

Young Lives School Surveys 2016–17

The Development of Non-Cognitive Instruments
in Ethiopia, India and Vietnam

Angela W. Little and Obiageri Bridget Azubuike



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First published by Young Lives in September 2017

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About Young Lives

Young Lives is an international study of childhood poverty, following the lives of 12,000 children in four countries (Ethiopia, India, Peru and Vietnam) over 15 years. www.younglives.org.uk

Young Lives is core-funded by UK aid from the Department for International Development (DFID).

The views expressed are those of the author(s). They are not necessarily those of, or endorsed by, Young Lives, the University of Oxford, DFID or other funders.

Core-funded by



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Acknowledgements

The authors would like to thank Caine Rolleston, Jack Rossiter, Rhiannon Moore and Padmini Iyer, who were all involved in the selection of the final non-cognitive instruments used for the 2016-17 school survey, and the development of other instruments used for the school survey in Ethiopia, India and Vietnam.

1. Introduction – Young Lives school surveys

Young Lives is an international study of childhood poverty in Ethiopia, India (in Andhra Pradesh and Telangana), Peru and Vietnam. Since 2002, Young Lives household surveys have followed the lives of 12,000 children in these four countries in two age cohorts: an Older Cohort born in 1994-95, and a Younger Cohort born in 2001-02.

In 2010, Young Lives introduced a series of school surveys in all four countries, which included a sub-sample of children in the Younger Cohort. Between 2010 and 2013 the school surveys examined issues of school quality and effectiveness in primary schools in Young Lives sites in Ethiopia, India, Peru and Vietnam. Building on the design of the primary school surveys, the 2016-17 Young Lives school surveys examine school effectiveness at upper primary level in Ethiopia, and at secondary level in India and Vietnam (see Rossiter 2016; Moore 2016; Iyer 2016 for a more detailed discussion of the school surveys in each country). The surveys examine school effectiveness through multiple outcome measures, including students' learning progress in maths and functional English. Background data collected from students, teachers and head teachers contextualise the learning outcomes data. The surveys are conducted at the beginning (Wave 1) and at the end (Wave 2) of the school year.

This Technical Note summarises the procedures involved in the selection, adaptation and administration of the non-cognitive scales administered in the 2016-17 Young Lives school surveys in Ethiopia, India and Vietnam. It includes a discussion of the rationale for the inclusion of these scales, along with details of the process of developing, piloting and selecting the measures used in the surveys.

1.1. Non-cognitive skills

The term 'non-cognitive' embraces a vast terrain of skills, strategies, attitudes and behaviours which act both as determinants and outcomes of behaviour in school and in the workplace. 'Non-cognitive' is placed in inverted commas since the boundary between the non-cognitive and cognitive psychological domain is blurred, and psychosocial factors often classified as 'non-cognitive' involve cognitive processing (for example, self-beliefs, expectancy of future performance, self-concept). The skills described as 'non-cognitive' in this Technical Note do not necessarily exclude cognitive abilities or cognition, but are termed 'non-cognitive' to distinguish them from measures of skills such as literacy and numeracy, which are often described as 'hard' cognitive skills. Reviewing evidence on the role of non-cognitive factors in shaping school performance in the US, Farrington et al. (2014) underline the conceptual difficulty in trying to forge clear-cut separations between cognitive and non-cognitive factors, emphasising that 'learning is an interplay between cognitive and non-cognitive factors' and that 'intelligence is embedded in both the environment and in socio-cultural processes'.

According to Gutman and Schoon (2013), non-cognitive skills are considered more important than cognitive skills in determining academic and employment outcomes. Heckman and Rubinstein (2001) claim that:

Numerous instances can be cited of people with high IQs who fail to achieve success in life because they lacked self-discipline and of people with low IQs who succeeded by virtue of persistence, reliability and self-discipline. (Cited in Gutman and Schoon 2013)

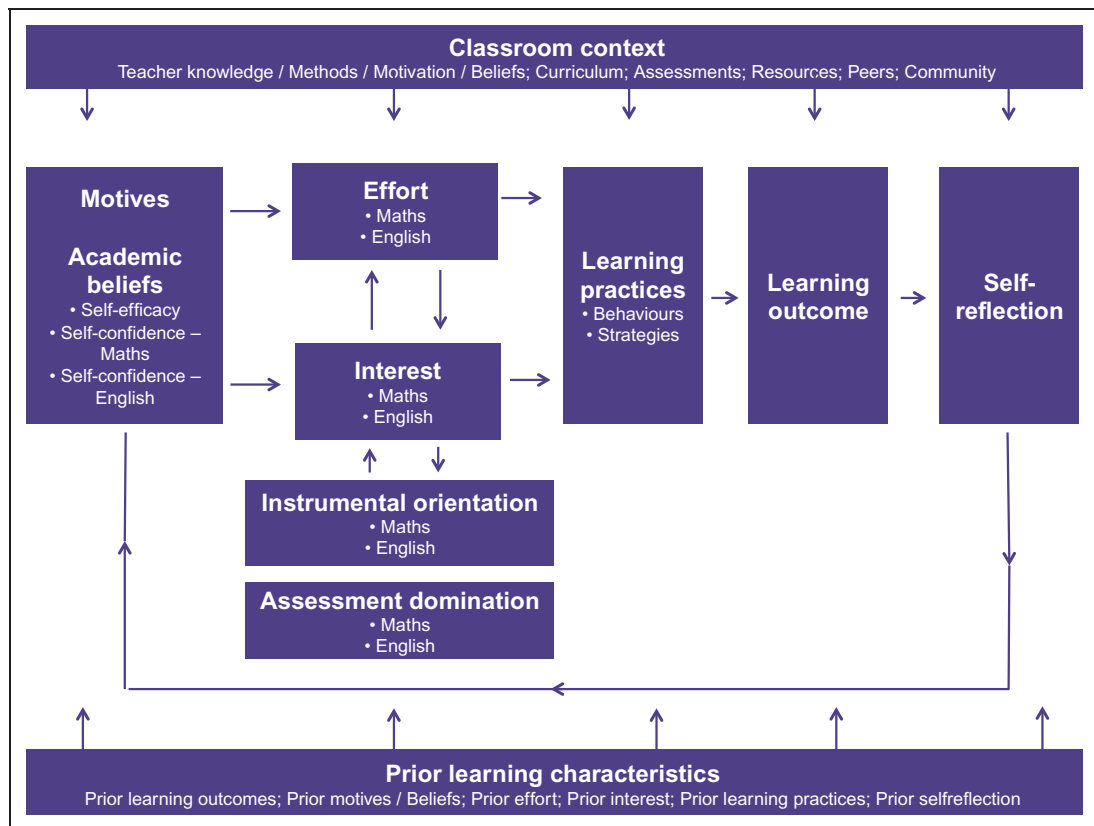
It has become increasingly important to include measures of non-cognitive skills in the measurement and analysis of academic performance and schooling outcomes because of the strong link between them. In their review of the literature on non-cognitive skills and outcomes for young people, Gutman and Schoon (2013) conclude that there is evidence of strong associations between non-cognitive skills and positive outcomes. Measurable factors such as self-control and school engagement are correlated with positive future outcomes such as good exam results, stable finances and reduced likelihood of criminal activity. However, robust evidence of their causal impact on long-term outcomes is much more limited. A number of non-cognitive skills have been identified over time and their impact on academic outcomes recognised, but it remains difficult to establish a purely causal link between these skills and academic success, even though there is a general consensus of a positive relationship. Some of the non-cognitive skills reviewed in the literature include: motivation, effort, self-regulated learning, self-efficacy, academic self-concept, anti-social and pro-social behaviour, coping and resilience (see Gutman and Schoon 2013; Farrington et al. 2014; Rosen et al. 2010; Duckworth et al. 2009; Rankin et al. 2015).

2. Development of non-cognitive measures for the Young Lives school survey

The Young Lives 2016-17 school survey includes measures of non-cognitive skills because of their likely association with students' academic outcomes. In the development of non-cognitive instruments administered in the school survey, an extensive review of the literature on non-cognitive skills was carried out (Little 2017). This included a review of a series of meta reviews of the literature, as well as of the psychosocial scales administered in previous rounds of the Young Lives household surveys. From this work, a model for the role of non-cognitive factors and learning outcomes was developed (see Figure 1). It distinguishes general motives for learning and general academic beliefs from the effort invested and interest in specific subject domains, as well as perceptions of the instrumentality of specific subjects for the future. It also suggests the inclusion of a construct described as 'assessment domination', which refers to students feeling that they are more driven by the imperatives of assessment and examinations than by an interest in the subject.

From general and subject-specific motives and beliefs, the model moves along the causal chain to: (i) the types of learning practices and strategies students employ in their learning; (ii) learning outcomes; and (iii) self-reflection and feedback to motives and beliefs and subsequent cycles of learning. All are framed by classroom context on the one hand, and prior learning characteristics on the other. Classroom context is described in terms of teacher knowledge, teaching methods and teacher beliefs, as well as the nature of curriculum, assessment practices, learning resources, peers and community. Prior learning characteristics refer to prior learning outcomes (probably the best predictor of achievement), prior motives and beliefs, prior effort, prior interest, prior learning practices and prior self-reflection.

Figure 1. *A model of non-cognitive factors and learning outcomes*



Following the review of the literature and the development of the model of non-cognitive factors and academic outcomes, 18 non-cognitive constructs were adapted from the literature. Ten of these were constructed in relation to maths and English, the academic subjects assessed by cognitive tests in the Young Lives school surveys, and the remaining eight scales in relation to their studies or schooling.¹

2.1. Pilot sample

The measures of non-cognitive skills were pilot tested between October 2016 and February 2017 in each country. The pilot sample included students from a range of school types, regions and localities to ascertain the suitability of the measures for students from a range of backgrounds. Table 1 provides an overview of the pilot sample for these measures in each country. To enable the largest possible range of scales to be piloted, measures were administered to students across two forms, with half of the students completing one set of scales and the other half completing a different set. Student responses were captured through the use of a Likert-type scale.²

In Ethiopia, the pilot sample comprised 835 students in Grades 7 and 8, attending nine schools in urban and rural areas. The student sample was selected from five regional states

¹ Table A1 in the Appendix gives a list of the scales adapted and piloted and the sources of most of their constituent items.

² In India, the pilot forms included a mixture of different 4- and 6-point Likert-type scales, as well as several different types of response options, to explore which students felt were most appropriate and easiest to select an answer from. In Vietnam and Ethiopia the pilot forms used 4-point Likert-type scales, with the same response options used throughout the forms.

(Tigray, Addis Ababa, Oromia, and Somali and Southern Nations, Nationalities and Peoples' Region (SNNP)). The forms were administered in seven languages (Tigrigna, Amharic, Afaan Oromo, Af Somali, Wolaitigna, Hadiyissa and Sidamigna) depending on the mother tongue at each site.

In India, the pilot sample comprised 219 Grade 9 students attending four schools: two private schools and two government schools. The student sample was drawn from urban and rural schools in two areas: Hyderabad and Nalgonda district. A bilingual form was piloted in India, with each item presented in both English and Telugu. A smaller qualitative pilot was also undertaken with Urdu medium students at a later date, using a bilingual form with each item presented in both English and Urdu.

In Vietnam, the pilot sample comprised 355 Grade 10 students attending six schools in three provinces (Ben Tre, Hung Yen and Hanoi). The student sample was drawn from urban and rural schools in Ben Tre and Hung Yen, and from advantaged and disadvantaged areas in Hanoi.

Table 1. *Sample for pilot testing of non-cognitive measures*

	Ethiopia	India	Vietnam
Number of students	835	219	355
Number of provinces / districts / regions	5	2	3
Locations	Urban and rural	Urban and rural	Urban and rural
Ownership	Government	Private and government	Government
Languages used	Amharic Afaan Oromo Af Somali Tigrigna Wolaitigna Hadiyissa Sidamigna	Bilingual: Telugu/English Urdu/English	Vietnamese

2.2. Pilot data analysis

Following pilot testing in each country, item responses were analysed to generate a range of statistics that would aid the selection of measures using STATA. The pilot data for each country were analysed separately, as the priority was to select measures which were relevant for each country sample. Item selection decisions were made using quantitative item analysis in combination with qualitative feedback from students, teachers, fieldworkers and country teams involved in the piloting. Qualitative pre-piloting was also useful for offering insights into the way scales or individual items appeared to be functioning, as well as to identify potential mistranslations which may have impacted upon this.³ Due to the relatively small pilot sample and the limited prior use of these measures in the three country contexts, the inclusion of many of these measures in the survey is largely exploratory.

³ A pre-pilot exercise was conducted in Vietnam with a small group of students in two schools. Students provided feedback on translation errors and preference of response options for the non-cognitive instruments.

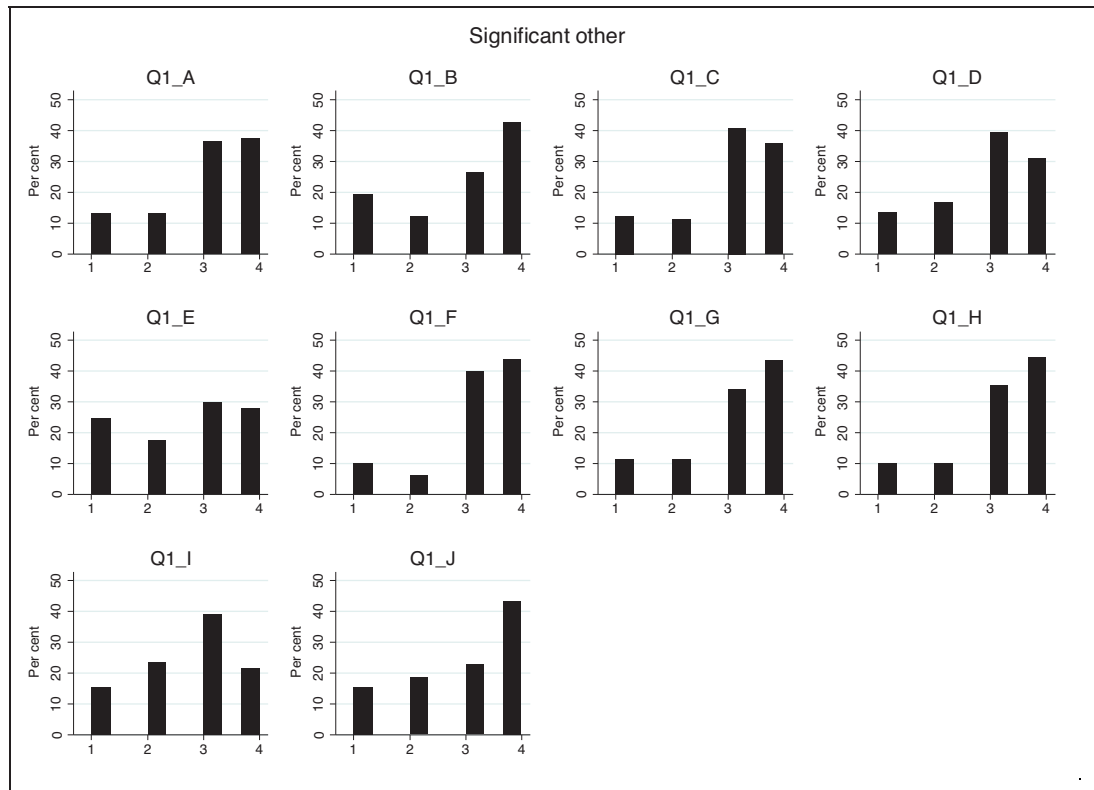
Pilot data from the non-cognitive measures were analysed using exploratory factor analysis (EFA), Cronbach's alpha test for 'internal consistency', and histograms to investigate the distribution of responses to each item. Negatively-coded items were reversed prior to analysis. EFA is a method used to reveal the underlying structure of a relatively large set of variables. It is used to reduce a large set of observed variables to a smaller, more parsimonious set of variables used to measure an underlying latent trait (Hinkin et al. 1997). In carrying out exploratory factor analysis, the number of factors (items within a scale) to be retained depends on both underlying theory and empirical results. Items that load clearly on a single factor are those that more closely represent the main underlying construct (trait) of interest. In identifying factor loadings that are meaningful, a 0.40 criterion level is usually used (see Hinkin et al. 1997).

Cronbach's alpha provides an indication of the average correlation among all items that make up the scale. Cronbach's coefficient alpha evaluates the degree to which different items "pull together" the same content area – and therefore provide a reliable estimate of the individual's underlying trait of interest. The alpha values range from 0 to 1.00, with higher values indicating greater internal consistency (Krishnan 2013). Generally, a Cronbach's alpha of 0.7 or above is accepted as a threshold for scale reliability.

As an example of the analysis conducted using the pilot data, Figure 2 shows the distribution of student responses to the 'significant others' scale piloted in India. The Cronbach's alpha value (α) for this scale was 0.66, and of the ten items in the full scale, four items were below the 0.4 criterion for meaningful loadings on the first factor of interest.⁴ Exploratory analysis revealed that if these four items were dropped from the full scale, the Cronbach's alpha value (α) improved to 0.79. However, because of the relatively small number of children included in the pilot, it was decided that these items would not be excluded from the scale for the full survey. Instead items can be excluded *post hoc* if they are still revealed to function poorly once data have been collected from the much larger full sample. The various scales performed differently in each country, as similar analysis was conducted separately for each country.

⁴ See Table A1 for a full description of all the items within each of the scales administered in the pilot survey.

Figure 2. Histogram showing distribution of responses to individual items on 'significant other' scale in India



After the analysis of the pilot data in the three countries, a scale was dropped if it had been identified as poorly functioning or inappropriate through a combination of the quantitative and qualitative pilot data on a country-to-country basis, while some items were dropped from a full scale if the analysis showed that including them in the full scale reduced the performance of the scale (overall value of alpha).

Table 2 summarises the non-cognitive scales administered in the pilot and number of items within each scale that were retained for the Wave 2 surveys (end of school year) in Ethiopia, India and Vietnam. The subject-specific effort scales (relating specifically to a student's maths or English lessons), were adapted for use in the final survey as a measure of student effort in their studies in general, rather than as a measure of effort in maths or English in India and Vietnam. This was done because pilot data revealed that there was a strong correlation between how students responded to the effort scale for maths and English. Finally, four scales were retained in Ethiopia,⁵ while in India seven scales were used, and in Vietnam eight scales were retained and administered in the full survey.⁶

5 Although a number of the piloted scales performed well in Ethiopia, there were additional constraints with retaining all of them for the full survey. Respondent fatigue and literacy constraints were some of the issues highlighted during the pilot.

6 In all three countries, it is expected that the students will have about 30 minutes on average to respond to the non-cognitive scales.

Table 2. *Summary of pilot results and retained (dropped) non-cognitive scales in Ethiopia, India and Vietnam*

Non-cognitive scales piloted	Full scale items	Ethiopia		India		Vietnam	
		(α) from pilot	Retained scale	(α) from pilot	Retained scale	(α) from pilot	Retained scale
Significant others	10	0.58	No	0.66	10	0.56	No
Future orientation	12	0.83	12	0.88	12	0.78	12
Low academic self-confidence	9	0.81	No	0.78	9	0.76	9
Maths effort	15	0.74	13	0.79	15 (not subject-specific)	0.87	15 (not subject-specific)
English effort	15	0.80	No	0.78		0.88	
Instrumental orientation (maths)	5	0.59	No	0.45	No	0.64	No
Instrumental orientation (English)	5	0.69	No	0.52	No	0.7	No
Elaboration	6	0.76	No	0.69	No	0.66	No
Organisation	6	0.78	No	0.79	No	0.64	No
Personal development	10	0.82	10	0.76	10	0.75	10
Academic beliefs - self-efficacy	13	0.81	13	0.74	No	0.77	13
Positive self-concept (maths)	8	0.75	No	0.66	No	0.86	8
Positive self-concept (English)	8	0.76	No	0.66	No	0.89	8
Interest (maths)	12	0.78	No	0.74	12	0.87	No
Interest (English)	12	0.73	No	0.75	12	0.87	No
Assessment domination (maths)	6	0.02	No	.	No	0.51	5
Assessment domination (English)	6	.	No	0.02	No	0.58	5
Cognitive strategies - rehearsal	6	0.77	No	0.73	No	0.57	No

References

- Biggs, J., D. Kember and D.Y. Leung (2001) 'The revised two-factor study process questionnaire: R-SPQ-2F', *British Journal of Educational Psychology* 71.1: 133-149.
- Carneiro, P., C. Crawford and A. Goodman (2007) 'The impact of early cognitive and non-cognitive skills on later outcomes', CPP Discussion Paper No. 92, London: Centre for the Economics of Education.
- Dore, R.P. (1997) *The Diploma Disease*, (2nd edition), London: Institute of Education.
- Dowson, M., and D.M. McInerney (2004) 'The development and validation of the Goal Orientation and Learning Strategies Survey (GOALS-S)', *Educational and Psychological Measurement* 64.2: 290-310.
- Duckworth, A.L., C. Peterson, M.D. Matthews and D.R. Kelly (2007) 'Grit: perseverance and passion for long-term goals', *Journal of Personality and Social Psychology* 92.6: 1087.
- Duckworth, K., R. Akerman, A. MacGregor, E. Salter and J. Vorhaus (2009) 'Self-regulated learning: a literature review', Wider Benefits of Learning Research Report 33, London: Centre for Research on the Wider Benefits of Learning, Institute of Education, University of London.
- Elton, L.R. (1973) 'Motivation and self-study', in C.F. Page and J. Gibson (eds) *Motivation: non-cognitive aspects of student performance*, London: Society for Research into Higher Education.
- Farrington, C.A., M. Roderick, E. Allensworth, J. Nagaoka, T.S. Keyes, D.W. Johnson and N.O. Beechum (2012) *Teaching Adolescents to Become Learners: The Role of Non-cognitive Factors in Shaping School Performance--A Critical Literature Review*, Chicago: Consortium on Chicago School Research
- Gardner, R.C., and P.C. Smythe (1981) 'On the Development of the Attitude/Motivation Test Battery', *Canadian Modern Language Review* 37.3: 510-25.
- Gardner, R.C. (1985) 'The Attitude/Motivation Test Battery: Technical Report', London, Ontario: University of Western Ontario.
- Gardner, R.C. (2004) 'Attitude/motivation test battery: International AMTB research project', London, Ontario: University of Western Ontario.
- Gutman, L.M., and I. Schoon (2013) 'The impact of non-cognitive skills on outcomes for young people', London: Education Empowerment Foundations.
- Heckman, J.J., and Y. Rubinstein (2001) 'The importance of non-cognitive skills: Lessons from the GED testing program', *The American Economic Review* 91.2: 145-149.
- Hewitt, C.R. (1973) 'Study Habits: adjustment to university studies', in C.F. Page and J. Gibson (eds) *Motivation: non-cognitive aspects of student performance*, London: Society for Research into Higher Education.
- Hinkin, T.R., J.B. Tracey and C.A. Enz (1997) 'Scale construction: Developing reliable and valid measurement instruments', *Journal of Hospitality and Tourism Research* 21.1: 100-120.
- Iyer, P. (2016) *The design of the 2016-17 Young Lives School Survey in Vietnam*, Technical Note 38, Oxford: Young Lives.
- Jones, C.L., H.M. Mackintosh and A. McPherson (1973) 'Questions of uncertainty: non cognitive predictors of first year attainment at university', in C.F. Page and J. Gibson (eds)

Motivation: non-cognitive aspects of student performance, London: Society for Research into Higher Education.

King, R. B., and F.A. Ganotice Jr (2014) 'The social underpinnings of motivation and achievement: Investigating the role of parents, teachers, and peers on academic outcomes', *The Asia-Pacific Education Researcher* 23.3: 745-756.

Krishnan, V. (2013) 'The early child development instrument (EDI): An item analysis using classical test theory (CTT) on Alberta's data', Alberta: Community-University Partnership (CUP), Faculty of Extension, University of Alberta.

Little, A. W., and J.S. Singh (1992) 'Learning and Working: elements of the Diploma Disease thesis examined in England and Malaysia', *Comparative Education* 28.2: 181-200.

Little, A.W. (1997) 'The diploma disease twenty years on: An introduction', *Assessment in Education* 4.1: 5-22.

Little, A.W. (2003) 'Motivating learning and the development of human capital', *Compare: A Journal of Comparative and International Education* 33.4: 437-452.

Little, A.W. (2017) *Non-Cognitive Concepts and Measures for the Young Lives School Survey*, Working Paper 170, Oxford: Young Lives.

Liu, W.C., C.K.J. Wang and E.J. Parkins (2005) 'A longitudinal study of students' academic self-concept in a streamed setting: The Singapore context', *British Journal of Educational Psychology* 75.4: 567-586.

Marsh, H.W., K.T. Hau, C. Artelt, J. Baumert and J.L. Peschar (2006) 'OECD's brief self-report measure of educational psychology's most useful affective constructs: Cross-cultural, psychometric comparisons across 25 countries', *International Journal of Testing* 6.4: 311-360.

Martin, A. J., and Dowson, M. (2009) 'Interpersonal relationships, motivation, engagement, and achievement: Yields for theory, current issues, and educational practice', *Review of Educational Research* 79.1: 327-365.

Midgley, C., M.L. Maehr, L.Z. Hrada, E. Anderman, L. Anderman, K.E. Freeman, M. Gheen, A. Kaplan, R. Kumar, M.J. Middleton, J. Nebon, R. Roeser, and T. Urdan (2000) 'Manual for the patterns of adaptive learning scales', *Ann Arbor* 1001: 48109-1259.

Moore, R. (2016) *The design of the 2016-17 Young Lives School Survey in India*, Technical Note 37, Oxford: Young Lives.

Neves de Jesus, S., and W. Lens (2005) 'An integrated model for the study of teacher motivation', *Applied Psychology* 54.1: 119-134.

OECD (2013) 'Students' Drive and Motivation, in Ready to Learn: Students' Engagement, Drive and Self-Beliefs, Volume III', Paris: OECD.

Outes, I., A. Sanchez and O. Molinas (2010) 'Psychosocial status and cognitive achievement in Peru', Working Paper 65, Oxford: Young Lives.

Parlett, M. (1973) 'Conditions and Contexts for academic motivation', paper presented at the Eighth Annual Conference of the Society for Research into Higher Education.

Rankin, K., D.B. Cameron, K. Ingraham, A. Mishra, J. Burke, M. Picon, J. Miranda and A.N. Brown (2015) 'Youth and transferable skills: an evidence gap map', New Delhi; 3iE International Initiative for Impact Evaluation.

Rosen, J.A., E.J. Glennie, B.W. Dalton, J.M. Lennon and R.N. Bozick (2010) *Non-cognitive Skills in the Classroom: New Perspectives on Educational Research*, North Carolina: RTI Press.

Rosenberg, M. (1965) *Society and the Adolescent Self-image*, Princeton, NJ: Princeton University Press.

Rossiter, J. (2016) *The design of the 2016-17 Young Lives School Survey in Ethiopia*, Technical Note 36, Oxford: Young Lives.

Ryan, R.M., and E.L. Deci (2000) 'Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being', *American Psychologist* 55.1: 68-78.

SLOG Students' Learning Orientations Group (1987) 'Why do students learn? A six-country study of student motivation', Research Report 17. Falmer: Institute of Development Studies.

Weiner, B. (1979) 'A theory of motivation for some classroom experiences', *Journal of Educational Psychology* 71.1: 3.

WOB (1990) 'Work Orientations and Behaviour', unpublished research report for the Leverhulme Foundation.

Yorke, L. (2013) 'Psycho-social skills in Vietnam', unpublished working paper, Oxford: Young Lives.

Zimmerman, B.J., A. Bandura and M. Martinez-Pons (1992) 'Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting', *American Educational Research Journal* 29.3: 663-676.

Appendix

Table A1. *Non-cognitive scales with items piloted in Ethiopia, India and Vietnam.*

Scale	Items	Sources
Learning motives – significant others	<ol style="list-style-type: none"> 1. I work hard to please my parents 2. No one in my family bothers how well I do in my studies 3. I want to do well in class to please my teacher 4. When I do not do well in examinations my mother gets upset 5. If I fail my examinations my family will be disgraced 6. I want to do well at school so that I can get praise from my teacher 7. I do good work at school because I want to be recognised by my teacher 8. I do good work at school so that I can get praise from my parents 9. My mother becomes anxious before my examinations 10. If I perform poorly nobody will be concerned 	SLOG (1987); Dowson and McInerney (2004)
Learning motives – future orientation	<ol style="list-style-type: none"> 1. I study to increase my job opportunities for a good type of work in the future 2. I am working hard in school to ensure that my future will be financially secure 3. Making an effort in my studies is worth it because it will help me in the work I want to do later on 4. I want to learn as much as I can in school to help me get good work in the future 5. I want to learn as much as I can in school to help me go on to college/university 6. I am working hard in school to help me gain admission to higher studies 7. Making an effort in my studies now is worthwhile because it will help me in my studies later on 8. Learning well in school will improve my work prospects and chances in the future 9. I am working hard in school to be able to get work in the future and support my family in the future 10. I want to do well at school to help my brothers and sisters in the future 11. Success in examinations will determine how successful I am in later life 12. Since success in the future is uncertain there is little use in learning very much 	Marsh et al. (2006); PISA (2012); SLOG (1987)
Academic self-beliefs – Low academic self-confidence	<ol style="list-style-type: none"> 1. I day dream a lot in class 2. Most of my classmates are smarter than I am 3. My teachers feel that I am poor in my work 4. I often forget what I have learnt 5. I get frightened when I am asked a question by the teacher 6. I often feel like quitting school 7. I am always waiting for the lessons to end 8. I always do poorly in tests 9. I am not willing to put in more effort in my school work 	Liu, Wang and Parkins (2005), adapted for Young Lives by Yorke (2013)
Maths effort	<ol style="list-style-type: none"> 1. I pay attention to the teacher during the maths lessons 2. I am willing to do my best in maths classes 3. I study hard for my tests in maths 4. If I put in enough effort I can succeed in maths 5. When studying maths I work as hard as possible 6. When studying maths I keep working even if the material is difficult 7. When studying maths I try to do my best to acquire the knowledge and skills taught 8. Setbacks in learning maths do not discourage me 	Young Lives School Survey R1; PISA (2012); Marsh et al. (2006); Young Lives Household Survey R5; GRIT- Duckworth et al. (2007); Dowson and McInerney (2004)

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Scale	Items	Sources
	9. I am a hard worker in maths 10. I am diligent in maths 11. I am conscientious in maths 12. In maths I want to do as little work as possible 13. I want to do well in maths but only if the work is easy 14. If the maths exercises are difficult I just don't do them 15. I choose easy options in maths so that I don't have to work too hard	
English effort	1. I pay attention to the teacher during the English lessons 2. I am willing to do my best in English classes 3. I study hard for my tests in English 4. If I put in enough effort I can succeed in English 5. When studying English I work as hard as possible 6. When studying English I keep working even if the material is difficult 7. When studying English I try to do my best to acquire the knowledge and skills taught 8. Setbacks in learning English do not discourage me 9. I am a hard worker in English 10. I am diligent in English 11. I am conscientious in English 12. In English I want to do as little work as possible 13. I want to do well in English but only if the work is easy 14. If the English exercises are difficult I just don't do them 15. I choose easy options in English so that I don't have to work too hard	Young Lives School Survey R1; PISA (2012); Marsh et al. (2006); Young Lives Household Survey R5; GRIT-Duckworth et al. (2007); Dowson and McInerney (2004)
Instrumental orientation (maths)	1. Studying maths is important for me because I'll need it for my future career 2. Studying maths is important for me because I think it will someday be useful in getting a good job 3. Studying maths is important for me because other people will respect me more if I have knowledge of maths 4. Since I am unlikely to use maths in the future there is little point in learning much maths 5. Making an effort in maths is a waste of time because it will not help me get good work in the future	Gardner (1985)
Instrumental orientation (English)	1. Studying English is important for me because I'll need it for my future career 2. Studying English is important for me because I think it will someday be useful in getting a good job 3. Studying English is important for me because other people will respect me more if I have knowledge of a foreign language 4. Since I am unlikely to use English in the future there is little point in learning much English 5. Making an effort in English is a waste of time because it will not help me get good work in the future	Gardner (1985)
Cognitive strategies – elaboration	1. When learning things for school, I try to see how they fit together with other things I already know 2. When learning things for school, I often try to remember what I learnt in other classes about the same or similar things 3. I try to understand how the things I learn in school fit together with each other 4. I try to understand how what I learn in school is related to other things I know 5. I try to see the similarities and differences between things I am learning for school and things I know already 6. I try to match what I already know with things I am trying to learn for school	Dowson and McInerney (2004)

Scale	Items	Sources
Cognitive strategies – organisation	<ol style="list-style-type: none"> 1. I try to organise my school notes when I want to learn things for school 2. I reorganise my schoolwork so that I can understand it better 3. I organise what I have to do for school so that I can understand it better 4. I use summaries to help me organise and learn my schoolwork 5. When I want to learn things for school, I try to arrange them so that I can understand them better 6. When I want to learn something for school, I make sure that I am organised 	Dowson and McNerney (2004)
Learning motives – personal development	<ol style="list-style-type: none"> 1. Studying gives me a lot of personal satisfaction 2. I like studying because most of my subjects are really interesting 3. I spend a lot of time working on topics I am interested in 4. Keeping up with my studies helps to develop my character 5. Learning is an important personal experience 6. Learning in school teaches me to become self-disciplined 7. I want to do well in school to show myself that I can learn new things 8. I want to do well in my studies to show myself that I can learn difficult school work 9. I work hard at school because I am interested in what I am learning 10. Learning in school develops me as a person 	SLOG (1987); Dowson and McNerney (2004)
Academic beliefs – self-efficacy	<ol style="list-style-type: none"> 1. When I face a problem in my studies I can usually find several solutions 2. If I face problems in school I can usually think of a solution 3. I am confident that I can deal with unexpected things in class 4. I always manage to solve difficult problems in class if I try hard enough 5. It is easy for me to stick to my aims and accomplish my school/learning goals 6. I remain calm when facing difficulties in my learning in school because I know I can cope 7. I can usually handle whatever happens in my school lessons 8. I can solve most problems in my learning if I invest the necessary effort 9. I was certain that I could master my lessons this year 10. I am certain I can work out how to do the most difficult classwork 11. I can do almost all class work in class if I don't give up 12. Even if the work is hard I can learn it 13. I can do even the hardest work in this class if I try 	Young Lives R3 HH (2009); Midgley et al. (2000)
Academic beliefs – positive self-concept (maths)	<ol style="list-style-type: none"> 1. I get good marks in maths 2. Maths is one of my best subjects 3. I have always done well in maths 4. I learn things quickly in maths 5. I'm hopeless in maths 6. Maths is one of my worst subjects 7. I have never done well in maths 8. I get poor marks in maths 	Marsh et al. (2006)
Academic beliefs – positive self-concept (English)	<ol style="list-style-type: none"> 1. I get good marks in English 2. English is one of my best subjects 3. I have always done well in English 4. I learn things quickly in English 5. I'm hopeless in English 6. English is one of my worst subjects 7. I have never done well in English 8. I get poor marks in English 	Marsh et al. (2006)

Scale	Items	Sources
Subject interest (maths)	<ol style="list-style-type: none"> 1. I look forward to my maths lessons 2. I am interested in the things I learn in maths 3. The things I learn in maths will be important to me in the future 4. When I do maths, I sometimes get totally absorbed 5. Because doing maths is fun, I wouldn't want to give it up 6. Maths is important to me personally 7. Studying maths gives me a lot of personal satisfaction 8. I do extra work in maths topics that I like 9. I find maths really boring 10. Maths is an important part of the school programme 11. I would rather spend my time on subjects other than maths 12. Learning maths is a waste of time 	Marsh et al. (2006); PISA (2012); Gardner (1985); SLOG (1987)
Subject interest (English)	<ol style="list-style-type: none"> 1. I look forward to my English lessons 2. I am interested in the things I learn in English 3. The things I learn in English will be important to me in the future 4. When I do English, I sometimes get totally absorbed 5. Because doing English is fun, I wouldn't want to give it up 6. English is important to me personally 7. Studying English gives me a lot of personal satisfaction 8. I do extra work in English topics that I like 9. I find English really boring 10. English is an important part of the school programme 11. I would rather spend my time on subjects other than English 12. Learning English is a waste of time 	Marsh et al. (2006); PISA (2012); Gardner (1985); SLOG (1987)
Assessment domination (maths)	<ol style="list-style-type: none"> 1. It is important that I enjoy doing maths even if I do not do well in the examinations 2. I study maths just to pass the examination 3. In maths I study only those topics prescribed in the examination syllabus 4. I study in order to do well in the exam rather than to develop my interest in the subject 5. Studying for the maths exam reduces the time I can spend on the topics that really interest me 6. I spend a lot of time working on maths topics I am interested in even if they are not important for my examinations 	SLOG (1987)
Assessment domination (English)	<ol style="list-style-type: none"> 1. It is important that I enjoy doing English even if I do not do well in the examinations 2. I study English just to pass the examination 3. In English I study only those topics prescribed in the examination syllabus 4. I study in order to do well in the exam rather than to develop my interest in the subject 5. Studying for the English exam reduces the time I can spend on the topics that really interest me 6. I spend a lot of time working on English topics I am interested in even if they are not important for my examinations 	SLOG (1987)
Cognitive strategies – rehearsal	<ol style="list-style-type: none"> 1. When I want to learn things for school, I practice repeating them to myself 2. When I want to learn things for school, I reread my notes 3. I try to memorise things I want to learn for school 4. I memorise the things I want to learn for school 5. I repeat things to myself when learning things in school 6. I reread my books when I want to learn things for school 	Dowson and McInerney (2004)

Young Lives School Surveys 2016–17: The Development of Non-Cognitive Instruments in Ethiopia, India and Vietnam



An International Study of Childhood Poverty

About Young Lives

Young Lives is an international study of childhood poverty, involving 12,000 children in 4 countries over 15 years. It is led by a team in the Department of International Development at the University of Oxford in association with research and policy partners in the 4 study countries: Ethiopia, India, Peru and Vietnam.

Through researching different aspects of children's lives, we seek to improve policies and programmes for children.

Young Lives Partners

Young Lives is coordinated by a small team based at the University of Oxford, led by Professor Jo Boyden.

- *Ethiopian Development Research Institute, Ethiopia*
- *Pankhurst Development Research and Consulting plc, Ethiopia*
- *Centre for Economic and Social Studies, Hyderabad, India*
- *Sri Padmavathi Mahila Visvavidyalayam (Women's University), Andhra Pradesh, India*
- *Grupo de Análisis para el Desarrollo (GRADE), Peru*
- *Instituto de Investigación Nutricional (IIN), Peru*
- *Centre for Analysis and Forecasting, Vietnamese Academy of Social Sciences, Vietnam*
- *General Statistics Office, Vietnam*
- *Oxford Department of International Development, University of Oxford, UK*

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