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## **Does Character Education work? - A study of a pedagogical intervention in Scottish secondary schools**

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This is an unpublished conference paper for the 3<sup>rd</sup> Annual Jubilee Centre for Character and Virtues conference at Oriel College, Oxford University, Thursday 8<sup>th</sup> – Saturday 10<sup>th</sup> January 2015.

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**PAPER TO BE PRESENTED AT THE JUBILEE CENTRE FOR CHARACTER AND VIRTUES 3RD  
ANNUAL CONFERENCE**

**Oriel College, Oxford, 8 - 10 January 2015**

***Does Character Education work? - A study of a pedagogical intervention in  
Scottish secondary schools***

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## **Introduction**

Given the re-emergence of Character Education (Arthur 2002) as a significant intervention in schools in various parts of the UK it is important to understand something of the efficacy of specified engagements in this domain. This study offers an assessment of the effects of a particular character education intervention in Scotland – the *inspire>aspire poster programme* developed by the educational charity Character Scotland. Contributing to the evolving corpus of research on character education interventions in schools (e.g. Revell 2002), our paper reports the findings of a study that evaluates the effects of the poster-programme on secondary students' habits of self-reflection, self-esteem, and moral identity. We offer an original contribution to the identification of the longer term impact of this particular programmatic intervention, in this case, conducted in the school year 2011/2012. We focused on students who were in S2 in the school year 2011/2012 and, hence, who were in S4/S5 when we conducted the study in 2014.

The Scottish educational charity, Character Scotland, aims at the cultivation of character and values in Scottish students. Within the programme students completed a template that presents six Olympic and Paralympic values and associated qualities and which interrogates their goals in life and plans of action to achieve such goals. To complete the template students also had to choose qualities they think that they effectively exhibit and those they 'need to work on'. Our assessments of these outcomes were shaped by the original impulses and claims underpinning the charity's web resources as well as the content of posters of students.

We explored the impact of the programme in two steps: first, we ran standard bivariate tests (e.g. t-tests) to assess whether or not the group of students who participated in the programme and the control group differed significantly with regard to the students' habits of self-reflection, self-esteem and moral identity; secondly, we applied the statistical technique propensity score matching (Rosenbaum and Rubin 1983) as a counterfactual approach that enabled us to identify the 'causal' effects of the programme.

The paper is structured as follows: section 2 briefly presents the aims and objects of the educational charity, Character Scotland, and outlines the pedagogic structure of the *inspire>aspire poster programme*. Section 3 addresses the analysis of web resources and publications from Character Scotland through which we have defined student outcomes that can be assumed to be influenced by the programme. Section 4 outlines the design of the study and the methodological challenge that we faced given our core research question. Section 5 deals with variables and methods. Section 6 reports the results and section 7 offers some concluding reflections.

## **The *inspire>aspire poster programme***

Character Scotland is an educational charity which aims to promote the cultivation of character and values of children and young people in Scotland. It was formed in 2009 by a

group of academics, educationalists and local entrepreneur (Character Scotland 2014). On their web page Character Scotland state that their vision and mission are “every child and young person flourishing as part of an inclusive, just, compassionate and sustainable society” and “empower children and young people to be their best and contribute to a better world” (Walsh 2014). The general goal of their work is to provide children and young people with access to an environment and activities that support their personal development in accordance with an approach that is “holistic, humanistic and humanitarian in nature” (Walsh 2014).

The inspire>aspire poster programme was developed for children and young people between the ages of 10 and 18 (Character Scotland 2013). In 2011/2012, the school year on which this study focuses, 37,000 students and 250 schools were registered (Lorimer 2013). Students who participated in the programme completed a colourful poster template. This task was constructed around three activities. To address the three tasks students were repeatedly invited to use resources on the inspire>aspire website and other websites. The first activity asked students to considering six Olympic and Paralympic values and a number of qualities associated with these (see Table 1). For each of the values students were asked to rank the qualities in order of which quality describes them best and which quality they most need to work on. Students were then required to write a short statement explaining why they chose the one quality that describes them best and the one quality that they think they should work on.

As a second activity students had to choose an Olympic or Paralympic sports person whom they valorised and outline why they admired this person, whether or not the person has ideals, values or characteristics that the student would like to emulate and why the student thinks that the person achieved the identified success(es). Students could include drawings or pictures to express themselves; they did not exclusively have to write a text. Students were also asked to add inspirational quotations. These did not necessarily have to be from the/a sports person.

In the third activity, students had to answer five questions which were supposed to lead them in identifying personal goals and developing an action plan. The five questions were:

- What kind of person do you want to be?
- What do you want to be good at?
- What do you want to achieve in your life?
- What do you want to contribute to others in your life?
- How are you going to achieve your goals?

## **Student outcomes and potential underlying processes**

We analysed the websites of the inspire>aspire poster programme (see e.g. Character Scotland 2013) and Character Scotland (see e.g. Character Scotland 2014), and publications of the charity such as Lorimer (2013), in order to define longer-term student outcomes that the poster is supposed to affect and to understand the processes that are assumed to underlie

the potential effects of the programme. A core resource was students' presentations of inspirational figures and their feedback about the programme (see Lorimer 2013). As a result of this analysis we defined the following student outcomes: (1) habits of self-reflection, (2) moral identity, and (3) self-esteem.

By *habits of self-reflection* we mean students' tendency to more or less regularly ask themselves questions about the person they are, how they became the person they are, who they want to be and what they want to achieve in the near future but also on the long-run. Testimonials of students who participated in the programme indicate that students' appreciated that the poster made them ask themselves questions of that kind (Lorimer 2013). If we assume that the activity of self-reflection during the poster-completion was a positive experience for a student, we can assume that students who participate in the programme develop habits of self-reflection which possibly are still 'present' two years after completion of the poster.

*Moral Identity* is defined as the extent to which moral notions are "central, essential, and important to one's self-understanding" (Narvaez and Lapsley 2009, 243) and a "self-conception organized around a set of moral traits" (Aquino and Reed 2002, 1424). The idea that a person's moral identity consists of moral characteristics (e.g., caring, compassionate, hard-working, honest) seems to be in line with the mental processes that the inspire>aspire poster attempts to prompt through the first activity. The psychological literature proposes that one important stage in the development of a moral identity is the "wholehearted commitment to a moral desire" (Narvaez and Lapsley 2009, 9, on Blasi 2005) and activity 1 in the poster could prompt mental processes that have positive effects on moral identity development. If one assumes that a students' written explanation of a choice of characteristics he or she "needs to work on" (see activity 1 in the poster) functions as some form of commitment to the desire of embodying these characteristics, the poster completion can be expected to influence a student's moral identity development. This process can be assumed to be further promoted as students' posters are reviewed by their class-mates and teacher.<sup>1</sup> Moreover, teachers can submit the 'best' posters for the poster award competition of Character Scotland and they then will be exposed at the annual poster award ceremony.

Most general, *self-esteem* can be defined as a person's overall positive evaluation of the self (Cast and Burke 2002). Identity theory argues that individuals try to preserve or increase their self-esteem through self-verification, which occurs when meanings in the social situation correspond to meanings in an identity (Cast and Burke 2002). Therefore, individuals look for opportunities to verify their identities and avoid situations where self-verification is problematic. Against this theoretical background, completion of the poster template, notably activity 1, where students explain their choice of qualities that describe themselves best and qualities they want to improve, represents an opportunity of self-verification but also bares the risk of having one's identity challenged. Hence, it could be assumed that participation in the poster-programme has both positive and negative effect on students' self-esteem. On the

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<sup>1</sup> On the back of the poster template, the teacher can write comments about the student's poster and rate it with either 'Gold', 'Silver' or 'Bronze'. Also, a peer of the student can write a feedback about the poster.

one hand, it gives students the chance to recognize that they have favourable moral qualities; on the other hand, it forces them to face the fact that they do not embody some other desirable characteristics. However, as the instructions on the poster use the terms ‘qualities that they *need to work on*’ – instead of terms such as, for instance, ‘qualities they *do not have*’ or ‘...*fail to embody*’ – negative influences on student’s self-esteem of this task may be rather weak.

## **The study**

The “gold-standard” for the evaluation of a specific pedagogical intervention such as the inspire>aspire poster programme would be to conduct an experiment in the form of a randomized controlled trial. However, as we assessed the effects of the specific programme that had been implemented two years ago, it was not possible to apply such a study design. We were able to neither make pre-implementation measurements nor randomly assign the activity (i.e. participation in the poster-programme) to students. These conditions created some methodological challenges which we tried to overcome through collection of comprehensive data on students, teachers and schools and application of the statistical technique *propensity score matching* which will be described in more detail further below. The study consisted of two main stages. First, we conducted an online survey among RME teachers in March and April 2014. Secondly, a paper survey was conducted among S4 respectively S5 students in June and August this year. Ethical approval was obtained through the University of Glasgow.

The online survey had two purposes: 1) identification of teachers who were willing to let us conduct the paper survey in their school and who met relevant criteria (e.g. implementation of the poster-programme in their S2 classes in 2010/2011), 2) collection of information on the teachers that would help in the quantitative analysis of the pupil data and to conduct a separate in-depth analysis of the teacher data. The online survey consisted of standardized questions and open questions. The standardized questions collected mainly structural information such as subjects taught, general participation in the poster-programme, year(s) of participation, teaching of S2 students in 2011/2012 and S4 students in this year but also information on teachers’ opinion on the effectiveness of different strategies to promote students’ moral development (e.g. teachers acting as role models, character education programmes, school charity work). Through the open questions we collected information on teachers’ class activities to promote students’ reflection on moral qualities and aspirations. We put a number of open questions to those teachers who had participated in the programme about activities undertaken in the context of the poster completion and standardized questions on hours spent on the poster-programme.

We published the questionnaire on the website of the School of Education of the University of Glasgow. Character Scotland provided us with a list of teachers who had ordered poster-templates for the school year 2011/2012 and sent emails with the link to the online survey to 62 of these teachers. This email not only invited the contacted teacher to complete the survey

but also asked him or her to forward the email with the link to other RME teachers in the school. Through this procedure 18 teachers completed the online survey. 14 of the 18 teachers who had participated in the online survey provided their email-address and thereby agreed to be re-contacted for the subsequent student paper survey. For our selection of schools to participate in the next part of the study, i.e. the student paper survey, information on the schools was merged with the data collected through the teacher online survey. This school information was obtained from the Scottish government's website ([educationscotland.gov.uk](http://educationscotland.gov.uk)) and consisted, for instance, of number of students enrolled in the school grade S4, percentage of students receiving free meals and indicators of absence without permission.

We contacted teachers of a group of schools with similar characteristics in order to create a pupil sample within a uniform school context and, thereby, to hold constant school factors. However, as a number of teachers declined participating in the second part of the study, we decided to contact also schools with slightly diverging characteristics. We received approval from local authorities for conducting the study in 4 of these schools. To increase the overall number of potentially participating pupils and of the control group of pupils who never had participated in the poster programme, we selected one other school with similar characteristics that had never participated in the programme. Unfortunately one school was not able to administer the survey as instructed so that our final sample then included 4 Scottish secondary schools.

The student paper survey was conducted in summer 2014. We obtained 149 valid questionnaires. The student paper survey contained only standardized questions. It included questions about student's family background, school situation (e.g. subjectively assessed school performance), items and scales to measure the student outcomes. Through the questionnaire we also measured the "treatment", i.e. student's participation in the *inspire>aspire* poster programme. More details about the questions and scales used in the student survey are provided in the following section.

## **Variables and method**

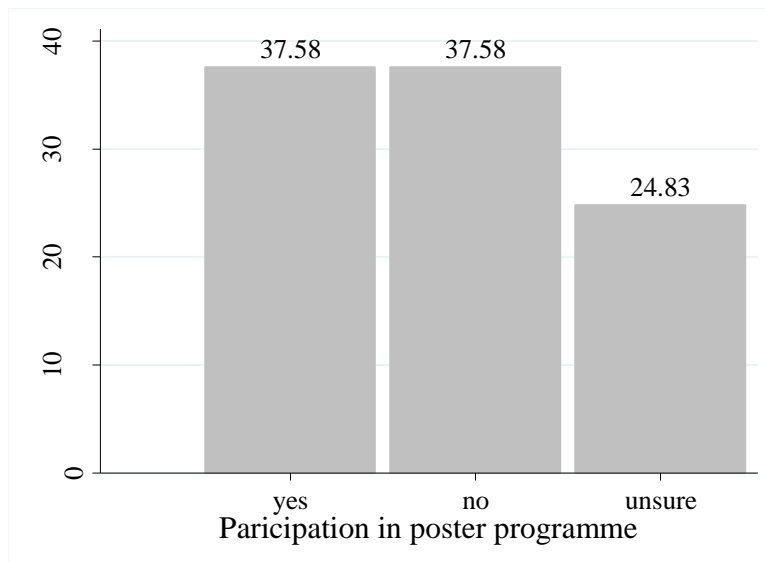
The main explanatory variable, or "treatment-variable", is students' participation in the *inspire>aspire* programme. In the paper survey students were asked whether they had ever completed an *inspire>aspired* poster template. They could choose the options 'yes', 'no' and 'not sure'. As Figure 2 indicates, 37.58 per cent of the 149 students indicated that they had participated in the programme, 37.58 per cent indicated they had not participated and 24.83 per cent ticked the box 'not sure'.<sup>2</sup> Accordingly our treatment-variable then consisted of three

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<sup>2</sup> From discussions with the teachers and Character Scotland we knew that the likelihood was high that students would not remember whether they had participated in the programme because teachers, students and parents tend to have different names for the same activity given its annual change. In order to try to keep this number low, we asked teachers to show one of the posters to the students. We also included an instruction into the survey describing the poster and telling the students that they should ask their teacher if they did not remember

categories (i) students who indicated that they have participated or, for the purpose of simplicity, *participating students*, (ii) students who reported to not have participated or, as we will term it in the following, *non-participating students*, and (iii) *unsure-students*.

**Figure 2: Distribution of students' answer to the question about participation in the poster-programme**



**Habits of self-reflection** were measured via a self-constructed set of questionnaire items asking students about the frequentness in which they had asked themselves questions such as ‘what do I want to achieve in my life’ during the last year. The wording of the items was very similar to the wording of core questions in the *inspire>aspire* poster itself. Answering categories were ‘quite often’, ‘a few times’, ‘once’ and ‘never’.<sup>3</sup>

**Moral identity** was measured via the moral identity scale by Aquino and Reed (2002). We employed a reduced number of items representing the concept of 'Internalization', which the authors define as one dimension of moral identity. The scale asks students about three sets of characteristics of which the first set corresponds to the one the authors propose as acknowledged *moral* characteristics, while the other two sets are combinations of qualities listed in activity 1 in the *inspire>aspire* poster. The three sets of characteristics are (a) Caring, Cooperative, Forgiving, Generous; (b) Confident, Honest, Fearless, Positive; (c) Committed, Decisive, Hard-working, Persistent. Through an exploratory factor analysis we obtained 5 factors that meet the acceptable level of internal consistency (Cronbach's alpha > 0.70). This means that the 5 factors were found to be measuring suitably consistent concepts. The 5 obtained factors appeared to represent:

1. Subjective knowledge of how to achieve the listed sets of characteristics,
2. Identification with the characteristics sets ‘Confidence’ (Confident, Honest, Fearless, Positive) and ‘Commitment’ (Committed, Decisive, Hard-working, Persistent),
3. Internalization of the characteristics set ‘Caring’ (Caring, Cooperative, Forgiving,

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what the poster was. However, the chances are still high that if pupils had seen additional images or logos and could have had a closer look at the poster template, the recognition would have been higher.

<sup>3</sup> The questionnaire is available from the authors on request.



- Generous),
4. Desire for being confident and, more importantly, committed/hardworking etc.,
  5. Emphasized desire for being confident.

*Self-esteem* was measured through selected items of the Rosenberg Self-Esteem scale (1992). We built two different variables, one representing the average score of the three selected self-esteem items and the factor score obtained from a factor analysis including the three items.

As explained above, a range of cofounders would affect the results of ‘simple’ analyses of differences in outcomes between students who participated in the programme and students who did not participate/are not sure about their participation. These cofounders are factors that influence the student outcomes and, at the same time, influence students’ selection into the treatment, i.e. the likelihood that they indicate that they participated in the programme. Therefore, they should relate to a time point before or during the treatment, but not past the treatment. Hence, for the present research question these factors should relate to the school year 2011/2012 or before. However, given that almost one quarter of the students were not sure about their participation in the programme, it appeared appropriate to instead consider the time point of the measurement of the treatment, i.e. summer 2014 when students completed the paper survey. Therefore, we took into account variables relating to 2014 and years before into the multivariate analyses.

The quantitative analyses of the effects of the poster-programme on the student outcomes consisted of two parts. First, we conducted bivariate analyses in which we investigated the associations between the variable indicating whether a student reported that she had participated in the programme or not respectively was unsure about her participation and the variables that represent these student outcomes. We conducted ttests and chi2-tests to assess whether associations were statistically significant. Secondly, we applied the statistical technique *propensity score matching* (PSM) in order to take into account confounding factors that affect students’ ‘selection into the treatment’, i.e. whether they indicated that they have participated in the programme or not or were unsure, and the outcomes.

Briefly, PSM is a statistical technique that enables researchers to identify ‘causal’ effects. For more detailed explanations of the technique see, for instance, Rosenbaum and Rubin (1983), Morgan and Harding (2006), Caliendo and Kopeinig (2008), and Stuart (2010). The idea behind this procedure is that a causal effect of a treatment (i.e. the poster-programme) on a certain outcome (e.g. student’s self-esteem) corresponds to the difference between the self-esteem of a student who did the programme and the exact same student had he not done the programme. Since it is impossible to calculate this difference (as one cannot turn back time and let the same student be in the counterfactual situation), one has to ‘simulate’ this situation by calculating the difference in the self-esteem between the student who did the programme and a very similar student who did not do the programme. More specifically, both students need to be very similar with regard to those factors that affect their chance of participating in the programme, or rather remembering their participation, and the outcome of our interest here, i.e. self-esteem.

The procedure for PSM consists of two steps: First, we had to run a logistic regression model with the treatment variable as dependent variable (i.e. poster vs. non-poster or ‘unsure’) and student- and teacher-variables as explanatory variables which can be expected to have an impact on a student’s recall of his participation in the programme and the outcomes. Based on the results of this logistic regression the propensity score was calculated which basically indicates the probability that a student (in our sample) is ‘selected into’ (remembering) participation in the poster-programme. In the following section we present the variables that were included in the logistic regression model to calculate the propensity score (see also Table 3). Second, differences in the outcomes are calculated for pairs of students with a similar propensity score. If these newly calculated differences are still significant, we can speak of a ‘causal’ effect of the treatment. The size of this effect corresponds to the size of this remaining difference in the outcome. There is a range of different algorithms to match the students – we applied ‘nearest neighbour’-matching.

## **Findings**

### **Associations between participation in the programme and the outcomes**

In a first step we looked at associations between the outcomes and students’ belonging to the treatment group (participating students) as compared to each of the two control groups (non-participating students respectively unsure students). Table 2 gives a first overview over the results of these bivariate analyses (the three right columns). It shows that patterns of associations between the core explanatory variable – belonging either to the treatment group or one of the two control groups – and the outcome variables are not always obvious. However, there is an overall tendency that the students who participated in the programme show higher levels on many of the outcomes than students who reported to not have participated or to be unsure. For instance, regarding the habit of asking oneself the questions ‘what do I want to achieve in my life’, Table 2 shows that 94 per cent of the participating students asked themselves this question at least a few times, while 79 per cent of the non-participating students and 87 per cent of the unsure students did so. The rate of participating students who asked themselves the question ‘how can I contribute to the life of others’ at least a few times was 68 per cent, while the corresponding rate was 59 per cent among the non-participating students and 44 per cent among the unsure students.

We applied ttests, chi2-tests and calculated appropriate correlation coefficients to examine whether associations between the core explanatory variables and the student outcomes were statistically significant ( $p < 0.05$ ). Only for one outcome, namely student’s habit of asking him- or herself the question ‘what person do I want to be?’, we find a significant association when comparing participating and non-participating students. The chi2-test reveals that the association is significant but the correlation coefficient spearman’s rho, which indicates that the association is positive, is not significantly different from 0. All other significant associations relate to comparisons between participating students and unsure students. Except for one outcome, which is the habit of asking oneself ‘what do I want to be good at?’,

students who participated in the programme always have higher levels of outcomes than the students who reported to be unsure about their participation. Regarding students' habit of asking themselves 'how can I contribute to the life of others?', both chi<sup>2</sup>-test and spearman's rho reveal a significant association. This was also true for a ttest that we conducted, treating this variable as interval scaled.

T-tests moreover revealed that differences between participating students and unsure students for the factor scores for the three moral identity characteristics sets – (1) caring, cooperative, forgiving, generous; (2) confident, honest, fearless, positive; (3) committed, decisive, hard-working, persistent – are statistically significant ( $p < 0.05$ ). Participating students score higher than unsure students on all three of these moral identity outcomes. This is also the case for the factor "identification with the characteristics sets confident-honest-fearless-positive and committed-decisive-hard-working-persistent", which was obtained through a factor analysis over all of the moral identity items.

For self-esteem we find no significant differences. Also, as indicated in Table 2, it appears that non-participating students have a slightly higher average score on the self-esteem-index than participating and unsure students.

### **Propensity score matching**

Table 3 in the appendix presents the logistic regression models to create the propensity scores for the matching. The model was structured to facilitate the comparison of both participating and unsure students. Due to the small sample size the number of variables that could be included was limited and product terms were not taken into account. For this reason the 'flexibility' of the models was quite low and obtaining a balance of covariates in the treatment and control groups was difficult. The logistic regression model used to calculate the propensity score included the following variables: student's gender, parental education, family situation (single-parent household, presence of other family members such as siblings), student's subjective performance assessment, higher education aspirations, perseverance in S1 and – in terms of teacher characteristics – teachers' class activities to promote students' reflection on values and qualities, and teachers' age.<sup>4</sup>

Table 4 lists the means of the treatment group (participating students) and the control group of unsure students as well as the difference for the unmatched sample (UM) and the average treatment on the treated (ATT). The ATT is the means and difference for the students who said to have participated had they, instead, reported that they were unsure. The differences in the unmatched sample are different from those described above because they are calculated

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<sup>4</sup> We built nominal variables using teachers' answers to two open questions. One question asked about teachers' activities in class to promote students' reflection on, and development of, their moral values and qualities. A qualitative analysis of the teachers' answers to this question revealed that teachers' activities correspond to one of two patterns: either (i) they employ the poster-programme as one main activity in one year group and other activities for other year groups, or (ii) they apply a general set of activities over all year groups and the poster-programme is only mentioned as one activity among many or not at all.

for a reduced sample, namely students for which ‘matches’ can be found. This sample consists of 70 students. In this reduced sample almost all of the outcome differences that were statistically significant in the larger sample are not significant anymore. Only the differences in the factor score ‘identification with the characteristics confident-honest-fearless-positive and committed-decisive-hard-working-persistent’ is still significant. Given that already in the reduced sample differences are not significant anymore, it is not surprising that after matching differences are not significant either (see the ATTs). However, for this specific factor score the ATT is nearly significant at the 5 per cent level (t-value=1.95). This result could be interpreted as a nearly ‘causal’ effect of remembering participation in the programme (as compared to being unsure) on moral identity in terms of the characteristics set confident-honest-fearless-positive and committed-decisive-hard-working-persistent. However, given that the outcome was measured at the same time as the treatment the claim that these moral identity dimensions affect students answer to the question about participation and not the other way around cannot be ruled out. In other words, not remembering participation could affect moral identity or students who perceive themselves as confident, committed, etc., could be more confident in remembering the participation.

## **Conclusion and prospects**

An initial finding of this study is that the inspire>aspire programme can be underpinned with a research-informed ‘theoretical’ foundation about the student outcomes it could promote. On the basis of web resources of Character Scotland and the content of student posters, we defined student outcomes and formulated assumptions about the processes through which the poster could influence these outcomes. This was a rather sketchy analysis which in future research could be extended. The outcomes we focused on in this study were (1) habits of self-reflection, (2) moral identity, and (3) self-esteem. Participation in the inspire>aspire poster programme was assumed to influence the students through three processes. First, if completing the poster is a positive and rewarding experience, students may develop habits that correspond to the reflective processes prompted through the poster (e.g. ask oneself how to achieve a certain goal). Second, if writing down an action plan on the poster and knowing it will be presented to others can have the effects of a public commitment, the programme can influence students’ development of moral identity. Third, if certain activities within the poster represent an opportunity of ‘self-verification’ (Cast and Burke 2002) for students, they could improve students’ self-esteem.

The quantitative analysis of the data on 149 students revealed an overall tendency for students who remembered participating in the programme to have higher levels on most of the outcomes than those students who indicated to not have participated or who were unsure about their participation. Statistically significant differences and correlations were found for some of the student’s habit of self-reflection, the three dimensions of moral identity (1. caring, cooperative, forgiving, generous; 2. confident, honest, fearless, positive; 3. committed, decisive, hard-working, persistent) but not for self-esteem. For most of these outcomes, the differences were found between students who remembered their participation

and students who were unsure about it. Using the statistical technique ‘propensity score matching’ we attempted to find out whether these differences were due to a direct or ‘causal’ effect of the inspire>aspire poster programme or to confounding factors that determine students’ recollection of their participation in the programme and the outcomes. These potentially confounding factors included student characteristics such as gender, school performance and personality traits which would antedate any intervention (e.g. perseverance in S1), as well as teacher characteristics such as age and deployment of a broader range of class activities to promote student moral development. For all of the outcomes – except for students’ identification with the moral characteristics sets ‘confident-honest-fearless-positive’ and ‘committed-decisive-hard-working-persistent’ – we found that there is no direct or causal effect of the poster-programme on student’s outcomes. Regarding the two moral identity dimensions, our analysis showed that students who remember their participation achieve higher scores than unsure students even after matching. With caution, this result could be interpreted as a nearly ‘causal’ effect of remembering participation in the programme on moral identity. However, given severe limitations to the data set and, hence, to the applicability of the matching technique, this result should be interpreted very carefully and additional analyses with stronger data are highly recommended.

However, the programme appears to have an ‘indirect effect’ as teachers who are engaged in promoting their students’ moral development appear to use the poster as a tool. This suggestion appears to receive some support from our supplementary analysis of the qualitative data obtained via the teacher online survey. Moreover, we found that teachers who were already committed to fostering activities considered conducive to character formation were likely to employ the poster-programme either as one main activity in one year group separate from other activities for other year groups, or as an ancillary activity in a consistently applied set of general activities across all groups. In terms of activities intended to promote the development of students’ aspirations, some teachers considered the poster-programme to be the only activity available for students to reflect on their aspirations, and some argued that school affords no opportunity for students to reflect on life aspirations.

By analysing teachers’ stated reasons for participating in the programme, which was not the primary focus of this study we found that they had quite varied reasons for doing so. Some took part because they believe it is good for their students’ self-reflection and because students enjoy it. Yet others appreciated that the programme chimed with the imperatives of RME as considered against the framework of a Curriculum for Excellence. Many also considered it important that students be afforded appropriate opportunities to discuss personal stories through the poster and, thereby, connect school activities with their family homes. Other reasons for participating in the poster-programme mentioned by individual teachers were that it improves students’ self-esteem and gives students the opportunity to be creative.

In summary, the inspire>aspire poster programme appears to be useful to teachers who are, in any event, interested in promoting their students’ moral and aspiration development, who look for activities to employ in the context of the school curriculum. The programme itself does not seem to have a direct effect on student outcomes. However, given that in the present study we were not able to conduct a fully developed experimental model and other

appropriate techniques could be applied only with caution due to limitations of the quantitative data, further evaluative research should be undertaken.

**Table 1: Values and qualities in the 2011/2012 poster template**

Value	Quality
Excellence	Focused, Enterprising, Purposeful, Ambitious, Creative, Wise, Organised
Respect	Understanding, Open-minded, Tolerant, Patient, Reliable, Considerate, Good at listening
Friendship	Cheerful, Trustworthy, Forgiving, Generous, Caring/kind, Loyal, Appreciative
Courage	Honest, Confident, Positive, Resilient, Resourceful, Fearless, Optimistic
Determination	Persistent, Decisive, Self-disciplined, Enthusiastic, Hard-working, Calm, Committed
Equality	Selfless, Flexible, Co-operative, Approachable, Modest

**Table 2: Student outcomes for full sample and by treatment and control group (means and sample size for full sample)**

	Total		Participating students	Non-participating students	Unsure students
	mean	count	mean	mean	mean
<i>Self-reflection habit</i>					
<i>What person do I want to be?</i>					
Never	0.20	149	0.16	0.30	0.11
Once	0.11	149	0.14	0.02	0.19
A few times	0.50	149	0.55	0.50	0.41
Quite often	0.19	149	0.14	0.18	0.30
<i>What do I want to be good at?</i>					
Never	0.12	149	0.16	0.14	0.03
Once	0.09	149	0.07	0.11	0.11
A few times	0.51	149	0.61	0.39	0.54
Quite often	0.28	149	0.16	0.36	0.32
<i>What do I want to achieve in my life?</i>					
Never	0.04	147	0.00	0.09	0.03
Once	0.09	147	0.05	0.11	0.11
A few times	0.43	147	0.46	0.35	0.49
Quite often	0.44	147	0.48	0.44	0.38
<i>How can I contribute to the life of others?</i>					
Never	0.18	149	0.14	0.23	0.16
Once	0.23	149	0.18	0.18	0.41
A few times	0.45	149	0.54	0.39	0.41
Quite often	0.13	149	0.14	0.20	0.03
<i>How am I going to achieve my goals?</i>					
Never	0.11	149	0.07	0.14	0.11

Once	0.11	149	0.11	0.14	0.05
A few times	0.44	149	0.54	0.36	0.43
Quite often	0.34	149	0.29	0.36	0.41
Self-esteem (index)	2.95	146	2.95	3.09	2.73
<i>N</i>	149		56	56	37

Note: means can be interpreted as percentages; for instance, 20 per cent of the students in the full sample reported that during the last year they had never asked themselves ‘what person do I want to be?’ and, among students who reported to have participated in the programme 16 per cent indicated that they had never asked themselves this question.

**Table 3: Logistic regression model to calculate propensity score (logit-coefficients and standard errors)**

	Participating vs. unsure students	
	b	se
Gender (1=boy, 0=girl)	-0.854	0.656
Parents’ university attendance (1=both, 0=at least one)	0.481	0.597
Lives with both parents vs. single-parent/step-parents	-0.215	0.629
Presence of other family members (1=yes, 0=no)	0.327	0.575
Student’s subjective performance assessment (Math and English) <i>Ref. at least on subject below average</i>		
Both subjects above average	1.137	1.078
One subject above average, one average	-0.657	0.879
Both subjects average	-1.285	0.916
Higher education aspirations <i>Ref. no/don’t know</i>		
University	0.288	0.735
FE college	0.836	1.062
Perseverance in 2010/11 (1<5)	-0.051	0.313
Age of teacher	0.044	0.032
Teacher’s activities to promote reflection on moral qualities/values (1= poster as one main activity; 0= poster as one activity among many)	0.602	0.690
Constant	-2.107	2.254
<i>N</i>	79	

**Table 4: Propensity Matching Results – participating students vs. unsure students**

Student outcome	Sample	Treated	Controls	Difference
Self-reflection habit ‘what person do I want to be?’ (1<4)	UM	2.63	2.91	-0.28
	ATT	2.59	2.98	-0.39
Self-reflection habit ‘what do I want to be good at?’ (1<4)	UM	2.73	3.14	-0.41
	ATT	2.75	3.11	-0.36
Self-reflection habit ‘how can I contribute to the life of others?’ (1<4)	UM	2.65	2.45	0.2
	ATT	2.61	2.58	0.03

Separate factor <i>caring, cooperative, forgiving, generous</i>	UM	0.15	-0.14	0.29
	ATT	0.18	0.01	0.17
Separate factor <i>confident, honest, fearless, positive</i>	UM	0.18	-0.08	0.26
	ATT	0.15	-0.22	0.37
Separate factor <i>committed, decisive, hard-working, persistent</i>	UM	0.18	-0.22	0.4
	ATT	0.19	-0.32	0.51
Overall factor 'identification with the characteristics sets confident-honest-fearless-positive and committed-decisive-hard-working-persistent'	UM	0.16	-0.39	0.55*
	ATT	0.17	-0.46	0.63(*)

Note: Results were obtained with the Stata-ado 'psmatch'. \* p<0.05.



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