Examining the consistency of mastery and performance goals across group and perceived-ability contexts

Amanda Harris, Nicola Yuill and Rose Luckin

CSRP 594

November 2007

University of Sussex

_____

Cognitive Science
Research Papers
_____

⸺n n con ncy o y n o nc o c o o n c y con

Amanda Harris[*], Nicola Yuill[*] and Rosemary Luckin[†]

(*) Department of Psychology, University of Sussex, Brighton, UK

(†) London Knowledge Lab (LKL), Institute of Education, University of London, UK

E-mail: A.L.Harris@sussex.ac.uk

A c

We report a series of three studies investigating the consistency of 8- to 10-year-olds' achievement goal orientation across different learning contexts. Our main aim was to examine whether goal orientations represent stable individual differences towards learning or vary according to context. To achieve this we examined the influence of two variables on the consistency of children's achievement goal adoption: (a) learning activities which varied in levels of peer interaction (individual, collaborative, and whole-class) and (b) children's perceptions of their ability in these contexts (high or low). We developed a method of measuring achievement goals in each of these contexts by presenting children with situation-specific scenarios in which they selected a response from a choice of either mastery- or performance-oriented behaviour. We then examined achievement goal preferences within each context and the consistency of goal responses across contexts. Results suggest that for some children achievement goal orientation is consistent across contexts and appears to be dispositional. However, most children adopted different goals according to context. Also, specific interactive contexts exerted particularly strong influences on achievement goal preferences both within and between the three samples. Implications for a theoretical understanding of achievement goals as both situationally specific and dispositional are discussed.

o mastery and performance goals, goal consistency, contextual variation.

n o c on

Achievement goal theory maintains that the goals children pursue when learning create a meaning system, or orientation, which determines how tasks are approached and interpreted (Urdan, Kneisel, & Mason, 1999). In this paper we focus on the two types of goal orientations that have received most attention in the literature. A mastery orientation concerns the desire to

We examine an aspect of classroom context which has not been addressed in relation to achievement goals; the degree to which classroom work differs in the type of social interaction children experience. We distinguish between (a) individual work where there is little or no direct social contact with others, (b) collaborative work where the child experiences direct peer interaction and (c) whole-class work where both peers and teachers contribute to the social organisation of the learning activity. Several authors have suggested that collaborative contexts should promote a mastery approach while whole-class contexts are likely to be more competitive and therefore performance-oriented (Ames, 1984, 1992; Blumenfeld, 1992). However, the influence of these environments on children's achievement goals has not been directly compared in a single sample. Before presenting our studies we first discuss existing models of goal orientation in more detail and highlight current methodological limitations in achievement goal research.

We argue that addres

2.1.2. Design

Achievement goals were measured across three group contexts (individual, collaborative and whole class) in two perceived-ability conditions (high and low) using a repeated-measures design. The dependent variable was categorical, with responses indicating either mastery- or performance-motivated behaviour.

2.1.3. Achievement goal scenarios

Following a pilot study with 5 children not in the main study, six scenarios were devised, one to represent each of the six contexts. The scenarios outline a short example of a task the child might experience in each learning context and presents a dilemma in relation to that task. The dilemmas involve making a choice between a mastery or a performance behaviour. In half of the scenarios the choice is between two versions of the task (more or less challenging) while in the remaining half the choice is between increased or decreased persistent or effort in the face of difficulty or failure encountered during the task. Scenarios are listed in Appendix A.

2.1.4. Perceived ability   di di choose r0eydf(zdyjdf2c457d3b45d27T

In order to determine perceived ability, children were asked to choose a subject they felt they were good at and to choose one they felt were not good at. Scenarios were then presented with reference to each child's high- and low-ability subject choice.

2.1.5. Validity measures

We included two additional measures to allow comparisons between different methods of measuring achievement goals. A behavioural task-choice measure, adapted from Dweck (2000), asked children to choose between two 'spot the difference' puzzles to complete at the end of the session. They were told one of the puzzles had a clue and was easier, which meant they were more likely to solve it correctly (performance). They were told the other puzzle did not have a clue and was more difficult but they were likely to learn something new from doing it (mastery). In addition, we adapted the six achievement goal scenarios directly for teacher-rating in order to compare these with children's self-r0 Td ( )Tj 2.64502 2

Particular effort was made by the researcher to make the scenarios as distinct from each other as possible. Scenarios were read out twice and children given as much time as they needed to make their choices. In between each scenario the researcher chatted with the children about school, play, sports etc. Children were reminded again at the beginning of the next scenario of their choice of subject, that it was their 'best' or 'worst' depending on the condition and they were to imagine the next story happening in that particular subject. Class teachers were given the teacher-rated scenarios to complete in their own time during the testing week.

2.2. Results

Responses to each scenario were coded as 0 (mastery) or 1 (performance). Due to the categorical nature of the data and the use of a repeated-measures design, binomial distribution and sign tests have been used for analysis. Where significance levels are reported these are all two-tailed.

2.2.1. Achievement goal stability across scenarios

In order to measure the degree of stability in children's goal choices across the six scenarios, each child was categorised according to the number of mastery and performance responses made in total. Children who gave all mastery or all performance responses were categorised as having a strong personal goal-orientation. Children were classified as moderately mastery- or performance-oriented if they gave consistent responses in five out of the six scenarios. A weak classification was given if responses were consistent in only four out of the six scenarios while a neutral classification was given when an equal number of mastery and performance responses were made overall. Figure 1 shows that the majority of children (64%) displayed a weak goal orientation and an equal number of the remainder were inclined towards mastery and performance goals. No child gave unequivocal mastery or performance responses across all the scenarios and 23% were classified as neutral, displaying no particular goal preference.
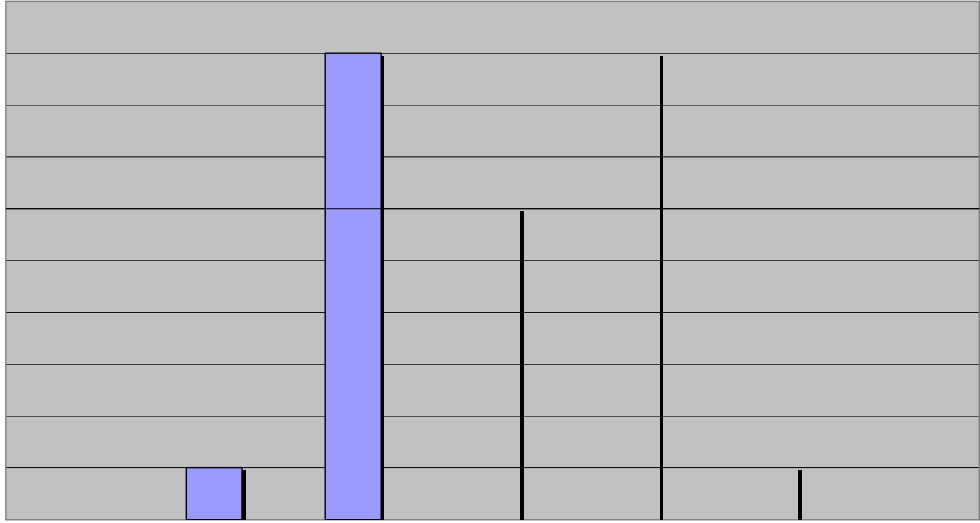
. Consistency rate (%) between self-report and teacher-rated scenarios

	High PA	Low PA
Individual	54	50
Collaborative	54	77

However, this study had several limitations which need considering before any conclusions are reached.

Firstly, as variables are categorical and the sample size relatively small, the data lacks statistical power. Secondly, the lack of consistency in children's responses to the scenarios may indicate random responding. Comparisons between teacher-rated scenarios, the behavioural task choice measure and the self-report scenarios suggest that an accurate measure of goal orientation was obtained for at least two contexts (individual: high perceived-ability and collaborative: low perceived ability) as responses were consistent across measures. However, further studies are needed to assess how consistent results are across samples.

3.2. Results

3.2.1. Achievement goal stability across scenarios

As seen in Figure 3, no children were classified as having strong mastery- or performance-orientations.

ability levels. However, this was not the case, with only 10 children giving the same goal response (9 performance and 1 mastery). This pattern was the same for the collaborative context, in which 12 children gave consistent goal responses (5 mastery and 7 performance) across both ability levels while 7 gave inconsistent responses. In the whole-class scenarios 7 children gave consistent responses across both (all mastery) while 12 gave different responses across ability levels. However, what is interesting to note is that of the 12 who changed their goal responses across whole-class scenarios, 10 selected a mastery goal in the high perceived-ability context and a performance goal in the low-ability context. This is more in line with the pattern of responses observed in Study 1.
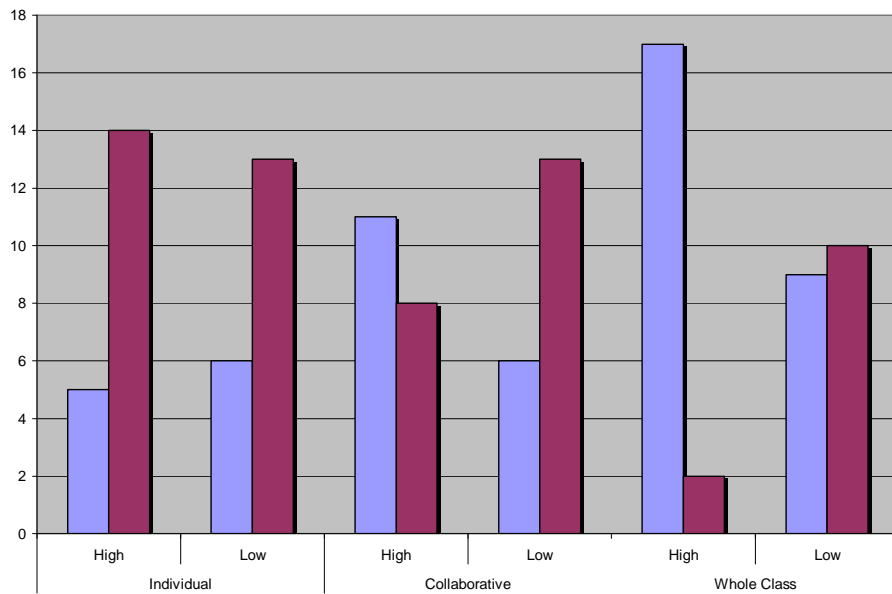
Although not significant, low perceived-ability did seem to play a role in the adoption of performance goals overall as a preference for performance goals was evident in all the low perceived-ability scenarios. However, the lack of consistency in individual children's goal preferences across the scenarios suggests this result may be due to random responding.

The results of this study replicate some of the findings of Study 1. However, they also suggest that for this sample, contexts other than the whole-class environment had an organising influence on behaviour. Urdan et al.(1999) note that policies and practices in both schools and classrooms can make mastery or performance goals more salient to children and teachers. In this school there may be more of an emphasis on performance goals in general, and particularly in terms of individual achievement. However, the possibility of random responding needs further investigation. In addition, due to the female bias in both samples, gender effects have not been addressed. In the light of these limitations a further study was undertaken with a larger gender-balanced sample. This study included an additional standardised measure of goal orientation in order to determine the accuracy of the learning scenarios in predicting goal-oriented behaviour.

4 ̶y̶.̶

The results of the previous two studies suggest that context-specific information is an important influence on children's achievement goal adoption. Some contexts influence most children in the same way and produce clear patterns of goal preference. Others, however, influence individuals in different ways. In addition, some participants are less influenced by context than others and appear to access an underlying orientation which is not sensitive to contextual cues, although such children are in the minority. Furthermore, the influence of particular contexts was different for each of the previous two samples. In the current study we use a large sample and include an additional achievement goal assessment in order to measure the consistency of the achievement goal scenarios with a more established goal measure. In this study the scenarios were computerised.

4.1. Method

4.1.1. Participants

Sixty-one (30 male; 31 female) Year 4 and 5 pupils participated in this study from a large primary school in the same city as the previous studies. Ages ranged from 8;2 years to 10;3 years, with a mean age of 9;3 years. Each year group had three classes and 10 children were randomly selected from the register from each of the six classes.

4.1.2. Measures

In this study the original six learning goal scenarios were used with minor adjustments made using feedback from participants in the previous two studies. The scenarios were computerised and the order in which they appeared was randomised. As in Study 2 participants chose their best and worst subject from a list of six. The software then inserted their choice of subject in the appropriate scenarios.

4.2.2. Interactive context and perceived ability

As seen in Figure 6, there was a clear preference for mastery goals in four out of the six scenarios. Binomial distribution tests revealed this preference was significant in the individual and whole-class contexts for both ability levels (all ps < 0.01). The collaborative scenarios were the only ones in which there was a preference for performance goals. This was significant in the low perceived-ability condition ($p = 0.004$).

Given the preference for mastery goals in the individual and whole-class contexts the consistency of goal adoption across perceived-ability scenarios was significant (ps < 0.001). In the individual scenarios 45 children (39 mastery, 6 performance) gave consistent goal responses across both perceived-ability levels while 16 gave inconsistent responses across ability levels. In the whole-class context 47 children (40 mastery, 7 performance) gave a consistent goal response across both perceived-ability scenarios while 13 gave inconsistent responses.
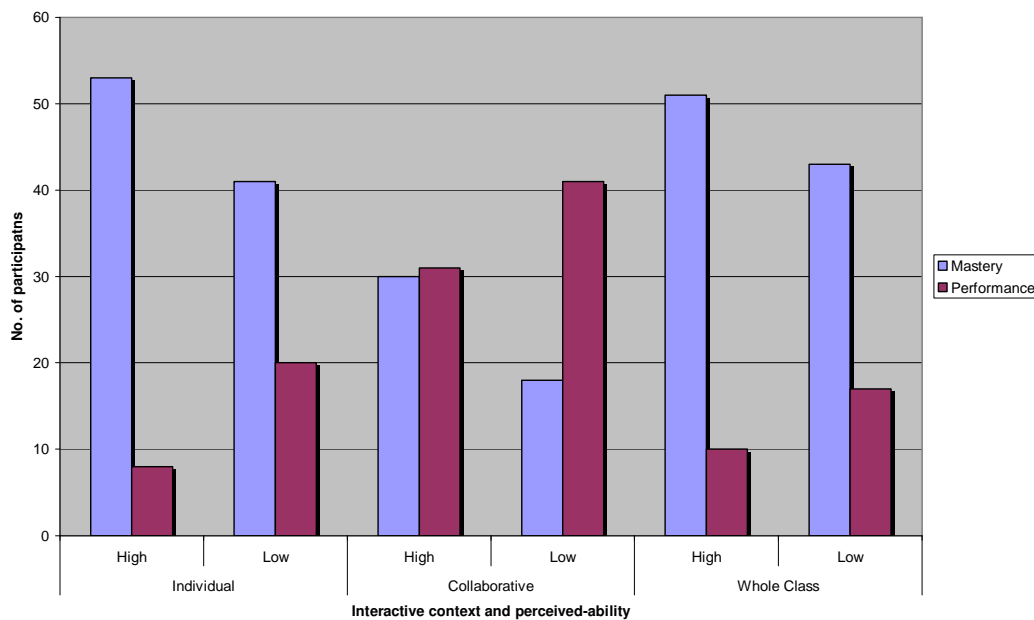

Number of mastery and performance responses given for each scenario

Therefore, participants were more likely to adopt mastery goals in both high- and low-ability contexts across individual and whole-class scenarios than they were to change their goal preference. However, this was nos

4.3. Validity of Achievement Goal Scenarios

4.3.1. Patterns of Adaptive Learning Scales

The PALS questionnaire measures achievement goals on 3 separate dimensions, with participants receiving a separate mastery, performance-approach and performance-avoidance score. In order to compare these more easily with the achievement goal scenarios, which use a dichotomous mastery-performance split, the approach and avoidance dimensions on the PALS questionnaire were combined to give a single performance score, a method used by Pintrich (2000).

Each item on the PALS is measured on a 5 point likert scale (1 = strongly disagree and 5 = strongly agree). A mean score is calculated for all mastery and all performance items, as shown in Table 2. A paired samples t–test showed that the mastery mean was significantly higher than the performance mean (t (51) = 11.12, $p < 0.001$). Therefore, according to the PALS questionnaire children in this sample held significantly stronger mastery goals than performance goals. This general pattern of goal orientation is consistent with that observed using the achievement goal scenarios. Figure 5 shows that using the scenario method, there was a general bias towards mastery goals with a higher number of children giving consistent mastery responses than consistent performance responses.

Table 2. Mean mastery and performance scores measured by PALS

	Mean (SD)
Mastery	4.23 (.6)
Performance	2.99 (.79)

The general pattern of mastery and performance goals measured with the PALS questionnaire appears to support, in broad terms, the general pattern of goal distribution measured with the scenarios. Further analysis was undertaken to determine whether the strength of orientations, determined by the level of consistency across scenarios, was consistent with the strength of mastery and performance goals measured on the PALS scales. PALS scores were converted into a single mastery performance scale by subtracting the mastery score from the performance score and placing the converted score on a scale with a mid point of 10[1]. Scores above 10 indicate a performance tendency and scores below a mastery tendency. This single PALS score was then correlated with the overall mastery/performance score from the achievement goal scenarios (0-6) where lower scores indicated a tendency toward an overall mastery preference and higher scores a tendency towards an overall performance preference. The converted PALS scale and the achievement goal scenario scores were positively correlated ($r = .28$, $p = 0.051$), although the correlation was weak.

---

[1] The selection of 10 was random. Any number which would have brought all scores above zero could have been used.

4.

Our results suggest that when addressing children's achievement goals it may be useful to distinguish between those children who show consistent patterns of goal adoption and therefore are disposed towards a particular approach to learning and those children who are more variable in their goal preferences and therefore may be more open to contextual influences.

5.2. The role of interactive, perceived ability and school context

When examining the nature of contextual influence two findings emerged. Firstly, in a similar vein to our findings above, we observed that some contexts were inherently goal-oriented and had an organising effect on behaviour while others did not appear to present overarching goal-oriented cues. Secondly, we observed contextual influences on both a micro (task) and macro (school) level.

In all three studies the whole-class high-ability context led children to endorse mastery goals over performance goals. As Meece et al. (1988) suggest, whole-class teacher-controlled environments may have clearer rules for behaviour, determined by teacher expectations and shared norms, and therefore may leave less scope for children's own self-regulation. Importantly, we found that this type of context interacted with perceived ability where only high

5.3. Limitations and directions for future research

While the learning scenarios we developed enabled us to measure within- and between- context variation, there are several limitations to this method. Firstly, forced choice methods exclude other behaviours which may more accurately reflect a child's response to a particular situation (Harter & Jackson, 1992). By imposing prescribed behaviours we may therefore have led children to respond in ways they would not, in reality, have behaved. Secondly, forcing a categorical response resulte

A   n ⌐. A

Self-report Scenarios

4   Poster Local Autonomy

Now I want you to imagine that you are in _____ class. Your teacher gives you and a partner some work to do together. You have to make a poster with drawings and writing which will be put up on the wall outside your classroom. You teacher says that you and your partner can choose what to do your poster on. So the first thing you and your partner have to do is decide what to do the poster on. You could either do the poster on a topic that you've only just started learning about and so you would learn something new from it or you could do it on a topic you've already finished learning about which would be good practice.

Response choice:
A topic we already know lots about (performance)
A new topic that we could learn about (mastery)

Poster Local Autonomy

Imagine you're in class during _____. Your teacher tells the whole class that you are going to start a new topic. Before she begins she is going to ask the class a few questions to see how much you already know. Imagine that you put up your hand up but you give the wrong answer. The teacher tells the class the right answer and then carries on. What do you think you would do if this happened to you?

Response choice:
I would try and answer more questions (mastery)
I wouldn't answer any more questions (performance)

Poster Local Autonomy

During your _____ lesson the teacher tells the class that she wants you to be the teacher for a while. She says that at the end of the week each of you is going to have a chance to come up to the front of the class and talk about a topic that you can choose. She gives you a list of topics to choose from at the beginning of the week so you have time to find out about it. What sort of topic do you think you would like to choose?

Response choice:

I would choose a topic which I already know lots about (performance)
I would choose a new topic so I could learn something new (mastery)

A   n ⌐ B

Patterns of Adaptive Learning Scales
(Midgley et al., 2000)

Mastery items:

1. It's important to me that I learn a lot of new things this year.
2. One of my goals in class is to learn as much as I can.
3. One of my goals is to master a lot of new skil

Elliot, A. S., & Dweck, C. S. (1988). Goals: An approach to Motivation and Achievement. *Journal of Personality and Social Psych*

Pintrich, P. R. (2003). Multiple goals and multiple pathways in the development of motivation and self-regulated learning. *British Journal of Educational Psychology, Monograph Series II*(2), 137-153.

Stipek, D. J., & Gralinski, J. H. (1996). Children's beliefs about intelligence and school performance.