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A study of Year 5 pupils' perspectives and evaluations of their academic abilities (their academic self-concept) and how this relates to their motivational style.

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Abstract

Self-concept is defined by Marsh and Martin (2011) as "the perception one has of themselves, formed through their experiences and interpretations with their environment" (p.60), and academic self-concept (ASC) specifically is the view one holds of oneself in relation to academic ability. This study built on previous research which demonstrates a relationship exists between ASC and attainment (Guay, Ratelle, Roy, & Litalien, 2010), with motivational style as a mediating factor between these variables. The current study sought to determine whether such a relationship between ASC and motivation exists, and determine how we could therefore increase intrinsic motivation in children in order to increase their attainment. The results tentatively supported the relationship between ASC and attainment, and highlighted the importance of choice, praise and reward, and experiential learning in increasing children's intrinsic motivation.

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Introduction

> "Ideal school systems are ones that succeed in promoting in students a genuine enthusiasm for learning and accomplishment and a volitional involvement in the educational enterprise."
>
> (Deci, Vallerand, Pelletier & Ryan, 1991)

By the time children turn 11, they will have spent almost 9,000 hours in education, and almost 1,400 days. At such an early and formative time in their lives, this means their school and teachers have a lasting influence and impact not only on their education, but on their mind set; how do they view themselves as learners, who do they want to become, and what kind of person do they want to be? The way we treat and teach our young people is of ample significance, as it will ripple out into their future, and the future of our society.

Self-concept has been defined by Marsh and Martin (2011) as "the perception one has of themselves, formed through their experiences and interpretations with their environment" (p.60), and academic self-concept (ASC) specifically is the view one holds of themselves in relation to their academic ability. Previous research has demonstrated a relationship exists between ASC and attainment (Guay, Ratelle, Roy, & Litalien, 2010), with higher ASC leading to high academic attainment. The mediating factor between these variables was the child's motivational style; a high ASC led to an intrinsic motivational style, resulting in greater attainment.

Questioning how ASC and motivation could be increased may lead to an increase in pupils' attainment levels. This study investigates whether such a relationship between ASC and motivational style exists, and subsequently used interviews with selected children to determine ways in which their enjoyment of learning and intrinsic motivation could be increased.

Therefore the research questions for this study are as follows:

- Do children with a higher academic self-concept appear to have greater intrinsic motivation?
- Are children with lower academic self-concept more amotivated?
- How can we create a classroom environment in which children can develop positive self-concepts and intrinsic motivational styles?

Literature Review

Academic Self-Concept and its relationship with attainment

The idea of self-concept goes a long way back in history; it is alleged Socrates himself developed a theory of self-knowledge, claiming the wisest person is him who does not know, but does not think he knows (Stokes, 1997). Academic self-concept, a principal component of self-concept, is our attitudes, feelings and knowledge about our skills, abilities and self-worth in different academic arenas, derived from our experiences and interactions with the social environment (Byrne, 1984; Marsh & Martin, 2011). Research demonstrates ASC begins to develop between the ages of three and five, when children are first exposed to school and academia (Tiedemann, 2000), as a result of parental and teacher influence, making the first years of school fundamental in developing a positive ASC. These formative years are made all the more critical as substantial bodies of research have found a strong relationship between ASC and academic attainment, with pupils who have more positive ASC doing better in school. Guay, Marsh and Boivin (2003) used a multi-cohort, multi-occasion design to test the developmental differences in the relations between academic attainment and ASC from Grades 2 to 6, across ten different schools. The children's ASC was measured using a questionnaire, and their achievement was measured by a teacher rating scale. Results from a correlational analysis demonstrated there is a clear relationship between ASC and attainment, and the correlation grows stronger with age. A meta-analysis by Valentine, DuBois, and Cooper (2004), showed stronger effects of ASC on academic achievement when measures are matched by domain, hence not only is there a relationship between ASC and attainment, but this relationship appears to be domain-specific.

Much research has examined the causal ordering of ASC and achievement. Early research by Calsyn and Kenny (1977), who conducted a secondary analysis of longitudinal data, posited there were two contrasting models of causal ordering; the self-enhancement model which states ASC is a

determinant of achievement, and the skills-development model, which views ASC as a consequence of achievement. Guay et al. (2003) however postulate from their results there is no direct direction of relationship, but ASC and attainment have a reciprocal relationship, with both constructs being related and mutually reinforcing. This model has been termed the Reciprocal Effects Model (REM) (Marsh, Trautwein, Ludtke, Koller, & Baumert, 2005).

Marsh, a leading researcher in the field of REM, demonstrated the reciprocal relationship using longitudinal data from two samples of German 7th grade pupils. The study was extended to explore also the role that academic interest plays in the relationship. The results gave evidence consistent with the hypothesis; there were reciprocal effects between maths self-concept and achievement in the overall model (Marsh et al., 2005). It appears from the literature that a significant amount of research supports the REM, which has been widely accepted as a robust phenomenon.

It is important to determine the causal order of these constructs, for as Marsh et al. (2005) point out, which relationship is right will have implications for what we should do. "If teachers focus on one construct to the exclusion of another, then both are likely to suffer. The REM suggests that the most effective strategy is to improve ASC, interest and achievement simultaneously" (Marsh et al., 2005, p.413).

Motivation: what role does it play in the relationship?

Research has shown a higher ASC in children increases their motivation. Skaalvik and Valas (1999) demonstrated this relationship in their longitudinal study of Norweigian primary and middle school pupils. They collected data concerning the pupils' ASC, motivation, and achievement in both mathematics and language arts. The results demonstrated a strong positive relationship between all three constructs, although the order of causality was unconfirmed. Mentioned briefly in the introduction, Guay et al.'s study (2010) also reveals such a relationship. A total of 925 pupils completed questionnaires measuring ASC, autonomous academic motivation, and achievement. The analysis of data demonstrated that autonomous motivation mediates the reciprocal relationship previously discussed between ASC and achievement.

These results are consistent with the self-determination perspective on motivational behaviour introduced by Deci et al. (1991), who emphasise the importance of motivation (in particular intrinsic motivation) in determining school performance. Prior to this, it was accepted there was a

distinction between motivated and amotivated behaviours, however Deci proposed an important distinction within the class of motivated behaviours; between self-determined (intrinsic) and controlled (extrinsic) motivation. The critical difference lies in regulatory process involved in making decisions; when the regulatory process is a choice and the locus of causality is perceived as internal to self, the behaviour is intrinsically motivated. However if the regulatory process is compliance and the locus of control is perceived as external to self, the behaviour is externally motivated, although remains intentional.

Whilst most previous studies have endorsed a unidimensional model of motivation, stating that children are either intrinsically or extrinsically motivated (Corbiere, 1997), more recent research has given evidence for a bi-dimensional view, postulating "intrinsic and extrinsic motivation are separate dimensions, rather than extremes on a continuum" (Zanobini & Usai, 2002, p.203). Lemos and Verissimo (2014) longitudinally assessed 200 pupils using separate measures of intrinsic and extrinsic motivation, and academic achievement. Results showed intrinsic motivation and extrinsic motivation can co-exist and are not contradictory. Further analysis demonstrated that at a younger age, it is possible for children to both want to please their teacher (extrinsic) and enjoy the activities (intrinsic) correspondingly. However by the end of primary school it appeared these motives became harder to reconcile, suggesting a specific style was adopted. At all ages, intrinsic motivation was associated with higher achievement. However towards the end of elementary school, a negative relationship emerged between extrinsic motivation and pupils' achievement, suggesting external sources of motivation may actually be debilitating to their performance. These results are of utmost significance to our educational system today, and make finding a way in which pupils' intrinsic motivation can be increased even more important.

Strategies to increase Academic Self-Concept and Intrinsic Motivation

It is clear from the body of research in the field of ASC and motivation that there is a direct relationship between ASC, autonomous motivation, and achievement. These results hold important implications for interventions and strategies designed to increase achievement in schools. Studies such as Pavlou's (2006), a small-scale qualitative study of 11-12 year olds' ASC and engagement with art, demonstrate low self-concept creates a fear of failure, leading to disengagement and poorer performance. Therefore how can we create positive ASC for children and increase their autonomous motivation, so they are given the best chance in education?

By interviewing children and leading a focus group, this study aims to determine, from the perspective of the pupils, how school could help them work harder, have greater enjoyment, and ultimately learn better. However these decisions need to be grounded in the educational research available; therefore what does create a low ASC, or prevent a child from developing an intrinsic motivational style?

When a child begins school and starts to develop an ASC, they undergo one drastic change in their life; they become surrounded by others their own age, which inevitably leads to social comparison. Rogers, Smith and Coleman (1978) were some of the first to investigate the influence of social comparison on underachieving children's ASC and actual achievement. The results showed that when underachieving children were made aware of their standing in the classroom, their lower ASC influenced their reading and maths achievement more significantly. Marsh has built on results such as this and developed the Big-Fish-Little-Pond Effect (BFLPE), which predicts that in fact, pupils who are in higher-achieving environments have even lower ASC then those in middle or low-achieving environments due to comparisons within that environment (Marsh & Seaton, 2013). This result has been found across schools who separate their pupils into ability groups, and generalises across cultures (Seaton, Marsh, & Craven, 2009). A contrasting effect, the assimilation effect, argues ASC may in fact be enhanced by their "basking in the reflected glory of the accomplishments…of other group members" (Trautwein, Ludtke, Marsh, Koller, & Baumert, 2006, p.790). The debate surrounding the effect of ability groupings on ASC is ongoing, however Trautwein et al.'s (2006) study which extended previous research by using larger samples and introducing pupils' personal interest as a second dependent variable, provided strong support for the BFLPE on both ASC and personal interest. The consequence of a robust phenomenon such as this on how we group children within the classroom is vast, and must be taken seriously.

Finding methods to promote autonomous, intrinsic motivation, rather than obligation and pressure, could also have a positive impact on pupils' achievement levels. Deci's self-determination theory (1991) argues children need to see their behaviour as a choice and he discusses some of the social-contextual influences which may lead to this state. It is critical children do not develop a feeling of being controlled; performance evaluations create pressure for pupils, which gives them a sense of being controlled and fosters an externally perceived locus of causality, making them extrinsically motivated. However when pupils were given choice about which tasks to engage in and how much time to allot to each, they were more intrinsically motivated than pupils who were assigned tasks

and times (Zuckerman et al., as cited by Deci et al., 1991). Praising pupils for a self-initiated activity rather than an activity which has been asked of them is likely to promote feelings of competence and intrinsic motivation, and although rewards and prizes are said to undermine intrinsic motivation, if they are used in a way that is non-controlling they can be effective (Deci et al., 1991). Therefore, in light of these outcomes, it is evident that significant adults can foster intrinsic motivation by being autonomy-supportive.

Methodology

This study was carried out in January 2016 and involved 30 children from a Year 5 class. The study used a mixed-methods approach. In order to determine whether there was a relationship between ASC and motivational style, I used one questionnaire to measure pupils' ASC (Appendix 1), and a second questionnaire to measure pupils' motivational style (Appendix 2). I then conducted a semi-structured interview and focus group in order to determine ways in which schools can be made more engaging and motivating.

The questionnaire used to measure ASC was the Feelings about School measure which was adapted from Herbert and Stipek (2005). It asks pupils to rate themselves in a series of questions related to ASC in Maths, English and general school. Some changes were made to the questionnaire; the Likert scale was reduced to a four-point scale as recommended by Thomas (2013), in order to "remove the tendency for some people to over-choose the middle option" (p.213), and faces were used instead of the usual words (agree or disagree) or numbers in order to make it accessible to all the children. Using a Likert scale for the questionnaires allowed the data to be analysed and then expressed quantitatively. The results were added to give each child a score out of twelve for maths, English, and general school self-concept, and a total ASC score out of thirty-six. The lower the score, the more positive the participant's ASC.

The questionnaire used to measure motivational style was based on the Situational Motivational Scale as developed by Guay, Vallerand and Blanchard (2000), which is designed to assess intrinsic, extrinsic, and amotivated behaviour at the primary school level. It contained three different situations in which pupils were asked to indicate the extent to which they do these school related behaviours for the reasons provided in each of the situations, with each reason representing a different motivational style. These reasons included "because I am supposed to do it" (extrinsically

motivated), "because I enjoy it" (intrinsically motivated), and "I don't know why – I don't see what difference it makes" (amotivated). Items were again assessed on a four point Likert scale and added across the three situations (doing school work, going to school, and listening to the teacher) to give each child a score out of twelve for each motivational style. The lower their score, the greater their tendency for that motivational style.

Using SPSS Statistics version 22.0 (IBM Corp, 2013), I analysed the data received from the two questionnaires. I inputted the data and added the scores to create four self-concept variables (maths, English, general school and total ASC) and three motivational variables (total intrinsic, total extrinsic and total amotivated). I carried out a series of one-tailed Pearson's Rank Correlations to determine whether there was a statistically significant relationship between any of these two variables.

In order to answer the second part of my research question, 'How can we create a classroom environment in which children can develop positive self-concepts and intrinsic motivational styles?' I carried out a semi-structured interview with six children, and a focus group with five further children. The children were chosen as a result of their answers to the questionnaire so they covered the range of motivational styles. The focus group children were selected randomly. The questions were chosen to consolidate the children's answers to the questionnaires and determine ways in which school could be made more enjoyable and motivating. A semi-structured approach was chosen as it "provides the best of both worlds as far as interviewing is concerned, combining the structure of a list of issues to be covered with the freedom of follow up points as necessary" (Thomas, 2013, p.198).

Using a triangulation approach such as this meant I could "develop rich insights into various phenomena of interest that cannot be fully understood using only a quantitative of qualitative method" (Venkatesh, Brown, & Bala, 2013, p.21).

Ethical Considerations

The American Academy of Paediatrics states that "We believe in an inherent worth of all children" (as cited by Kodish, 2005, p.23). Therefore, as Kodish writes in his book on ethical guidance, "knowledge gained from research is part of our commitment to this legacy, but *must* be acquired in a way that recognises the vulnerability of children and respects their inherent worth" (ibid.).

In light of this statement it was important to ensure that at all times during this research project, the best interests of the children were taken into account. Before commencing any interaction with the children regarding this project, I presented my research proposal to the head teacher and class teacher of the children whom I would be working with in order to gain their approval. Following this, I ensured that I had met the requirements of the Ethical Checklist, provided by the Faculty of Education, and this was signed by both myself and a member of staff of the Faculty of Education in lieu of the partnership tutor.

I ensured that I had read the Ethical Guidelines for Educational Research, as outlined by BERA (2011), and this document subsequently shaped and guided the way in which I carried out my research. This document states that when working with children "researchers must also seek the collaboration and approval of those who act in guardianship (e.g. parents) or as 'responsible others' (i.e. those who have responsibility for the welfare and well-being of the participants e.g. social workers)." (BERA, 2011, p.7). Therefore once permission had been gained from appropriate sources within the school, letters of consent were sent home with the children along with information about the content of the study, seeking permission to carry out a questionnaire, interview, and audio-recording.

Before completing the questionnaires and interviews, I confirmed that each child understood the nature of the study and were aware that they could cease participation at any point should they wish. The Social Policy Association's guidelines state that researchers have "a responsibility to take all steps possible to ensure that the social, psychological or physical well-being of research participants is not adversely affected by participation in their research study" (2009, p.3). Care was taken to ensure that all children were treated with sensitivity, dignity and respect, and that data was collected in a safe and calm environment. Children were debriefed at the end of both the questionnaires and the interviews to make sure they were happy and had no further questions about the research.

The BERA guidelines also state that "researchers must recognise the participants' entitlement to privacy and must accord them their rights to confidentiality and anonymity" (2011, p.7). In order to maintain confidentiality the names of the children and the school have been altered or removed. The legal requirements regarding the storage of personal data were complied with; interviews were recorded on a Dictaphone and then transferred to a personal, password protected laptop, and saved

under coded names. All transcripts, audio-recordings and questionnaires will be destroyed at the end of the academic year.

Results and Conclusions

Analysis of quantitative data

In order to analyse my quantitative data and investigate whether there was a relationship between the ASC of the children in my placement class, and their motivational style, I used SPSS to run various tests on my data. Firstly, independent samples t-tests were run to determine if gender had an influence on self-concept in maths, English, general school, and also total ASC.

The results indicated that whilst boys did show a more positive maths self-concept (M=7.21, SD=2.18) than girls (M=8.55, SD=2.94), this difference was not statistically significant (t(28)=-1.422, p=.083). Girls had a more positive English self-concept (M=6.09, SD=2.30) then boys (M=8.16, SD=3.53), and this difference was statistically significant (t(28)=1.733, p=.045). This result is worrying as it suggests the possibility that traditional gender stereotypes about 'natural talent' for females in English and males in maths may have influenced the children's ASC scores (Bornholt, Goodnow, & Cooney, 1994). The results for general school self-concept (t(28)=.956, p=.174) and total ASC (t(28)=.699, p=.245) demonstrated that there was not a significant difference between boys and girls.

Independent samples t-tests were also run to determine if gender had an influence on motivational style. There were no significant results.

Research has shown that there is a positive relationship between positive ASC and intrinsic motivation (Guay et al., 2010). For the purpose of this study, as I was unable to determine direction of causality, I merely investigated whether a casual correlation existed. I carried out a series of Pearson's Rank Correlations, with participant's intrinsic motivational score as one variable, and their maths, English, general school and total ASC scores as the other variables. A lower score for ASC indicates a more positive ASC, and a lower score for motivational style indicates a greater presence of that type of motivational style.

The results indicated no significant relationship between intrinsic motivation and maths self-concept (r=.246, N=30, p=.095), however there was a statistically significant relationship between intrinsic motivation and English self-concept (r=.605, N=30, p<.001), intrinsic motivation and general school self-concept (r=.600, N=30, p<.001) and intrinsic motivation and total ASC (r=.675, N=30, p<.001). The scatter graph (Figure 1) demonstrates the direction of this relationship; a more positive ASC is positively correlated with an intrinsic motivational style.

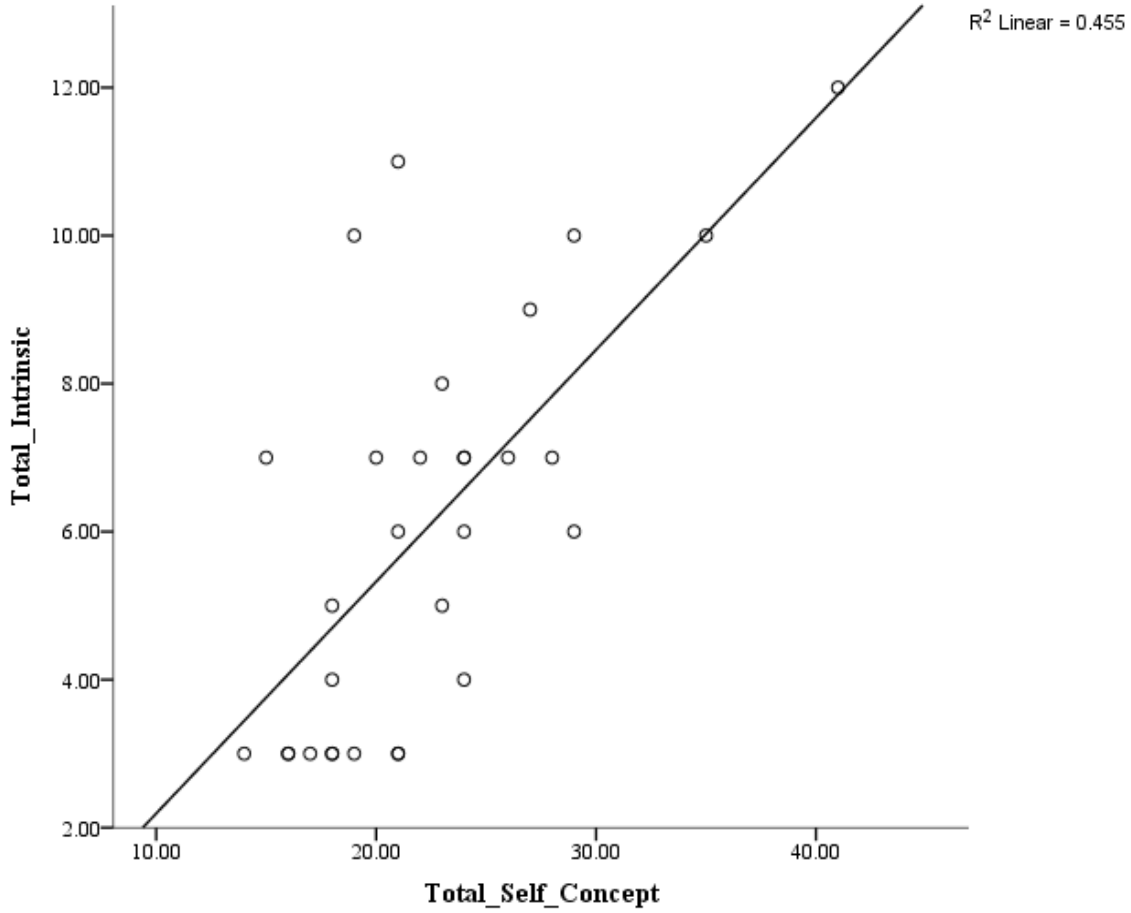

Figure 1: Graph to show the relationship between participants' total ASC and their intrinsic motivational score.

The graph shows that a higher ASC (lower score) is correlated with a more intrinsic motivational style (lower score).

There has not been much research into the relationship between extrinsic motivation and ASC, however I would expect pupils who are extrinsically motivated to have an average ASC. The results of the Pearson's Rank Correlation showed no significant relationship between participants' extrinsic motivational score and their maths self-concept. However there were significant relationships

between their extrinsic motivational score and their English self-concept (r=.379, N=30, p=.02), their general school self-concept (r=.365, N=30, p=.024) and their total ASC (r=.389, N=30, p=.017) (Figure 2). The scatter graph demonstrates that this relationship is positive. However because the coefficients (r) are closer to 0, this demonstrates that the variation around the line of best fit is greater, and therefore the relationship not as strong as the relationship between intrinsic motivational score and ASC, where the coefficients were closer to 1.

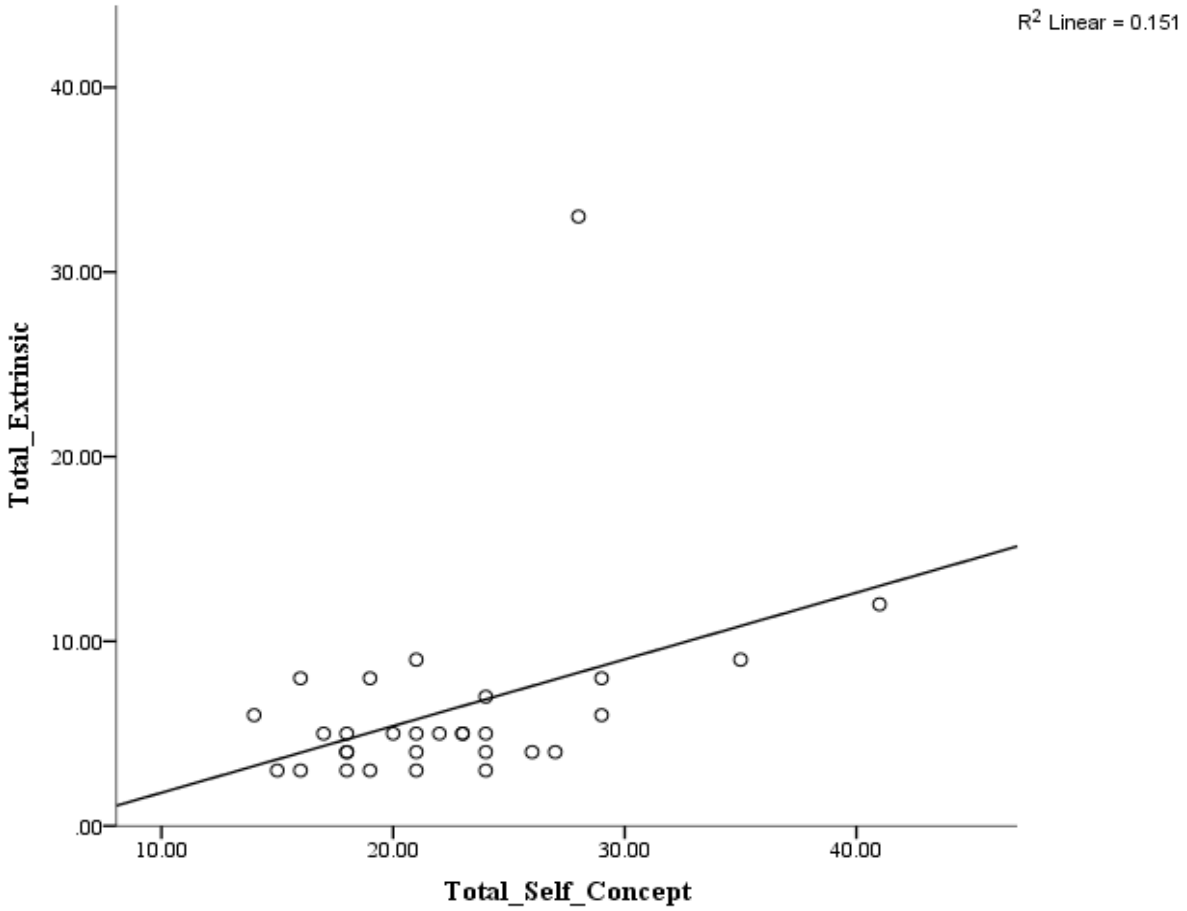

Figure 2: Graph to show the relationship between participants' total ASC and their extrinsic motivational score.

The graph shows that a higher ASC (lower score) is correlated with a more extrinsic motivational style (lower score), however the graphs shows that the relationship is not as strong as that between intrinsic motivational score and ASC.

Finally, in order to determine whether there was a relationship between being amotivated and having a lower ASC, I carried out further Pearson's Rank Correlations to determine how amotivated motivational scores related to the three separate self-concept variables, as well as total ASC.

Again, there was no significant relationship between maths self-concept and amotivated motivational style. Likewise, there was no significant relationship with English self-concept.

There was however a significant relationship with general school self-concept (r=-.359, N=30, p=.026) and total ASC (r=-.375, N=30, p=.021) (Figure3). This relationship was negative, suggesting that the more amotivated a participant was, the lower their ASC.

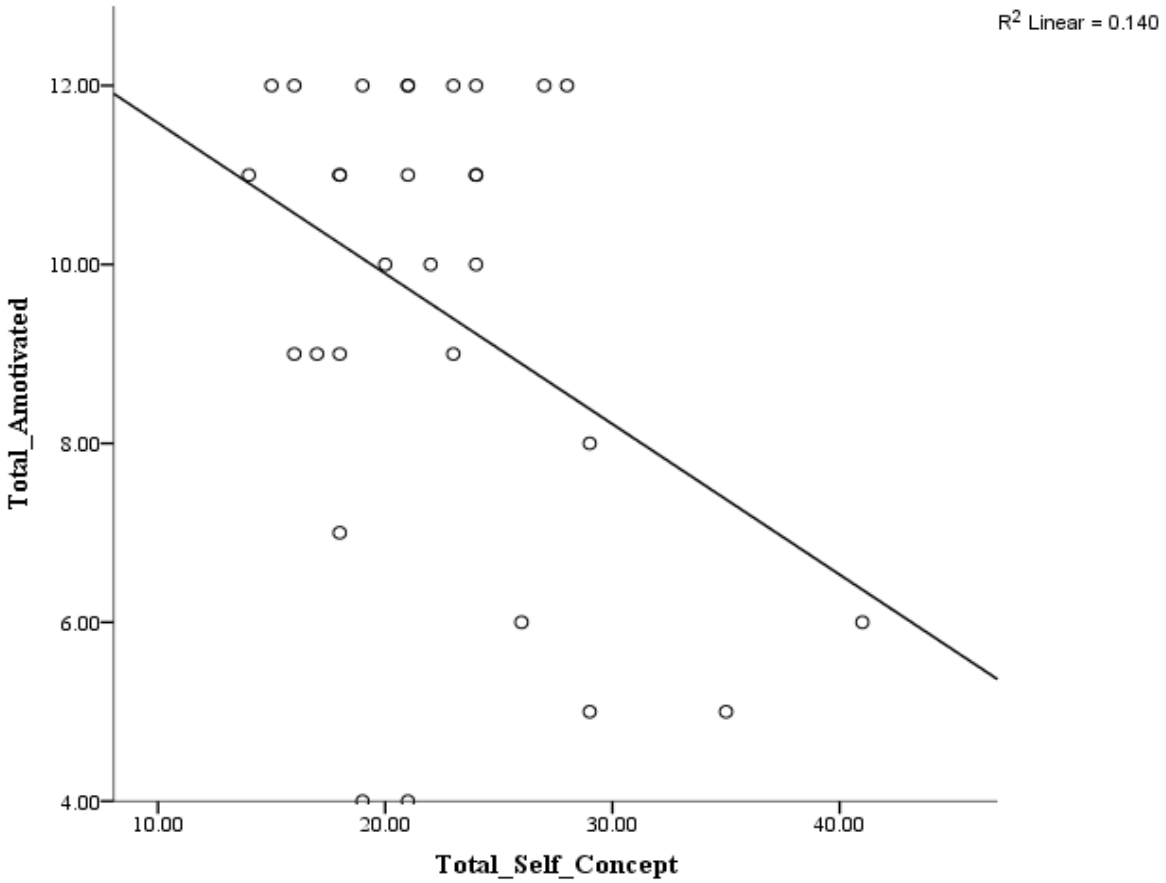

Figure 3: Graph to show the relationship between participants' total ASC and their Amotivated Motivational score.

The graph shows that a lower ASC (higher score) is correlated with a more amotivated motivational style (lower score).

Semi-Structured Interview and Focus Group Analysis

The interviews questioned the children on why they try hard in different subjects at school, and how school could increase their motivation and ASC, and help them to do better. I also carried out a

focus group with five different, randomly selected children to further explore strategies the school could employ to increase motivation.

The first purpose of the interviews was to detect any patterns between why children tried hard in a given subject, and their perception on how good they were at it. Guay et al. (2010) postulate that "perceiving oneself as competent, increases autonomous academic motivation" (p.649), and the results of our quantitative analysis are consistent with this view. The results of the interview also supported this claim. Pupil 5, who showed high self-concept in maths in the questionnaire, was asked why she answered the questions in the way she had regarding her maths self-concept. She replied "because I like maths, it's my favourite thing in school, because it's fun and we sometimes do games". Asked why she thought she was good at maths, she replied "because I'm in the top set", contradicting Marsh's Big-Fish-Small-Pond effect which claims children in a high-ability environment will have a lower ASC due to social comparison. Pupil 1 who demonstrated high self-concept for maths and English on his questionnaires gave a similar response; "Well first off, I really like maths and enjoy doing it. I think I am really good at maths". When questioned about his English results he replied "Well the same as maths. I really like English, it's fun". These answers support research such as that by Pavlou (2006) which demonstrated pupils' engagement in art tasks varied mainly because of the nature of the pupils' perceptions of ability.

Therefore we would expect pupils whose questionnaires suggested a low ASC in a particular domain to be disengaged with that domain; Pupil 3, who had a low self-concept in maths, said "I know it will help you, but it's sometimes a bit boring". He gave his reason for working hard as so he doesn't have to stay in at lunch to finish off, and "I want to get a good job when I'm older". While there is evidence of motivation, his answers suggest a regulatory process of compliance rather than choice; he is not engaged volitionally, but his actions "are compelled by some interpersonal or intrapsychic force" (Deci et al., 1991, p.326). From research we would expect a low ASC and extrinsic motivation to lead to a detriment in achievement, and Pupil 3 says about his maths performance "I don't know what to do. As soon as I learn something new…I just forget it. Sometimes it just all confuses me".

Other pupils suggested alternative reasons for trying hard in subjects; because they felt proud of their work, or the prospect of getting a job in the future. Pupil 15 said she tries hard "when my teacher has a challenge for me". This answer corresponds to Vygotsky's (1978) research into the

Zone of Proximal Development, and the notion that teachers can increase children's ASC and motivation by setting tasks which are within their ability if supported by an adult, yet allow for progression of skills. Although Deci et al. (1991) write that setting targets in this way can lead to a feeling of being controlled and therefore reduce motivation, Pupil 15 adds to her answer that it helps "when my teacher helps us, but only if we need help", clarifying that in fact setting challenges can done in a positive and autonomy supportive way.

Finally, I addressed how pupils thought the school and teachers could help them to try harder in lessons, and enjoy school more. I drew three main themes from their answers; being given more choice, more encouragement and rewards, and a more immersive and creative learning environment.

Deci et al. (1991) found that "highlighting choice rather than using a controlling style contributed to subjects' internalising the regulation of an uninteresting activity" (p.336). Pupil 5 said she would work harder if she could "pick the people you want to sit next to…your friends could help you when you get stuck", and to "not wear school uniform". These answers may not be practical strategies which teachers are willing to employ, but her answers highlight the desire children have to have a say in their education. Pupil 2, who showed low maths self-concept, wanted to "have separate rooms so if you're not good at English you go to the English room and same for maths…then you can choose which one you go to…I would go to the maths classroom". Her perceptibility at understanding her need to work harder at maths, despite saying earlier in the interview "I don't like maths. It's harder than anything…I try but I just can't", suggests that perhaps children have a greater maturity to make their own choices then we give them credit for. Some leaders in education propose that allowing children to choose their activities builds independence, self-discipline and the ability to concentrate (Montessori, 1912) and it has certainly been shown that choice in reading promotes engagement and motivation (Guthrie and Wigfield, 2000).

The second theme drawn from the interview data was that of children desiring more encouragements and rewards. Pupil 1 said that "if teachers were more encouraging" he would try harder, whist Pupil 4 suggested "teachers could help you more when you get stuck, because I get stuck a lot". Other children from the focus group talked about the possibility of prizes for completing homework, "maybe sweets", or "I would like to have levels, like accelerated reader". These answers seem to contradict research which suggests that praise, prizes and rewards can have

a negative influence on children's intrinsic motivation (Deci et al., 1991), demonstrating the picture is not as black and white as Deci et al. suggested. There are however many conceptual variables involved in using praise and rewards, such as gender differences, age, sincerity of praise and characteristics of the participant (Henderlong and Lepper, 2002). As Ginott writes, "praise, like penicillin, must not be administered haphazardly. There are rules and cautions that govern the handling of potent medicines…there are similar regulations about the administration of emotional medicine" (1965, p.39).

Finally, many of the children made comments suggesting greater creativity, inclusion of art, and even school trips could increase their motivation and engagement in school. Pupil 4 commented "I would like to maybe do a little bit of art in each lesson. Maybe we could build models", and other children replied with suggestions such as "more drawing", "making things more", and "do more building". Creativity is a critical aspect of education; a creative mind is open to new ideas, thinks for itself, is willing to take risks and shows flexibility, all traits which we hope to inspire in our pupils (Craft, 2000). Thankfully in recent years, creativity has been widely included into the education system, however some believe that "we should make the development of our creative drive the next major enterprise for our society…it is the edge we need in a competitive world" (Scottish Executive, 2004 as cited by Shaheen, 2010, p.167). One way to develop a creative mind is through a more experiential education. Pupil 27 suggested "more school trips, different countries", and Pupil 15 proposed "even just going outside and doing insects and stuff". One pupil commented that she would enjoy science more "if we got little lab coats and dressed up. That would be fun". As we know from social constructivist theorists such as Vygotsky (1978), children learn through doing and taking an active role in their own learning.

Limitations

Reflection on the methodology used determined some positive aspects which strengthened the research project, yet also some limitations which, if amended, would make the project more reliable, valid and generalizable.

The use of four point Likert scales in a questionnaire format meant that quantitative data could be produced and analysed, which allowed for measurements to be made of children's ASC and motivation and meant that data could be collected quickly from a large sample. However as Muijs

(2011) says, "relatively few phenomena in education actually occur in the form of 'naturally' quantitative data" (p.2) therefore expressing the need to use a qualitative approach alongside. This mixed methods approach allowed the responses from the questionnaires to be followed up in more detail and to give a more accurate picture of what the child was thinking. As Wilson (2009) suggests, using a semi-structured, one-to-one interview design allowed for flexibility and is more appropriate in the primary classroom, giving a greater insight into what children truly think.

Some limitations regarding the current research merit comment however. Due to limited time constraints, the questionnaires were altered from the original versions which they were based on in order to make them child-friendly and suitable for the short amount of time available. However this may have resulted in the questionnaires lacking validity. In order to ensure validity is met, the question 'are we measuring what we want to measure?' should be asked. However there are extraneous variables which must be taken into account; for example, when measuring maths self-concept, it ought to be considered whether the child was having a tough day, or did not like their maths teacher. In further replications, the questionnaires ought to be developed more thoroughly and even piloted beforehand to ensure they were suitable. Yet however developed the questionnaires are, "self-concept is an abstract concept…we cannot plug directly into people's heads and know exactly what they are thinking, feeling or experiencing" (Muijs, 2011, p.57), therefore the best must be done with the methods available.

The reliability of the study, i.e. the extent to which it is free from error, is an element of the methodology which could be improved in future replications. Repeated measurement reliability (Muijs, 2011) could have been increased by repeating the study with either the same or a different sample, and confirming that the results and conclusions are the same. Due to time constraints this was not possible, therefore I am unable to make claims about the study's reliability. In order to ensure that the separate items which were added together to create the motivational constructs were closely related enough, the Cronbach's alpha coefficient was calculated as a measure of internal consistency reliability. A coefficient of higher that .7 shows that the items have high internal consistency. The Cronbach's alpha scores for the intrinsic, extrinsic and amotivated constructs were .889, -.08 and .887 respectively, demonstrating the intrinsic and amotivated constructs had high internal consistency, however the extrinsic construct had poor internal consistency, meaning this construct cannot be taken as a reliable measure of extrinsic motivation. Future studies need to

identify why these items did not show consistency, and therefore how the measures of motivation can be improved.

In addition to these limitations, the sample was fairly small, and representative of just one age group and geographical area, therefore the results cannot be generalised to other age groups or areas. Future research may benefit from using a more generalizable sample.

Future Implications

The results from this study are tentatively supportive of previous research in the field of ASC and motivation, suggesting that a relationship does exist between these two variables (Guay et al., 2010). The relationship between ASC, motivation and academic attainment is a well-supported phenomenon, highlighting the need to foster and increase ASC and intrinsic motivation. The interviews into children's perspectives on how their ASC and motivation can be increased revealed three main themes; choice, the use of praise and rewards, and a more experiential learning environment. In this section I discuss practical methods of implementing these results into my future practice.

Offering choice to children has been a matter of debate for some years. Reynolds and Symons (2001) demonstrated that offering eight year olds a choice of their desired topic in an information search task resulted in better performance and search sequence. However the question has been raised as to whether it is the choice itself which motivates children, or the interest in what is chosen (Katz and Assor, 2003). Flowerday, Schraw, and Stevens (2004) allowed students to choose which essay they wrote without knowing the contents of the essay pack, so that situational interest would not be a confounding variable. They found that choice had no influence on motivation, and that it is interest which influences learning. Therefore we can conclude that in order for choice to be intrinsically motivating "teachers should offer options that seem valuable to the students because they enable students to work on subjects and tasks that interest them" (Katz and Assor, 2007, p.437). Strategies that may increase their intrinsic motivation could include offering choice of differentiated learning so that pupils take control of their learning (Vygotsky, 1978), or offering more choice for homework, which results in higher intrinsic motivation, higher competence and better performance (Patall, Cooper, & Wynn, 2010).

Deci et al. (1991) postulate that praise and rewards damage intrinsic motivation, however the current research contradicts this and suggests that pupils desire praise and rewards from their teachers. Cameron and Pierce (2006) criticise Deci et al.'s claim, calling it "not only wrong; it is harmful" (p.5). Most researchers now recognise that the effects of incentives depend on the type of reward and how they are allocated (Cameron, Pierce, Banko, & Gear, 2005). For example, Marinak and Gambrell (2008) found that children who received either a book or no reward for reading were more motivated than those who received a token, demonstrating that proximity of the reward to the desired behaviour is important, and rewards must be chosen carefully. Therefore in future practice I believe it is critical to ensure that strategies of reward and reinforcement are carefully considered so that they are applicable to context and clear to the children. It is crucial children understand why they are recipients of a reward, therefore setting aside time at the end of the day where children who have been rewarded can tell the rest of the class why, could be beneficial in developing the ASC and motivation in other children too.

Finally, research is clear about the benefits of creativity and experiential learning for children in order to develop not only their academic ability but also their emotional capabilities (Vygotsky, 1978; Craft, 2000; Shaheen, 2010). I believe in the importance of using a range of creative strategies in order to ensure all children are engaged in the learning process, and maintain enthusiasm. Outdoor education in particular can have a multitude of benefits, as "the unpredictability of the natural world is a feature that can be harnessed to rekindle excitement and curiosity…and provide a motivating, experiential starting point for further curricular development" (Waite, 2010, p.120). Incorporating the outdoors into my teaching and lesson planning is something I am passionate about.

To conclude, the results of this research project have taught me the importance of respecting and listening to pupil voice within my classroom at all times, as "if schools are to engage with their own futures…they need the quiet but insistent voice of research" (Gray, 2013, p.8). Being the best teacher requires being a reflexive practitioner. Reflexivity is an interactive process between the teacher, the pupils and the learning context, which by its very definition "requires a teacher to make a major shift in their understanding of classrooms" (Wilson, 2013, p.6). It is crucial that the impact of theoretical knowledge and research-based awareness of teaching practice is not underestimated. By listening to our children's perspectives more, we understand more about their view of themselves and how they will learn best. Yet understanding is just the first step; "building on this

understanding is the second and most crucial step. Teachers need to plan activities that accommodate different needs, capture pupils' attention and move them forward" (Pavlou, 2006, p.203).

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Appendix 1: Questionniare to measure ASC

Name:

Thank you for doing this quiz!
Please circle your answers to each question.

1) Please circle whether you are a

Boy / Girl

2) Please write your birthday _____

Please answer the following questions about what you think about maths. We want you to think carefully about your answers and be as honest as possible. Circle which face is the closest to how you feel.

1) What do you think about maths in school?

2) How good do you think you are at learning new things in maths?

3) How good do you think you are at using things you learn in maths?

4) How good do you think you will be at maths when you grow up?

Please answer the following questions about what you think about English. We want you to think carefully about your answers and be as honest as possible. Circle which face is the closest to how you feel.

1) What do you think about English in school?

2) How good do you think you are at learning new things in English?

3) How good do you think you are at using things you learn in English?

4) How good do you think you will be at English when you grow up?

Please answer the following questions about what you think about school. We want you to think carefully about your answers and be as honest as possible. Circle which face is the closest to how you feel.

1) What do you think about school?

2) How good do you think you are at learning new things in school?

3) How good do you think you are at using things you learn in school?

4) How good do you think you will be at learning when you grow up?

Appendix 2: Questionnaire to measure Motivational Style.

Name:

Thank you for doing this quiz!

Please circle your answers to each question.

Please circle whether you are a

Boy / Girl

Please write your birthday: _____

We have described three activities related to school. For each activity, we have given three reasons you would do it. For each of these reasons, circle the face which is closest to how you feel about that reason.

Please read the following reasons about doing your school work. We want you to think carefully about each reason and circle which face is the closest to how you feel. Please be as honest as possible.

1) I usually do my school work because it is what I am supposed to do.

I agree					I don't agree

2) I don't know why I do my school work. I don't see what difference it makes.

3) I usually do my school work because I enjoy it.

Please read the following reasons about going to school. We want you to think carefully about each reason and circle which face is the closest to how you feel. Please be as honest as possible.

1) I usually go to school because it is what I am supposed to do.

2) I don't know why I go to school. I don't see what difference it makes.

3) I usually go to school because I enjoy it.

Please read the following reasons about listening to your teachers. We want you to think carefully about each reason and circle which face is the closest to how you feel. Please be as honest as possible.

1) I usually listen to my teachers because it is what I am supposed to do.

2) I don't know why I listen to my teachers. I don't see what difference it makes.

3) I usually listen to my teachers because I enjoy it.