce motivation. Conversely, attributing failure to effort could be seen as healthy because they are accepting control over their work and they can control this in future tasks. Extrinsic motivation was hypothesised to have a strong relationship with attributing failure to external reasons. This however, was not proven. Instead it was found that extrinsically motivated children were more likely to attribute their successes internally and less likely to attribute their failures internally. This is the same as intrinsic motivation. This suggests that if one has a high level of motivation for reading, you will be more likely to attribute success internally and less likely to attribute failure internally, regardless of the locus of motivation. Interestingly, extrinsically motivated children were more likely to avoid attributing failure to effort than the intrinsically motivated children. As previously suggested, motivation is best when it is intrinsic and well motivated readers might attribute

failures internally to controllable factors (i.e. effort). These results could suggest that teachers should focus pupils' attention on the reasons for success and failure that lie within their control. This doesn't necessarily have to be effort; it could be skills and strategies that the child has utilised. However, more research needs to be carried out in this area to find out whether all children actually perceive ability as a fixed trait. Those who have different theories about ability may differentiate in their goal orientations, causal attributions and cognitive processes (Dweck, Chiu and Hong 1995; Dweck and Leggett 1988; Molden and Dweck 2006).

The results show high correlations between performance expectancy and both types of reading motivation. This is contradictory to the current studies hypothesis that children with high performance expectancy would be more intrinsically motivated than extrinsically, however, the relationship with both types of motivation is still important. Previous research suggests that the main factor in shaping ability beliefs is past success (Pajares & Schunk, 2001; Schunk, 1989). This would indicate that, in an attempt to improve performance expectancy and thus motivation, teaching children the skills and strategies for remembering, comprehending and problem solving is key. Additionally, any subsequent success should be linked to the strategies used. Working towards a particular goal will make children acknowledge their improvements and increase ability beliefs. This in turn could improve motivation. It was beyond the scope of this study to examine causal relationships so such theories would have to be studied in future research. The studies final hypothesis stated that children with high performance expectancy are more likely to attribute success to ability. This was true to an extent. Performance expectancy correlated with attributing success to effort and ability, yet ability was stronger. It is thought that this is because ability is stable and so pupils will be more certain of performing well in future. The results from this study demonstrate a clear relationship between motivation, attribution and performance expectancy in reading, which could be utilised by teachers to structure their teaching style. Schunk and Rice, (1986) provided evidence showing that when children receive feedback from a teacher on reading performance, those who got ability emphasised feedback developed higher self-efficacy and were more likely to attribute success to ability than those who received feedback emphasising effort. It could be argued that such feedback would also influence a child's style and strength of motivation.

Limitations and future research

The present study had several limitations. Firstly, the sample size was very small and all of the participants were from the same school and year group. Motivation, attribution and self-efficacy can all be influenced by a school's ethos and teaching style. It is therefore possible that the children in this school will have very similar motivation styles, self-efficacy levels and attribution style. This means that the sample is not very diverse and so would not generalise well. It must also be acknowledged that the children who participated in this study were selected to do so by the schools literacy coordinator. Thus making it highly likely that the participants were chosen because they were well behaved and were good at reading. This again would reduce the diversity of the sample and influence results. A further limitation is the type of test used to measure reading skill. The test was adapted from the GRT II. The questions were reduced and altered in content. Due to these changes it was no longer a standardised reading test and therefore may

not have accurately measured reading skill. It is worth noting that none of the variables correlated with reading skill as they were hypothesised to. It would be interesting to run this study again using a standardised reading test and see if that changed.

This study was carried out in a school and so lacked the control of a laboratory study. For example, all of the questionnaires and tests were carried out in the school's main hall. Due to the limited space of this area the distance between participants was small and increased the likelihood of students seeing the paper of their neighbours. This may also have influenced answers, especially as all of the tests were self-reported. Whilst self-report is common in this research area (Wang & Guthrie, 2004; Wigfield & Guthrie, 1997) a drawback is that children may have found it challenging to accurately identify and report their level of reading motivation. It must also be considered that the study did not specify any particular type of reading when measuring motivation. It is possible that different components of reading motivation are more associated with different book types. Furthermore, the MRQ was developed to measure traditional forms of literacy. Modern reading consists of digital literacy such as e-books, measuring the motivation for this may require an update of the MRQ. Future research would ideally study teaching style (such as feedback on success and failure) and whether children believe ability is fixed or controllable. Ideally this would look at a larger sample size, across a range of schools with a variety of ability levels.

Conclusion

Intrinsic motivation showed a better style of attributing failure, less reading avoidance and a stronger relationship with reading importance, but otherwise was very similar to extrinsic motivation. This study establishes that reading motivation is clearly linked with attribution and performance expectancy. Yet further research is needed to establish causal relationships and to determine the efficacy of teachers employing varied techniques to improve attribution and performance expectancy, and ultimately, how these effect reading motivation.

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