

**Materialien aus der Bildungsforschung Nr. 49**

**Todd D. Little, Gabriele Oettingen, and Paul B. Baltes**

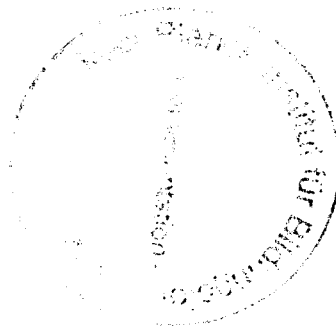
**THE REVISED CONTROL, AGENCY, AND  
MEANS-ENDS INTERVIEW (CAMI)**

**A Multi-Cultural Validity Assessment Using Mean  
and Covariance Structures (MACS) Analyses**

**Max-Planck-Institut für Bildungsforschung  
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**Materialien aus der Bildungsforschung**

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*English Abstract*

This report details the revisions to and the validation of the Control, Agency, and Means-ends Interview (Skinner, Chapman & Baltes, 1988c) across six languages: German, English, Russian, Polish, Czech, and Japanese. Specifically, the original 80-item questionnaire has been reduced to 58 items (unreliable items were removed). The revised CAMI (in German, English, Russian, and Japanese only) is included in this report as appendix material. The report thereby also serves as the technical manual for presenting and coding the CAMI. In addition to this information, we present extensive validity information garnered from our Mean and Covariance Structures (MACS) analyses across these socio-cultural settings as well as longitudinally (three times of measurement) for the two Berlin samples and the Moscow sample. This validity information includes (a) model fit statistics which indicate the overall validity of the CAMI factorial structure, (b) the latent and raw data correlations among the CAMI constructs, (c) their raw data mean-levels, (d) their raw data correlations with actual school performance (and Raven intelligence when appropriate), (e) a summary of the gender and grade effects on the CAMI constructs, (f) tests of between-school differences for each of the socio-cultural settings and times of measurement, and (g) basic psychometric information such as reliability, outlier analyses, missing data estimation, skewness, and kurtosis.

*German Abstract (Zusammenfassung)*

Dieser Bericht enthält Details über die Revision und die Validierung des Control, Agency und Means-ends Interviews (Skinner, Chapman, & Baltes, 1988c) in sechs Sprachen: Deutsch, Englisch, Russisch, Polnisch, Tschechisch und Japanisch. Die Länge des Fragebogens wurde von ursprünglich 80 auf 58 Items reduziert (unreliable Fragen wurden entfernt). Der revidierte CAMI ist (in Deutsch, Englisch, Russisch und Japanisch) in diesem Bericht im Appendix enthalten. Dabei dient dieser Bericht auch als technisches Manual für die Präsentation und die Kodierung des CAMI. Zusätzlich präsentieren wir ausgiebige Informationen über die Validität des Fragebogens, die mit Hilfe von Mittelwerts- und Kovarianzstrukturanalysen (Mean and Covariance Structures analyses) ermittelt wurde. Diese Analysen wurden sowohl für jedes sozio-kulturelle Setting als auch längsschnittlich (drei Meßzeitpunkte) an zwei Berliner und einer Moskauer Stichprobe durchgeführt. Die Validitätsinformationen umfassen (a) Statistiken über die Modellanpassung, (b) die latenten Korrelationen und die Rohdatenkorrelationen zwischen den CAMI-Konstrukten untereinander, (c) ihre Rohdatenmittelwerte, (d) ihre Rohdatenkorrelationen mit der tatsächlichen Schulleistung (und wenn angemessen, mit den Raven-Intelligenzscores), (e) eine Zusammenfassung der Geschlechts- und Alterseffekte auf die CAMI-Konstrukte, (f) die Überprüfung der Unterschiede zwischen den Schulen innerhalb jedes sozio-kulturellen Settings zu jedem Meßzeitpunkt und (g) psychometrische Basisinformationen wie Reliabilität, Ausreißeranalysen, Schätzung fehlender Daten, Schiefe und Exzeß.

## Authors' Note

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## Introduction

The primary goal of this report is to examine the multi-cultural validity of the revised version of the Control, Agency and Means-Ends Interview (CAMI; Skinner, Chapman, & Baltes, 1988a, b, c). Specifically, we test the CAMI across various socio-cultural samples of children, all of whom were of middle childhood age (i.e., grades 2 through 6). We note here that the revised CAMI examined in this report is essentially the same as the original (i.e., Skinner et al., 1988a) except that some items have been removed due to unreliability (see below for details), and the instrument has been translated into Czech, Polish, Russian, and Japanese. In addition to the original English and German version of the CAMI, the Russian and Japanese translations are enclosed in the Appendix (due to technical difficulties, the Czech and Polish versions were not available at press time).

### *An Action Theory of School Performance-Related Beliefs*

The action-theory approach represents an integrative three-fold conception; it is a comprehensive theoretical umbrella under which three major types of control-related, self-related, and causality-related beliefs are covered (M. Baltes & Baltes, 1986; Skinner, in press).

*Three-fold theoretical conceptualization.* Figure 1 presents a schematic representation of the theoretical framework. The theory focuses on goal-directed behavior that is produced by intentionally acting agents as the central unit of psychological analysis. In an action-theory framework, three constituents of goal-directed behavior are distinguished: the agent, various means, and an end (or outcome). The relations among these entities constitute three sets (or types) of belief systems (see e.g., Chapman, 1984; Skinner, 1985). Each belief system applies to a particular domain of human performance such as academic performance (the domain measured here), friendship acquisition, athletic performance, family relations, and so on (see e.g., Heckhausen, 1994; Little, 1995a; see Figure 1 of Appendix H).

The dimensions of the first action-related belief system are termed *Agency beliefs*. They refer to the agent's perception of his/her *access* to certain outcome-relevant means. In the school performance domain, four means to which an agent may have access are specified: Effort (e.g., trying hard), Ability (e.g., being smart), Luck (e.g., having luck), and Teachers (e.g.,

getting help from the teacher). As noted by Skinner et al. (1988b; and see Chapman & Skinner, 1989; Little, Oettingen, Stetsenko & Baltes, 1995; Stetsenko, Little, Oettingen, & Baltes, 1995; Oettingen, Little, Lindenberger, & Baltes, 1994) the agency beliefs are most closely related, conceptually, to self-efficacy beliefs (e.g., Bandura, 1977). Two points of differentiation exist, however, between the definitions of agency beliefs and self-efficacy beliefs. First, agency beliefs, unlike self-efficacy beliefs, are defined for a broad range of potentially important means, including those that are generally located both within agents (effort, ability) and outside agents (teachers and luck). Second, agency beliefs specifically assess the extent to which the child thinks he/she possesses certain means, independent of the degree to which the child thinks this means is effective. In contrast, self-efficacy beliefs generally refer to a global assessment of the accessibility of many means (and generally only effective ones).

The dimensions of the second action-related belief system are termed *Means-ends beliefs*. They refer to the utility (or effectiveness) of certain means (or causes) to achieve a positive outcome and avoid a negative outcome. In the school performance domain, five means by which a positive outcome is achieved and a negative outcome is avoided are specified: Effort (e.g., trying hard), Ability (e.g., being smart), Luck (e.g., having luck), Teachers (e.g., getting help from the teacher) and, lastly, Unknowns (i.e., unknown factors). As noted by Skinner et al. (1988b), the means-ends belief dimensions are most closely related, conceptually, to causality beliefs. However, in this conceptualization and unlike other frameworks (e.g., strategy beliefs; Skinner, Wellborn, & Connell, 1990; Skinner, in press), these beliefs about the relations between causes and outcomes refer to others, in general, and not to the particular child. That is, they reflect generalized contingency-based reasoning about the various means that stem from personal experiences as well as those of others (see Little & Lopez, 1995).

The third action-related belief system is termed *Control Expectancy*. It refers to the agent's belief that s/he can produce the desired outcome, without reference to any specific means that are potentially involved in this process. That is, Control Expectancy pertains directly to the child's general judgement of the likelihood that s/he is able to achieve school success (e.g., good school grades) and avoid failure (e.g., bad school grades).

Both theoretically and empirically, the differentiation between the three sets of beliefs and



the various subdimensions within the agency and means-ends beliefs provide unique sources of information regarding various aspects of children's reasonings about the domain of school performance (see e.g., Karasawa, Little, Miyashita, Mashima, & Azuma, 1995; Little & Lopez, 1995; Little et al., 1995; Lopez & Little, 1995b; Stetsenko et al., 1995; Oettingen, et al., 1994). Such an approach allows one to identify what children think about general contingencies in the domain of school performance, about their own role in utilizing these effective means, and about an overall likelihood of achieving or avoiding a certain outcome.

### *Socio-cultural Determinants of Children's Perceived Control*

In most previous studies on performance-related beliefs, researchers have rarely taken a cross-cultural approach. For example, the main focus of Western research has been on individual cognitive development as a primary factor influencing and shaping children's perceived control. Clearly, particular cognitive milestones have to be attained before a child becomes able to exert control, perceive it, and form beliefs about it. As research has shown, these control-related abilities emerge at certain stages of cognitive development and have necessary age-dependent preconditions, such as the capacity to understand logical inverse relations, see one's performance from a detached perspective, and relate temporally separate outcomes to one another (see e.g. Nicholls, 1978, 1979).

However, there is growing interest in cross-cultural comparisons in the field of perceived control, self-efficacy, and other self-related concepts. As Weisz (1990) notes, once certain cognitive milestones have been attained, further development of perceived control may be determined by a diverse array of non-cognitive factors, ranging from affective states (Lewinsohn, Mischel, Chaplin, & Barton, 1980) to social stereotypes (Bandura, 1977), to collective value systems and/or to social ideologies (e.g., Meyer, 1990; Rozenholtz & Simpson, 1984; Schooler, 1990).

The effects of some concrete aspects of the socio-cultural environment on self-conceptions have been investigated in several studies. Findings show, for example, a crucial impact of different work experience (Inkeles, 1983), and type of education on beliefs about corresponding domains of performance (Kohn & Schooler, 1983; Rozenholtz & Rozenholtz, 1981). These studies suggest that the development of the ability to evaluate one's own potential to control

one's own behavior and various aspects of the environment may be a context-dependent process (see also Little & Lopez, 1995).

In recent studies of perceived control, in which the CAMI instrument has been employed, the roles of both developmental change and social environmental factors in producing performance-related beliefs have been examined (see e.g., Chapman, Skinner, & Baltes, 1990; Little et al., 1995; Oettingen, Lindenberg, & Baltes, 1992; Oettingen, in press; Oettingen et al., 1994; Skinner, 1990; Skinner, Schindler, & Tschechne, 1990; Stetsenko et al., 1995). One of the findings reported was that children's school performance-related beliefs are dependent on the learning environment and, more specifically, teacher's behavior and feedback to the students (see also Skinner, Wellborn, & Connell, 1990).

This technical report attempts to establish the utility of cross-cultural comparisons by establishing the internal and cross-sample validity of the measurement instrument.

### *Method*

#### *Specifics of the Operationalization*

Table 1 presents a general overview of the specific dimensions within the general theoretical structure of the CAMI instrument as well as a brief description of the item composition for each dimension. As can be seen in this table, the three possible belief types represent the links between an agent, various means, and an end; furthermore, with specific reference to 4 means plus 1 unknown category, these links produce 10 possible dimensions of school performance-related belief. Also shown in Table 1 (far right column) is the number of indicators formed from the items of each dimension. These indicators are formed by randomly aggregating a positively worded item with a negatively worded item (see Table 2). Specifically, Table 2 gives the exact item numbers that are coupled to form each indicator. Appendix C gives the CAMI questionnaire in its conceptual form in English with the item numbers corresponding to (a) the reference item number for Table 2 and (b) the order in which they are administered. Appendix D is the conceptual version in German, Appendix E the presentation version in Russian, and Appendix F the presentation version in Japanese.

*Table 1*  
*Item representation of the CAMI questionnaire*

Factor	Number and type of items	Number of indicators
<i>Agency Beliefs</i>		
Agency: Effort	6 Items (3 in Positive direction, 3 in Negative)	3
Agency: Ability	6 Items (3 in Positive direction, 3 in Negative)	3
Agency: Luck	6 Items (3 in Positive direction, 3 in Negative)	3
Agency: Teacher	6 Items (3 in Positive direction, 3 in Negative)	3
<i>Control Expectancy</i>		
	4 Items (4 in Positive direction)	3
<i>Means-Ends Beliefs</i>		
Means-Ends: Effort	6 Items (3 in Positive direction, 3 in Negative)	3
Means-Ends: Ability	6 Items (3 in Positive direction, 3 in Negative)	3
Means-Ends: Luck	6 Items (3 in Positive direction, 3 in Negative)	3
Means-Ends: Teacher	6 Items (3 in Positive direction, 3 in Negative)	3
Means-Ends: Unknown	6 Items (3 in Positive direction, 3 in Negative)	3
Total	== 58	== 30

### *Administration Procedures*

The CAMI is designed as a group-administered instrument. For each of our samples, native-language speakers and proctors group-administered the CAMI to the children in their classroom without their teacher present. The group sizes ranged from 20 to 35 depending on the class size and the number of children whose parents had given permission for their child to participate.

Each item was read aloud as the children silently followed along. The proctors ensured that each child answered at the pace established by the reader as well as assisted with any questions or problems. The 58-item CAMI requires approximately 30 to 45 minutes to complete, depending upon the ages of the children. For children younger than the second grade, we recommend the instrument be individually administered and that the technique of Harter be employed.

Specifically, first have the child determine whether s/he generally agrees or disagrees with an item and then determine the degree of agreement or disagreement. For children older than grade 6 (the instrument has been used on adolescents as old as the 11th grade), the proctored approach used here is still recommended in order to ensure that each item is carefully considered.

*Table 2*  
*Summary of the combination of items for each construct indicator*

Construct	Indicator	Items combined to form each indicator
1	agEFF_i1	= mean(of agEFF_p3 agEFF_n1);
	agEFF_i2	= mean(of agEFF_p1 agEFF_n3);
	agEFF_i3	= mean(of agEFF_p2 agEFF_n2);
2	agABL_i1	= mean(of agABL_p3 agABL_n1);
	agABL_i2	= mean(of agABL_p2 agABL_n2);
	agABL_i3	= mean(of agABL_p1 agABL_n3);
3	agLUC_i1	= mean(of agLUC_p2 agLUC_n2);
	agLUC_i2	= mean(of agLUC_p1 agLUC_n3);
	agLUC_i3	= mean(of agLUC_p3 agLUC_n1);
4	agTEA_i1	= mean(of agTEA_p1 agTEA_n3);
	agTEA_i2	= mean(of agTEA_p3 agTEA_n1);
	agTEA_i3	= mean(of agTEA_p2 agTEA_n2);
5	Cntrl_i1	= Cntrl_p3;
	Cntrl_i2	= mean(of Cntrl_p1 Cntrl_p2);
	Cntrl_i3	= Cntrl_p4;
6	meEFF_i1	= mean(of meEFF_p3 meEFF_n3);
	meEFF_i2	= mean(of meEFF_p1 meEFF_n2);
	meEFF_i3	= mean(of meEFF_p2 meEFF_n1);
7	meABL_i1	= mean(of meABL_p3 meABL_n1);
	meABL_i2	= mean(of meABL_p2 meABL_n2);
	meABL_i3	= mean(of meABL_p1 meABL_n3);
8	meLUC_i1	= mean(of meLUC_p3 meLUC_n2);
	meLUC_i2	= mean(of meLUC_p1 meLUC_n1);
	meLUC_i3	= mean(of meLUC_p2 meLUC_n3);
9	meTEA_i1	= mean(of meTEA_p3 meTEA_n2);
	meTEA_i2	= mean(of meTEA_p2 meTEA_n3);
	meTEA_i3	= mean(of meTEA_p1 meTEA_n1);
10	meUNK_i1	= mean(of meUNK_p2 meUNK_n1);
	meUNK_i2	= mean(of meUNK_p1 meUNK_n3);
	meUNK_i3	= mean(of meUNK_p3 meUNK_n2);

*Note.* ag = Agency belief, me = Means-ends belief, Cntrl = Control Belief, EFF = Effort, ABL = Ability, LUC = Luck, TEA = Teacher, \_i1, \_i2, \_i3 = Indicator number, \_p1, \_p2, \_p3 = Positively worded item number, \_n1, \_n2, \_n3 = Negatively worded item number.

*Table 3*  
*Summary of the sample sizes for the various data sets by grade level and overall*

	Grade															Total
	2			3			4			5			6			
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	
E90	33	25	58	35	28	63	33	31	64	43	31	74	32	22	54	313
E91	55	40	95	26	20	46	14	19	33	31	29	60	34	29	63	297
E92	47	55	102	55	41	96	35	30	65	42	37	79	42	38	80	422
M90	49	51	100	57	67	124	52	57	109	50	62	112	50	56	106	551
M92	59	59	118	36	35	71	10	12	22	35	32	67	39	41	80	358
M94	37	41	78	41	35	76	44	49	93	77	61	138	24	26	50	435
W91	47	65	112	54	61	115	46	67	113	48	56	104	29	44	73	517
W92	40	33	73	41	52	93	55	57	112	43	55	98	29	47	76	452
W93	69	87	156	32	23	55	44	51	95	57	53	110	40	60	100	516
P91	67	52	119	81	79	160	80	58	138	96	76	172	95	84	179	768
Z91	29	31	60				31	30	61				36	33	69	190
U92	69	72	141	82	50	132	71	67	138	66	58	124	66	56	122	657
J93	72	73	145	83	71	154	92	86	178	96	80	176	83	81	164	817

*Note.* E90 = East Berlin, 1990; E91 = East Berlin, 1991; E92 = East Berlin, 1992; M90 = Moscow, 1990; M92 = Moscow, 1992; M94 = Moscow, 1994; W91 = West Berlin, 1991; W92 = West Berlin, 1992; W93 = West Berlin, 1993; P91 = Prague, 1991; Z91 = Warsaw, 1991; U92 = Los Angeles, 1992; J93 = Japan, 1993.

Note that each item uses a 4-point response scale with each response alternatively labeled: “never”, “seldom”, “often”, and “always”, in English and “nie”, “selten”, “ziemlich oft”, and “immer”, in German, for example.

*The selection of items.* As noted in Table 1 and mentioned above, the revised CAMI consists of 58 items. The original CAMI consisted of 80 items, eight per domain, four positively worded and four negatively worded (Skinner et al. 1988a, b, c). However, subsequent analyses of the items within each domain showed that for each domain, six items were sufficient to represent the construct information; that is, the levels of reliability for each scale did not increase after six items were evaluated and thus, the one positively- and one negatively-worded item with the lowest item-scale correlation were removed from the questionnaire (all removed items showed item-scale correlations below .2 while the remaining items showed item-scale correlations above .3). In addition, the four negatively-worded control items showed levels of reliability below .3. Therefore, all negatively-worded items were removed. The reason for the low levels of reliability of the negatively-worded control items is, most likely, due to the double negative wording of these items plus the necessity to respond with a “never” or “always” -- the grammatical complexity led to unreliable responses. Also, the four positively-worded items all provided sufficient common information to justify keeping all four items. Thus, as shown in Table 1, each of the CAMI dimensions consists of six items, except control expectancy, which is measured with 4 items. As mentioned, these remaining 58 items are aggregated into three indicators for each of the 10 CAMI constructs. Note also that further empirical justification for the shortened revision of the CAMI is found in the high levels of fit for the confirmatory models discussed and presented below.

*The aggregation of items.* The six items from each domain are aggregated into composite indicators in order to represent the information from these scales in more concise form and to represent the factors in a more heterogeneous manner for use with the structural modeling techniques (e.g. Bentler, 1993; Jöreskog & Sörbom, 1989; Little, 1995b). That is, one positively- and one negatively-worded item within each domain are randomly paired to bring the total number of indicators for each construct or domain to three. The basic rationale behind creating aggregate indicators, or parcels, is that through the systematic construction of linear

composites of items from each of the dimensions more reliable and stable information specific to the dimension is captured; this is the basic idea underlying test score theory (e.g., Nunnally, 1978). Combining items into three parcels of items to represent each dimension provides higher levels of reliability per indicator and also allows for common variance among the set of indicators to identify an underlying factor. Forming parcels amplifies what the items have in common relative to their unique specificities. Thus, the parcelling of items is done in order to measure the underlying construct inherent in each dimension at the latent level with multiple indicators (Widaman & Kishton, 1995). By using three parcels of items to identify each of the latent constructs, only the reliable, shared variance of the indicators is represented at the latent level (Jöreskog & Sörbom, 1989; Widaman & Kishton, 1995). Three important features of using multiple indicators for each dimension are that (a) each of the performance belief dimensions can be represented as a latent factor in the confirmatory factor models, (b) this information is represented as reliable variance only (i.e., the information is disattenuated or corrected for unreliability), and (c) direct statistical comparisons of competing representations (e.g., possible second-order factors) are made possible.

*The samples.* The common grade levels available for the comparisons are grades 2 through 6; the grade level by gender frequencies for each sample are presented in Table 3. The samples that we evaluated were:

East Berlin	1990	(E90):	313 children, assessed in the Spring of 1990,
East Berlin	1991	(E91):	297 children, assessed in the Spring of 1991,
East Berlin	1992	(E92):	422 children, assessed in the Spring of 1992,
West Berlin	1991	(W91):	517 children, assessed in the Spring of 1991,
West Berlin	1992	(W92):	452 children, assessed in the Spring of 1992,
West Berlin	1993	(W93):	516 children, assessed in the Spring of 1993,
Moscow	1990	(M90):	551 children, assessed in the Fall of 1990,
Moscow	1992	(M92):	358 children, assessed in the Spring of 1992,
Moscow	1994	(M94):	435 children, assessed in the Spring of 1994,
Los Angeles <sup>1</sup>	1992	(U92):	657 children, assessed in the Spring of 1992,
Tokyo	1993	(J93):	817 children, assessed in the Spring of 1993,
Prague	1991	(P91):	768 children, assessed in the Spring of 1991,
Warsaw	1991	(Z91):	190 children, assessed in the Spring of 1991.

Table 4 gives the age distributions for each grade level and gender. As can be seen in the table, the ages for each grade were very similar and covered the range from approximately 7.5

<sup>1</sup> The Los Angeles sample was drawn from the greater Los Angeles metropolitan area; the specific school district sampled was the Ontario-Montclair school district.

*Table 4*  
*Summary of the age distributions for the various data sets by Grade level*

Grade		2		3		4		5		6	
		Mean	std	Mean	std	Mean	std	Mean	std	Mean	std
E90	All	8.55	.32	9.66	.40	10.69	.45	11.76	.54	12.62	.35
	Male	8.54	.32	9.66	.37	10.76	.52	11.74	.64	12.62	.36
	Female	8.56	.33	9.66	.44	10.62	.36	11.78	.35	12.62	.35
E91	All	8.55	.36	9.48	.32	10.59	.38	11.61	.45	12.68	.43
	Male	8.55	.39	9.54	.35	10.62	.31	11.64	.53	12.68	.46
	Female	8.54	.32	9.41	.26	10.57	.44	11.57	.36	12.69	.39
E92	All	8.55	.36	9.55	.38	10.49	.30	11.57	.41	12.57	.39
	Male	8.54	.35	9.54	.40	10.55	.32	11.57	.41	12.60	.45
	Female	8.56	.38	9.55	.34	10.41	.27	11.58	.42	12.55	.33
W91	All	8.62	.42	9.63	.48	10.59	.52	11.58	.47	12.66	.46
	Male	8.61	.40	9.70	.52	10.69	.62	11.70	.53	12.84	.50
	Female	8.63	.43	9.57	.43	10.53	.43	11.48	.40	12.55	.40
W92	All	8.63	.47	9.62	.47	10.56	.40	11.64	.60	12.53	.49
	Male	8.58	.48	9.75	.49	10.64	.44	11.64	.64	12.62	.48
	Female	8.70	.44	9.52	.44	10.48	.35	11.64	.57	12.47	.50
W93	All	8.17	.94	8.94	1.00	9.82	.72	10.51	.45	11.62	.55
	Male	8.23	.97	9.11	1.19	9.87	.71	10.60	.49	11.60	.68
	Female	8.13	.92	8.71	.61	9.77	.73	10.42	.38	11.63	.45
M90	All	8.52	.36	9.61	.42	10.70	.51	11.54	.36	12.51	.35
	Male	8.53	.39	9.60	.46	10.73	.64	11.45	.39	12.51	.41
	Female	8.51	.33	9.61	.39	10.67	.34	11.61	.33	12.50	.29
M92	All	8.92	.33	9.77	.69	10.14	.34	11.09	.45	12.20	.55
	Male	8.89	.25	9.80	.79	10.06	.26	11.10	.51	12.24	.74
	Female	8.96	.39	9.73	.57	10.21	.39	11.07	.38	12.16	.26
M94	All	8.71	.63	9.68	.59	10.95	.39	11.55	.58	12.31	.75
	Male	8.67	.62	9.70	.64	10.92	.43	11.57	.60	12.34	.76
	Female	8.75	.64	9.65	.54	10.98	.35	11.52	.57	12.28	.76
U92	All	8.08	.40	9.15	.39	10.16	.43	11.14	.42	12.18	.45
	Male	8.13	.41	9.17	.38	10.20	.44	11.16	.42	12.21	.49
	Female	8.04	.37	9.13	.41	10.11	.41	11.12	.42	12.15	.38
J93	All	7.54	.29	8.52	.31	9.52	.29	10.51	.28	11.53	.27
	Male	7.54	.28	8.50	.31	9.50	.29	10.51	.29	11.50	.26
	Female	7.53	.30	8.53	.30	9.53	.28	10.50	.27	11.55	.27
P91	All	8.42	.60	9.30	.64	10.20	.75	11.37	.61	12.36	.49
	Male	8.44	.57	9.39	.69	10.29	.78	11.40	.67	12.43	.54
	Female	8.40	.65	9.22	.58	10.08	.69	11.33	.52	12.29	.42
Z91	All	8.34	.32			10.43	.28			12.46	.32
	Male	8.30	.35			10.38	.30			12.55	.35
	Female	8.38	.28			10.48	.26			12.36	.27

*Note.* E90 = East Berlin, 1990; E91 = East Berlin, 1991; E92 = East Berlin, 1992; M90 = Moscow, 1990; M92 = Moscow, 1992; M94 = Moscow, 1994; W91 = West Berlin, 1991; W92 = West Berlin, 1992; W93 = West Berlin, 1993; P91 = Prague, 1991; Z91 = Warsaw, 1991; U92 = Los Angeles, 1992; J93 = Japan, 1993.



to 12.5, or middle childhood, with the exception of the Tokyo sample, where the average age at each grade level was between .3 and .6 years less than the other samples. Notably, each of these samples represents lower-middle class areas in each sample (for more details see Karasawa et al., in press; Little et al., 1995; Oettingen et al., 1994; Stetsenko et al., 1995). Also, we selected two schools per sample and within each school, we chose generally two to four classrooms. The longitudinal samples are exceptions in that some children moved to different classrooms; however, we followed only those children who stayed in the same schools. Our tests for differences between schools at each assessment occasion are presented in Appendix B, Table 35. As shown in this Table, very few mean-level, variance, or correlation differences emerged. Thus, within-culture variability on this dimension is quite small.

#### *Treatment of the Data*

We assessed at the level of the aggregate indicators of each construct the number of missing responses, the number of outliers, as well as the skewness and kurtosis of the responses. Very few of the items in the analyses had missing data. Overall, less than .5% of the responses were missing and these values were replaced using regression techniques to estimate any missing value from non-missing items. Our assessments of the distributional characteristics (e.g., skewness, outliers) of the variables in the data set were conducted for each of the indicators of the lower-order constructs. All indicators showed no evidence of skewness or kurtosis (e.g., all skewness and kurtosis coefficients were within the  $\pm 1$  range, except for two indicators in the Tokyo sample, both related to Means-Ends Unknown; see Table 5).

Outliers for each of the indicators were identified through regression techniques (see Tabachnick & Fidell, 1989). Specifically, each of the 30 indicators was predicted by the set of 29 remaining indicators used in the analyses as well as gender, the linear effects of grade in school, and the quadratic effects of grade in school. Any data point falling outside the 99% isodensity contour (i.e., the conditional confidence interval) of the regression equation was deemed an outlier and was replaced with a value that was at the 95% isodensity contour estimated from the same regression equation. Overall, less than 2% of the responses were identified as outliers and subsequently reweighted. Table 6 gives a summary of the percent missing and the percent outliers for each of the samples.

*Table 5*  
*Skewness and Kurtosis of the CAMI constructs*

Data Set		agEFF	agABL	agLUC	agTEA	Cntrl	meEFF	meABL	meLUC	meTEA	meUNK
E90	<i>S</i>	.23	.29	.15	.11	.13	.16	.23	.30	.07	.28
	<i>K</i>	-.35	-.32	.45	.07	-.64	-.02	.54	.08	-.29	.68
E91	<i>S</i>	-.21	.23	.10	-.06	-.17	-.14	-.04	.51	.63	.10
	<i>K</i>	-.25	-.32	-.02	.32	-.44	.34	.79	-.22	1.18	.26
E92	<i>S</i>	.04	.12	.09	-.44	.01	-.11	-.29	.31	.09	.44
	<i>K</i>	.06	.02	.14	.74	-.37	.49	.09	-.34	.18	.89
W91	<i>S</i>	-.12	.15	.16	-.06	-.19	.15	-.05	.57	.24	.01
	<i>K</i>	-.38	-.10	.14	-.05	-.36	.47	.33	.41	-.26	.07
W92	<i>S</i>	-.07	.16	.15	-.02	-.08	-.09	-.13	.61	.16	.52
	<i>K</i>	-.18	-.36	.48	-.16	-.68	.39	.23	.56	.08	1.43
W93	<i>S</i>	-.24	.13	-.13	-.34	-.12	-.09	.19	.82	.54	.31
	<i>K</i>	.09	-.05	.46	-.05	-.59	.26	.57	1.35	.38	.79
M90	<i>S</i>	-.02	-.14	.30	.27	-.14	-.27	.04	.53	.45	-.02
	<i>K</i>	-.13	-.19	-.11	-.10	-.56	.35	-.07	-.06	-.13	.17
M92	<i>S</i>	-.08	-.21	-.03	.07	-.34	-.07	-.04	.50	.50	.20
	<i>K</i>	-.53	.02	-.07	-.05	-.49	.09	-.22	.03	.64	.07
M94	<i>S</i>	-.27	-.15	-.19	-.23	-.33	-.06	.12	.65	.51	.19
	<i>K</i>	-.29	-.46	-.09	-.27	-.49	.21	-.17	-.08	-.35	-.21
U92	<i>S</i>	-.31	-.24	-.18	-.30	-.99	-.31	.10	.47	.66	.13
	<i>K</i>	-.13	-.13	-.13	.01	.61	.03	-.06	-.46	.05	-.26
J93	<i>S</i>	-.25	-.06	.03	-.51	.16	-.49	.00	.74	1.88	-.13
	<i>K</i>	.48	.54	-.50	.51	-.30	.07	-.05	-.11	4.29	-.39
P91	<i>S</i>	-.14	.01	-.05	.08	-.16	-.04	-.14	.54	.14	.09
	<i>K</i>	-.41	.14	.16	.22	-.26	.13	.63	.08	-.13	.19
Z91	<i>S</i>	.05	-.01	.24	.31	-.11	.07	-.27	.07	-.07	.30
	<i>K</i>	-.61	-.13	-.17	-.55	-.38	.52	1.03	-.16	-.45	.43

*Note.* *S* = Skewness, *K* = Kurtosis. E90 = East Berlin, 1990; E91 = East Berlin, 1991; E92 = East Berlin, 1992; M90 = Moscow, 1990; M92 = Moscow, 1992; M9 = West Berlin, 1993; P91 = Prague, 1991; Z91 = Warsaw, 1991; U92 = Los Angeles 1992; J93 = Japan 1993.

Table 6

Summary of the percentage of extreme and missing values for the CAMI constructs

Data Set		agEFF	agABL	agLUC	agTEA	Cntrl	meEFF	meABL	meLUC	meTEA	meUNK
E90	<i>M</i>	.32	.32	.32	.64	.32	.32	.32	.32	.32	.32
	<i>E</i>	2.45	1.81	2.77	1.92	1.81	2.56	2.13	2.56	2.45	2.13
E91	<i>M</i>	.34	.67	.34	.34	.34	.34	.34	.67	.34	.67
	<i>E</i>	2.47	1.57	2.02	2.24	1.57	2.13	2.36	2.36	2.24	2.36
E92	<i>M</i>	1.66	1.90	1.66	1.66	1.42	1.90	2.13	1.42	1.90	2.13
	<i>E</i>	1.58	2.29	1.50	2.05	2.37	1.74	1.97	1.66	2.21	1.66
W91	<i>M</i>	.58	.58	.58	.58	.39	.58	.58	.58	.58	.58
	<i>E</i>	1.68	1.61	1.61	2.00	1.23	1.93	1.74	1.35	1.29	1.42
W92	<i>M</i>	1.77	1.55	1.77	1.33	1.11	1.99	1.55	1.77	1.77	2.43
	<i>E</i>	2.14	2.06	1.84	1.92	.96	1.62	1.99	1.99	2.29	2.14
W93	<i>M</i>	.78	.58	.58	.78	.39	.78	.78	.58	1.16	1.36
	<i>E</i>	2.20	1.61	1.42	1.55	1.81	1.36	1.61	1.81	1.81	1.55
M90	<i>M</i>	.00	.00	.18	.00	.00	.18	.36	.18	.36	.18
	<i>E</i>	1.33	2.18	2.42	1.33	1.82	1.33	2.12	2.42	1.81	1.94
M92	<i>M</i>	.84	.56	.56	.84	.56	1.12	1.40	1.40	.84	.84
	<i>E</i>	2.33	3.26	2.05	2.05	2.42	1.86	1.68	3.07	1.86	3.45
M94	<i>M</i>	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	<i>E</i>	2.30	2.22	2.15	1.23	1.53	1.38	1.46	3.60	2.15	2.22
U92	<i>M</i>	.15	.15	.15	.15	.00	.30	.15	.15	.15	.30
	<i>E</i>	1.42	1.27	1.22	1.07	1.67	1.42	1.17	2.03	1.47	1.22
J93	<i>M</i>	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12
	<i>E</i>	1.31	1.10	1.39	.94	.86	1.39	1.14	2.12	2.77	1.67
P91	<i>M</i>	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	<i>E</i>	1.52	1.22	2.30	1.87	1.65	1.82	1.87	2.65	2.13	2.08
Z91	<i>M</i>	1.58	1.58	1.58	1.58	.00	1.58	1.58	1.58	.00	.00
	<i>E</i>	1.75	1.58	2.28	.53	.70	1.93	1.93	1.93	1.40	1.58

*Note.* *M* = Percent missing, *E* = Percent extreme. E90 = East Berlin, 1990; E91 = East Berlin, 1991; E92 = East Berlin, 1992; M90 = Moscow, 1990; M92 = Moscow, 1992; M94 = Moscow, 1994; W91 = West Berlin, 1991; W92 = West Berlin, 1992; W93 = West Berlin, 1993; P91 = Prague, 1991; Z91 = Warsaw, 1991; U92 = Los Angeles 1992; J93 = Japan 1993.

### *Analytic Procedures*

To evaluate the accuracy of the models tested, two measures of model fit were used, the Tucker-Lewis Rho coefficient and the Incremental Fit Index (IFI). Both of these statistics rely on the maximum likelihood  $\chi^2$  statistic which measures the statistical significance of the difference between the original and reproduced covariance matrices (Jöreskog & Sörbom, 1989). Both the Rho (also termed NNFI, or non-normed fit index; see, Bentler, 1993; Bentler & Bonett, 1980; Tucker & Lewis, 1973) and IFI (see Marsh, Balla, & McDonald, 1988) coefficients assess the practical level of fit for a specified model. The practical level of fit indexed by the Rho coefficient is the proportion of fit gained relative to a Null hypothesis model that specifies no relations among the measured variables. Tucker and Lewis suggested that a Rho value of about .90 or greater is a sufficient increase in the relative fit between the Null model and the specified alternative to accept the alternative model as being an adequate representation of the underlying structure among the measured variables.

*The model.* As mentioned above, confirmatory analyses of the CAMI were conducted. The substantive model specified was a mean and covariances structures (MACS) confirmatory factor model of the CAMI questionnaire (see Little, 1995b, for a detailed description of these types of models and their relations to tests of factorial invariance from a selection point of view; see also, Byrne, Shavelson, & Muthén, 1989; Meredith, 1993). The basic hypothesis tested was that 10 factors underlie the CAMI instrument. Theoretically, the primary 10 factors represent the four Agency Belief domains of Effort, Ability, Luck, and Teachers, the five Mean-Ends Belief domains of Effort, Ability, Luck, Teachers, and Unknowns, and lastly the single Control Expectancy dimension. In addition to this test of the basic underlying structure of the CAMI, a second order Agency factor was hypothesized. This second-order factor was expected to represent the covariation among three of the first-order agency belief dimensions; namely Effort, Ability, and Luck -- this factor was termed Agency: EAL. A third type of model was also tested; specifically, the second-order dimension of Agency EAL was fit as a first-order factor for which the raw data scale scores for Effort, Ability, and Luck served as indicators.

The specifics of the model estimation process can most easily be explained by reference to Figure 2 (see Figure 2 of Appendix H). This basic factor model allowed estimates for only the

hypothesized pattern of factor loadings; specifically, each indicator for a given construct was allowed to load only on the hypothesized latent factor. This measurement model also allowed each factor to inter-correlate freely. Thus, the measurement model represents an oblique 10-factor solution with an idealized simple structure for the factor pattern. This model also included three additional measured constructs; as can be seen in Figure 2, these constructs represent the effects gender, linear grade, and quadratic grade. The effects of these three constructs were partialled from the CAMI constructs. Importantly, no residual correlations were estimated nor was any additional partialling from the measured variables allowed. This very strong test of the factor model was forced upon the data for two reasons. First, because of the random heterogeneous indicator composition, no item- or indicator-specific variance was expected and second, the results of this strong test, if supported, do not need to be cross-validated (because no changes or enhancements to the initial a priori theoretical conceptualization were done) and the estimates can be compared across samples in a more straightforward and meaningful way (see also Little, 1995b).

Referring to the specifics of Figure 2, only two of the CAMI constructs are represented for simplicity. Two very important features of this figure should be noted. First, this method of modeling explicitly decomposes the covariance information into two components, variance and correlation. Second, the mean level information from each of the indicators is explicitly integrated into the models (see McArdle & McDonald, 1984; Sörbom, 1981). With regard to the first important feature, representing the differences in variances is critically important, as selection theorem allows for differences in variances. Therefore, analyses of data from more than one group need to be conducted on the covariances among the indicators. Once this covariance information is represented in the latent space, the decomposition of the variance information from the correlation information is conducted. Representing the strength of relationship in terms of correlations (as opposed to covariances) is useful for two reasons. First, correlational metric is readily interpretable; second, the analytic machinery for testing the significance of the differences between correlations is well established (see Little, 1995b; Oettingen et al., 1994).

As mentioned, in addition to the basic constructs of the CAMI (i.e., 30 indicators for 10

factors in the 10-factor model and 24 indicators for 8 factors in the 8-factor representation), we included three additional single indicator variables in the models in order to estimate and thus control for (i.e., partial) their effects: linear grade, quadratic grade, and gender (see Little, 1995b).

Because we performed the analyses on moment matrices among all indicators, we specified a Mean Level factor. In Figure 2, this factor is identified as “x-bar” and is enclosed within a triangle, following the figural conventions of McArdle (e.g., McArdle & Epstein, 1987). Note that this factor was represented such that all indicators loaded on it, thereby estimating the intercept or mean levels of each indicator. In addition, we imposed metric invariance of these intercept loadings as well as the factor loadings of the indicators of each CAMI construct across the multiple groups included in the analyses (as noted by the “=” sign next to each of the factor loading estimates). By imposing metric invariance, we insured equality of measurement of all constructs in each group in the analyses. (Note, for this report, we tested metric invariance only for the between-school comparisons. In our published reports, we test metric invariance assumptions for the groups of subjects that we explicitly compare.)

Another feature that can be seen in Figure 2 is that we decompose the variance and covariance information for each of the CAMI factors into variance and correlation information by estimating a paired second-order factor for each first-order factor; this estimation procedure can be seen in Figure 2 in that each represented CAMI factor is actually represented as two factors. At the bottom of the figure are the lower-order factors, which are measured by the observed indicators. In the middle of the figure are the second-order factors, which are “measured” by the lower-order latent factors. We estimated the variance of each latent factor as a directed path from the respective second-order factor to the respective first-order factor and fixed the first-order factor variance to zero; this forces all the variance and covariance information of the first-order factor to the level of the second-order factor. We fixed the estimated latent standard deviation (i.e., the directed path between the second- and first-order factors, or the Beta estimate) at 1.0 in the first group to establish the scale of measurement (as noted by an asterisk next to the 1.0 after the noted group 1 estimate -- “G1: 1.0\*”). Because of the metric invariance constraint of the indicator's loadings, we allowed this variance information

to vary freely in each subsequent group (i.e., the path labeled, “Gn: e” -- all “e’s” in the figure are estimated model parameters). We fixed the variances (i.e., Psi estimates) of each second-order factor at 1.0 in each group to identify each factor and the overall model; further, because we fixed all second-order factor variances at 1.0, we could estimate the relations among the second-order factors as correlations. Also because of the metric invariance constraint, we could estimate the mean levels of the factors by fixing the means of the second-order CAMI factors in the first group and allowing the means to vary freely in each remaining group (see, McArdle & McDonald, 1984). Thus, we estimated the mean levels as mean differences relative to the first group, the variances as variance differences relative to the first group, and the covariances as correlations among the second-order factors.

Appendix G contains sample LISREL code used for estimating these models. In the appendix, only two groups are shown for simplification, each subsequent group would be identical to the second group. Also note that the input moment matrix for the analyses had the mean level information as the first column and first row of the matrix -- some moment matrices have the mean level information as the last column and last row of the matrix. Lastly, because of the large number of parameter estimates for this model, the start values, which must be quite precise, are read in from external files. These were estimated from the first, non-metrically constrained run of the models (see Figure 2 of Appendix H).

Figure 3 (i.e., Figure 3 of Appendix H) presents a figural representation of the three types of model tested for the CAMI construct. The first panel of Figure 3 shows a simple first-order representation where the factors Effort, Ability, and Luck are represented by their respective indicators. The second panel of Figure 3 shows a more complex higher-order representation of the relations among the three constructs. With this form of representation, the estimates of correlation among the three constructs are replaced with estimates of higher-order factor loadings. Mathematically, the three higher-order factor loadings reproduce exactly the same covariance information as the three lower-order factor correlations. As a consequence of the interdependence between the two models, a test of which model is better is not available. However, the relative utility of the higher-order factor can be weighed against the three lower-order factors by evaluating the pattern of relations between these two types of representation and

the remaining factors in the model (see Figure 3 of Appendix H).

More specifically, the answer to the question of which model is better focuses on the difference between (a) the pattern of correlation of the three lower-order factors with the remaining seven factors compared with (b) the pattern of correlation of the higher-order factor with the remaining seven factors. The essential question is: Does the higher-order factor capture and reproduce the same pattern of correlation with the seven remaining factors as fully as the three lower-order factors? For example, if Effort, Ability, and Luck each correlate with Agency: Teacher at a .50 level and this covariance is also that part of the variance that each shares in common (i.e., is represented by the second order EAL factor), then a higher-order factor will correlate with Agency: Teacher at (at least) a .50 level as well. However, if the .50 correlation between, for example, Agency: Effort and Agency: Teacher is due to the unique variance of Effort (i.e., reliable variance that is not captured by the higher-order EAL factor), then the higher-order EAL factor will not capture and reproduce the same patterns of correlation with Agency: Teacher nor the six remaining first-order factors; that is, it will not do as well as the three lower-order factors (e.g., Effort, Ability, and Luck) in capturing the covariance information.

### *Results*

The fit statistics from the three types of tested model are presented in Table 7. As can be seen in Table 7, the fit of these models are all remarkably strong and reproduce very consistent information regarding the CAMI constructs. All samples produced acceptable levels of fit (i.e., all Rho values were above .90, except Warsaw and this may be due to sample size). The primary comparisons to be made for these data are (a) across all cultures, the three tested models provided excellent levels of fit to the data and (b) going from a 10-factor solution to the 10-first-order-with-one-second-order factor solution to the 8-lower-order factor solution provided relatively consistent and equivalent levels of fit with one exception, Tokyo. The model-fit statistics for the Tokyo sample shows that the difference in the Rho values between the 10-factor and 8-factor models is greater than .05; general convention suggests that differences in Rho greater than .05 represent a significant loss in information (Tucker & Lewis, 1973; and see Little, 1995b). Only the Tokyo sample showed a significant change in the Rho statistic of



*Table 7*  
*Comparison of the relative fit statistics for the internal validity analyses*

	Null	10 Factors			2nd Order Factor			Null	8 Factors		
	$\chi^2$	$\chi^2_{(420)}$	$\rho$	$\iota$	$\chi^2_{(434)}$	$\rho$	$\iota$	$\chi^2$	$\chi^2_{(272)}$	$\rho$	$\iota$
E90	4210.3	672.3	.914	.933	726.64	.905	.923	2937.2	483.39	.895	.921
E91	4680.9	710.6	.912	.932	748.74	.909	.927	3365.6	535.99	.887	.915
E92	5828.3	733.6	.926	.942	780.20	.922	.936	4337.1	588.97	.897	.922
W91	6380.1	826.7	.913	.932	872.66	.909	.926	4714.3	642.88	.890	.917
W92	5623.1	753.9	.918	.936	793.10	.914	.931	4149.2	512.10	.918	.938
W93	6649.7	863.9	.909	.909	931.11	.901	.920	4931.4	622.89	.901	.925
M90	6308.7	723.1	.934	.949	775.20	.928	.942	4786.4	579.18	.911	.932
M92	4709.7	654.9	.930	.945	679.91	.929	.942	3519.6	449.34	.928	.945
M94	5312.8	700.1	.927	.943	751.53	.919	.935	4054.4	545.28	.905	.928
U92	7131.9	869.3	.915	.933	929.97	.909	.926	5574.0	590.48	.921	.940
J93	10837.0	1052.1	.923	.939	1500.21	.874	.898	8472.6	1119.34	.865	.897
P91	7825.5	881.3	.921	.938	970.02	.911	.927	6201.0	713.84	.903	.925
Z91	2395.3	608.7	.873	.904	645.82	.862	.892	1791.2	402.78	.883	.914

*Note.* E90 = East Berlin, 1990; E91 = East Berlin, 1991; E92 = East Berlin, 1992; M90 = Moscow, 1990; M92 = Moscow, 1992; M94 = Moscow, 1994; W91 = West Berlin, 1991; W92 = West Berlin, 1992; W93 = West Berlin, 1993; P91 = Prague, 1991; Z91 = Warsaw, 1991; U92 = Los Angeles, 1992; J93 = Japan, 1993.

$\chi^2$  = The maximum Likelihood chi-square statistic

$\rho$  = the non-normed fit index

$\iota$  = the incremental fit index

greater than .05. The reason for this is that Agency: Luck is not highly correlated with Agency: Effort and Agency: Ability (see Karasawa et al., in press, for a description of the reasons why) and thus, the Agency: EAL representation is inappropriate for this sample. However, the primary observation that is apparent here is that both a 10-factor and an 8-factor representation of the data are supported for the other samples and that the 10-factor solution holds for all samples. In terms of cross-cultural comparisons, then, the 10-factor solution is the most valid of the possible representations.

Because our models also contained the effects of gender, linear grade, and quadratic grade, we present a summary of these effects in Table 8. For the gender effects, girls were coded higher than boys; therefore, positive z-values greater than 1.96 indicate higher beliefs for girls, negative z-values favor the boys. The z-values for the grade-effects are interpreted similarly. Specifically, a positive z-value for grade indicates a positive linear increase. If this effect is accompanied by a positive quadratic component, this general linear increase accelerates with age cohort. If a positive linear effect is accompanied by a negative quadratic component, then the effect decelerates with age cohort.

We present the internal relations among the CAMI constructs in Appendix A . These tables (i.e. Table 9 through 21) provide a summary of the information gleaned from the internal validity models. Each table contains four matrices of correlation among the CAMI constructs. The most important point to note about these matrices is the remarkable similarity, and thus stability, of the estimates of correlation. That is, each matrix represents the estimated set of relations among the CAMI constructs *from different models* and, yet, the correlations emerged as nearly isomorphic in each. The first 3 matrices listed in each table are LISREL maximum likelihood estimates of the latent correlation from the three MACS models: the 10-factor model, the 10-factor-plus-one-higher-order factor model and the 8-factor model, respectively. The last matrix (bottom panel of each table) contains two estimates of correlation. Below the diagonal of the matrix are the raw data correlations and above the diagonal are the simple raw data corrections for unreliability (see Nunnally, 1978:  $R_{12} = r_{12} / (\text{sqrt}(r_{11}) * \text{sqrt}(r_{22}))$ ). The diagonal elements marked by an asterisks are the internal consistency reliability estimates (Cronbach, 1951; Widaman & Hays, 1986).

*Table 8*  
*z-values for Gender, Grade, and Grade2 effects*

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
<i>East Berlin 1990</i>											
Gender	1.53	1.93	1.25	2.55	3.32	2.12	-.64	-.65	.51	-.56	-.50
Grade	-.63	-.07	-1.99	-3.17	-.35	-1.75	4.16	-.06	-3.54	2.69	.17
GradeQ	1.90	1.01	1.39	2.03	1.78	1.51	0.97	1.25	3.22	3.07	-2.87
<i>East Berlin 1991</i>											
Gender	.40	1.42	.60	.60	1.35	.97	-.99	-1.00	2.14	-.83	.50
Grade	-.88	-1.75	-3.23	-6.09	-3.24	-3.95	2.56	-.87	-6.39	-2.79	.28
GradeQ	.38	-.09	.16	.24	.69	.14	.96	1.68	2.84	3.05	-.29
<i>East Berlin 1992</i>											
Gender	2.42	1.92	1.13	3.45	2.79	2.38	-.46	-.88	.95	-.15	-1.15
Grade	1.62	.85	-.75	-3.27	-1.19	-1.04	2.94	.04	-6.40	-.72	-.54
GradeQ	-.28	-.32	.35	1.34	-.06	.47	-1.90	-.73	3.09	1.61	1.74
<i>West Berlin 1991</i>											
Gender	-.34	.30	-1.55	1.21	1.56	-.23	.54	-.28	.00	1.89	.30
Grade	.37	.53	-.55	-3.97	-.73	-.95	4.14	-1.69	-7.60	-3.40	1.32
GradeQ	1.65	.39	1.15	1.58	-1.33	1.06	1.01	2.68	1.74	3.69	-1.82
<i>West Berlin 1992</i>											
Gender	-.96	.84	-.41	.09	2.60	.30	1.97	-1.31	-.92	-.89	-.10
Grade	-.06	-.76	1.01	-3.42	-.10	-1.40	3.15	-1.65	-8.24	-1.14	-2.61
GradeQ	2.11	1.90	1.24	2.56	-.29	2.20	1.40	-.06	2.91	2.08	.12
<i>West Berlin 1993</i>											
Gender	-1.70	-1.28	-2.53	-.37	.82	-1.62	-1.09	-2.16	.52	.45	-.23
Grade	2.74	1.99	1.55	-2.59	.97	.74	2.69	-3.50	-6.33	-3.50	.75
GradeQ	-.59	-1.70	-.81	.54	-1.58	-.88	-.24	-.88	1.92	3.32	-1.11

Table 8, continued

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
<i>Moscow 1990</i>											
Gender	4.13	5.47	4.05	4.08	3.33	5.19	-.71	-1.86	.85	-1.13	-.86
Grade	-2.10	-.54	1.75	-3.01	-2.67	-.75	1.87	-2.21	-6.42	-1.40	-3.84
GradeQ	.71	-1.01	.80	.11	-.71	.03	.57	1.06	3.04	4.78	1.28
<i>Moscow 1992</i>											
Gender	3.56	4.76	2.45	1.99	3.39	4.00	-.45	-1.79	-.45	-1.14	-.76
Grade	-1.73	-.41	.77	-2.88	-.77	-.97	.08	1.38	-.34	1.27	-2.54
GradeQ	.33	-.28	-.72	.09	-1.24	-.38	.74	.54	3.98	1.80	3.68
<i>Moscow 1994</i>											
Gender	2.87	4.28	1.74	3.16	4.38	3.79	.26	-3.50	-1.99	-2.44	-1.56
Grade	-4.61	-2.19	-.59	-2.72	-.82	-2.29	-3.70	-2.03	.36	.61	1.02
GradeQ	.65	-0.74	-1.20	-0.93	-.43	-1.24	-.08	.01	1.38	2.06	-.95
<i>Los Angeles 1992</i>											
Gender	.83	5.07	1.47	3.48	2.43	3.68	-1.68	-2.47	-.60	-2.33	-.66
Grade	.49	-2.07	-2.85	-4.12	-2.13	-3.43	5.01	.69	-7.26	-3.33	-3.36
GradeQ	-1.63	-3.55	-.72	-2.71	-3.29	-2.71	-.34	1.15	3.19	6.09	1.54
<i>Tokyo 1993</i>											
Gender	.63	3.94	-2.77	2.95	2.60	.40	-.53	-3.81	2.31	-2.00	-.46
Grade	-1.31	-.06	-3.23	-3.30	1.01	-1.28	8.17	2.92	-5.51	-3.98	-3.43
GradeQ	-.44	-.06	1.35	.87	.78	.47	-5.44	-1.76	1.36	1.01	-2.51
<i>Prague 1991</i>											
Gender	1.51	3.09	.25	1.13	2.75	1.45	-1.67	-1.37	.84	-1.15	-.15
Grade	-5.27	.29	-3.56	-6.20	-.74	-3.74	-1.19	-2.73	-6.00	-.42	-2.82
GradeQ	-1.10	-4.72	-1.04	-1.58	-2.70	-2.81	-.97	1.19	5.21	5.05	4.33
<i>Warsaw 1991</i>											
Gender	3.31	4.75	1.64	3.50	5.07	4.37	-1.14	-1.65	-2.23	-1.99	-1.53
Grade	.65	1.68	.12	.05	-2.58	.83	.50	-1.53	-4.07	-1.23	-.53
GradeQ	.68	-.92	.89	.78	.49	.01	-1.92	-.89	1.11	.22	-1.12

*Note.* Cntrl = control expectancy, agEFF = agency for effort, agABL = agency for ability, agLUC = agency for luck, agTEA = agency for teacher, agEAL = agency for effort, ability and luck combined, meEFF = means ends for effort, meABL = means ends for effort, meLUC = means ends for luck, meTEA = means ends for teacher, meUNK = means ends for unknown.

As can be seen in these tables, the reliabilities of the factors are all at a moderate level. This finding suggests that some procedure for disattenuation is necessary in order to uncover the underlying relationships between the constructs. In fact, the marked changes in the estimated levels of correlation between the constructs can be seen both in the raw corrections of the correlations and in the maximum likelihood estimates of the disattenuated relations.

Appendix B contains the raw data correlations between the CAMI constructs and the children's actual school performance (as rated by the teachers). These tables (Tables 22 - 34) represent the external validity or predictive validity of the CAMI constructs. As can be seen throughout these tables, the Agency and Control dimensions show the strongest predictive relations, whereas the Means-ends beliefs did not predict academic performance.

### *Discussion and Conclusions*

One important point of critical discussion exists and surrounds the levels of reliability for the constructs. The levels of reliability were uniformly in the low 70s, suggesting similarity of the measurement qualities of the CAMI constructs across cultures. However, these relatively lower levels of reliability also suggest that the measurement qualities of the instrument can be improved. At least two possible sources of unreliability exist for this instrument in its current form. First, the statements that a child must read are sometimes wordy. A careful analysis of the sentence structure of many of the items shows that some words are superfluous to the communicative intent of the statement. Second, the response alternatives of never, seldom, often, and always can be construed as logically at odds with the intent of the statement, particularly the negatively worded items. This confusion is likely randomly distributed, which is only problematic for the reliability of the instrument and not necessarily its validity. Having pointed out the reliability problems, a second point here should be made. Efforts to re-word the items may result in systematic changes to the reliable variance components of the items (i.e., the validity) and may produce a less heterogeneous measurement space. Any changes to the items will need to be carefully studied and validated. Using a different response scale, however, may be more easily implemented if one does not wish to compare precise values of past research with the newly obtained data; only relative patterns can be evaluated, unless some form of norming or equating procedure is conducted. We note here, however, that an instrument has

been developed for other domains as well as the academic performance domain that is simpler in format and produces higher reliabilities (i.e., the Multi-CAMI; Little, 1995a). In addition, a more behaviorally-oriented instrument of children's strategic control has been developed (i.e., the BISC; Lopez & Little, 1995a).

Given the high number of complications in translating an instrument such as the CAMI for use in many cultures, the results of these confirmatory analyses are extremely encouraging. The primary conclusion drawn here is that this instrument has been successfully translated into the various languages represented by the cultures because (a) the configural structure of perceived control as assessed by the CAMI instrument was ostensibly identical for each of the samples, and (b) the metric structure of the performance-related beliefs as assessed by the CAMI instrument is, also, nearly identical.

Regarding the questions of whether a 10- or 8-factor solution is more appropriate, the distinctions between the two types of models will have to rely on external validity considerations such as: do the dimensions of Effort, Ability, or Luck make unique, differential predictions (our published data suggests so; see e.g., Little et al., 1995; Karasawa et al., in press). Alternatively, if the three dimensions behave in the same way, then the EAL representation of their influence is supported. For ease of modeling, the 8 lower-order factor representation is simpler and more stable to estimate, especially with smaller sample sizes, such as the 190 subjects from Warsaw; furthermore, this sample size issue is important for any by grade comparisons of these constructs. Given the data patterns presented in this technical report, both models will need to be evaluated and where differences emerge they should follow from theory. However, given the nature of the Tokyo sample, this statement would need to be tempered by the following: Any comparisons to the Tokyo sample would have to be made on the 10-factor model only, because the 8-factor model is not supported in the Tokyo data; that is, the "lowest common denominator" for these comparisons would be the full 10-factor model.

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*Appendix A:**Relations among the CAMI constructs for all samples.*

							<u>Page</u>
East Berlin	1990	.	.	.	.	.	35
East Berlin	1991	.	.	.	.	.	36
East Berlin	1992	.	.	.	.	.	37
West Berlin	1991	.	.	.	.	.	38
West Berlin	1992	.	.	.	.	.	39
West Berlin	1993	.	.	.	.	.	40
Moscow	1990	.	.	.	.	.	41
Moscow	1992	.	.	.	.	.	42
Moscow	1994	.	.	.	.	.	43
Los Angeles	1992	.	.	.	.	.	44
Tokyo	1993	.	.	.	.	.	45
Prague	1991	.	.	.	.	.	46
Warsaw	1991	.	.	.	.	.	47

*Table 9*  
*Relations among the CAMI constructs for East Berlin 1990 (n = 313)*

**10 1st-Order Factors: MACS model estimates**

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	871	---								
agABL	717	911	---							
agLUC	792	915	888	---						
agTEA	526	673	594	648	---					
meEFF	462	317	192	137	192	---				
meABL	368	177	236	216	076	805	---			
meLUC	028	-235	-205	-136	-156	-062	235	---		
meTEA	-032	-276	-057	-077	-396	-013	292	625	---	
meUNK	-026	-185	-223	-192	-214	062	150	336	350	---

**8 1st-Order Factors (agEAL): MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	849	---						
agTEA	526	686	---					
meEFF	465	253	194	---				
meABL	369	224	076	808	---			
meLUC	027	-207	-156	-059	236	---		
meTEA	-027	-164	-391	-002	296	627	---	
meUNK	-024	-201	-213	067	150	336	350	---

**2nd-Order agEAL: MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-845	---						
agTEA	524	672	---					
meEFF	465	247	191	---				
meABL	369	210	074	808	---			
meLUC	027	-210	-154	-059	236	---		
meTEA	-027	-174	-391	-002	296	628	---	
meUNK	-025	-205	-215	067	149	336	350	---

**Raw and Raw-Corrected Correlations, Reliabilities, and Moments**

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*825	793	672	728	497	857	426	308	035	-014	-030
agEFF	680	*893	876	874	651		327	166	-231	-266	-156
agABL	553	749	*819	893	598		196	225	-199	-060	-196
agLUC	589	736	720	*794	648		151	216	-130	-064	-171
agTEA	376	513	451	481	*695	741	188	070	-172	-386	-189
agEAL	669	913	911	897	530	*738	267	237	-221	-155	-204
meEFF	299	239	137	104	121	177	*596	793	-060	-013	066
meABL	223	125	162	154	046	162	489	*636	225	280	149
meLUC	028	-191	-157	-101	-125	-166	-041	157	*768	635	352
meTEA	-011	-208	-045	-047	-267	-111	-008	185	461	*688	352
meUNK	-023	-124	-150	-129	-133	-149	043	101	261	247	*716
Mean	2.750	2.878	2.713	2.577	2.797	2.723	2.678	2.404	1.829	1.934	2.282
Std	611	504	523	475	460	454	390	418	455	441	445

*Table 10*  
*Relations among the CAMI constructs for East Berlin 1991 (n = 297)*

**10 1st-Order Factors: MACS model estimates**

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	852	---								
agABL	820	906	---							
agLUC	776	895	933	---						
agTEA	558	727	633	702	---					
meEFF	325	273	375	250	085	---				
meABL	297	082	234	161	-036	750	---			
meLUC	-190	-245	-187	-134	-307	102	331	---		
meTEA	-100	-247	-084	-141	-443	046	230	661	---	
meUNK	-249	-409	-313	-365	-328	116	142	383	263	---

**8 1st-Order Factors (agEAL): MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	859	---						
agTEA	560	721	---					
meEFF	324	324	083	---				
meABL	299	172	-036	749	---			
meLUC	-189	-205	-307	102	330	---		
meTEA	-099	-164	-442	046	227	661	---	
meUNK	-255	-388	-318	116	137	387	262	---

**2nd-Order agEAL: MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-863	---						
agTEA	560	724	---					
meEFF	324	313	082	---				
meABL	299	159	-036	749	---			
meLUC	-189	-209	-307	102	330	---		
meTEA	-099	-174	-442	046	227	661	---	
meUNK	-254	-386	-320	116	138	387	262	---

**Raw and Raw-Corrected Correlations, Reliabilities, and Moments**

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*826	789	757	748	547	884	300	304	-189	-116	-255
agEFF	680	*899	867	866	714		238	078	-258	-240	-382
agABL	636	760	*856	915	617		334	251	-191	-082	-346
agLUC	605	730	753	*791	699		221	171	-149	-145	-371
agTEA	413	561	474	516	*688	779	067	-029	-337	-447	-307
agEAL	703	912	923	900	566	*766	308	193	-233	-180	-422
meEFF	236	195	267	170	048	233	*748	742	078	042	087
meABL	222	059	186	122	-020	136	516	*646	376	268	132
meLUC	-153	-217	-157	-118	-248	-181	060	269	*790	687	381
meTEA	-092	-200	-066	-114	-326	-138	032	189	536	*773	264
meUNK	-199	-310	-274	-283	-218	-317	065	091	290	199	*734
Mean	2.828	3.004	2.778	2.664	2.944	2.815	2.741	2.449	1.818	1.950	2.199
Std	614	515	538	471	481	463	429	454	490	500	442

Table 11

*Relations among the CAMI constructs for East Berlin 1992 (n = 422)***10 1st-Order Factors: MACS model estimates**

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	843	---								
agABL	789	887	---							
agLUC	890	932	971	---						
agTEA	480	614	512	539	---					
meEFF	435	405	255	323	120	---				
meABL	236	165	103	184	028	691	---			
meLUC	-254	-356	-342	-236	-152	-196	300	---		
meTEA	-049	-194	-141	-055	-264	017	231	633	---	
meUNK	-238	-280	-344	-271	-200	033	198	327	314	---

**8 1st-Order Factors (agEAL): MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	875	---						
agTEA	482	584	---					
meEFF	429	337	117	---				
meABL	236	160	030	692	---			
meLUC	-255	-330	-151	-196	300	---		
meTEA	-048	-136	-263	017	231	630	---	
meUNK	-239	-311	-201	035	199	327	314	---

**2nd-Order agEAL: MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-874	---						
agTEA	482	581	---					
meEFF	429	341	117	---				
meABL	236	158	030	692	---			
meLUC	-255	-324	-151	-196	300	---		
meTEA	-049	-137	-263	017	231	630	---	
meUNK	-239	-307	-201	035	199	327	314	---

**Raw and Raw-Corrected Correlations, Reliabilities, and Moments**

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*820	772	773	874	459	898	430	209	-233	-032	-251
agEFF	661	*895	845	894	601		407	158	-347	-180	-269
agABL	637	726	*826	964	513		264	089	-340	-139	-342
agLUC	687	734	761	*753	540		342	152	-239	-057	-270
agTEA	356	487	400	402	*734	617	127	012	-145	-251	-190
agEAL	727	902	917	909	472	*798	377	147	-349	-144	-330
meEFF	307	304	189	234	086	266	*621	703	-209	019	033
meABL	156	123	066	109	009	108	456	*676	313	211	203
meLUC	-188	-292	-276	-185	-111	-278	-147	229	*794	632	340
meTEA	-025	-148	-109	-043	-187	-111	013	150	488	*751	321
meUNK	-199	-223	-272	-205	-142	-258	023	146	265	244	*766
Mean	2.756	2.962	2.754	2.665	2.903	2.794	2.710	2.434	1.906	1.965	2.290
Std	621	482	509	453	488	438	410	403	503	449	466

*Table 12*  
*Relations among the CAMI constructs for West Berlin 1991 (n = 517)*

10 1st-Order Factors: MACS model estimates

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	827	---								
agABL	818	954	---							
agLUC	793	840	905	---						
agTEA	502	637	610	577	---					
meEFF	333	286	226	180	225	---				
meABL	290	218	233	254	155	827	---			
meLUC	-110	-311	-213	-057	-186	-037	261	---		
meTEA	-037	-218	-142	-032	-334	055	251	704	---	
meUNK	-122	-237	-214	-231	-213	053	160	323	186	---

8 1st-Order Factors (agEAL): MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	858	---						
agTEA	502	644	---					
meEFF	333	252	226	---				
meABL	290	247	155	828	---			
meLUC	-110	-222	-186	-038	260	---		
meTEA	-037	-150	-334	054	251	706	---	
meUNK	-120	-240	-213	054	160	322	186	---

2nd-Order agEAL: MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-852	---						
agTEA	502	642	---					
meEFF	333	247	226	---				
meABL	290	244	155	828	---			
meLUC	-110	-220	-186	-038	260	---		
meTEA	-037	-149	-334	054	251	706	---	
meUNK	-120	-238	-213	054	160	322	187	---

Raw and Raw-Corrected Correlations, Reliabilities, and Moments

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*772	761	740	766	496	905	300	288	-102	-024	-134
agEFF	626	*878	880	797	631		245	219	-293	-204	-233
agABL	583	739	*804	881	610		205	242	-208	-140	-211
agLUC	603	669	707	*802	597		163	271	-060	-046	-231
agTEA	373	506	468	458	*732	734	231	157	-187	-325	-217
agEAL	673	893	915	881	532	*717	246	292	-227	-157	-269
meEFF	220	192	153	122	165	174	*694	837	-027	037	062
meABL	200	162	171	191	106	195	551	*624	315	282	158
meLUC	-077	-237	-161	-046	-138	-165	-019	215	*744	709	308
meTEA	-018	-158	-104	-034	-230	-110	026	184	506	*685	201
meUNK	-100	-185	-160	-175	-157	-193	044	106	225	141	*717
Mean	2.897	3.073	2.827	2.736	2.926	2.879	2.698	2.425	1.833	1.833	2.195
Std	616	486	523	485	499	447	430	467	486	452	467



Table 13

*Relations among the CAMI constructs for West Berlin 1992 (n = 452)*

## 10 1st-Order Factors: MACS model estimates

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	819	---								
agABL	795	882	---							
agLUC	848	899	903	---						
agTEA	425	664	514	572	---					
meEFF	395	316	323	209	130	---				
meABL	129	070	077	079	012	654	---			
meLUC	-182	-259	-225	-113	-158	-151	244	---		
meTEA	-111	-271	-142	-102	-272	-081	272	566	---	
meUNK	-179	-219	-218	-218	-249	-056	137	221	149	---

## 8 1st-Order Factors (agEAL): MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	867	---						
agTEA	425	633	---					
meEFF	397	300	131	---				
meABL	129	086	012	652	---			
meLUC	-182	-204	-159	-150	243	---		
meTEA	-111	-181	-272	-081	273	565	---	
meUNK	-179	-232	-250	-056	137	222	147	---

## 2nd-Order agEAL: MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-868	---						
agTEA	425	623	---					
meEFF	397	301	131	---				
meABL	129	079	012	652	---			
meLUC	-182	-213	-158	-150	243	---		
meTEA	-111	-187	-272	-081	273	565	---	
meUNK	-179	-231	-250	-056	137	222	147	---

## Raw and Raw-Corrected Correlations, Reliabilities, and Moments

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*797	743	767	814	402	896	368	149	-148	-104	-182
agEFF	620	*874	832	862	634		288	067	-236	-245	-213
agABL	606	688	*783	907	518		305	088	-216	-125	-220
agLUC	635	705	702	*765	590		180	088	-109	-093	-222
agTEA	299	494	382	430	*694	671	111	012	-133	-269	-252
agEAL	693	887	899	895	484	*752	301	094	-219	-179	-253
meEFF	270	221	221	129	076	214	*674	673	-146	-077	-051
meABL	106	050	062	061	008	065	442	*639	266	284	145
meLUC	-116	-193	-167	-084	-097	-166	-105	186	*768	576	224
meTEA	-079	-193	-093	-068	-189	-131	-053	192	425	*710	137
meUNK	-144	-177	-173	-172	-186	-195	-037	103	174	103	*788
Mean	2.897	3.096	2.839	2.761	2.909	2.898	2.723	2.453	1.860	1.839	2.243
Std	592	446	498	455	472	417	434	424	462	441	472

*Table 14*  
*Relations among the CAMI constructs for West Berlin 1993 (n = 516)*

**10 1st-Order Factors: MACS model estimates**

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	817	---								
agABL	793	927	---							
agLUC	798	841	847	---						
agTEA	507	656	635	568	---					
meEFF	398	240	277	221	178	---				
meABL	214	037	234	214	-104	642	---			
meLUC	-093	-259	-185	-019	-261	083	448	---		
meTEA	-041	-134	-126	028	-387	140	430	651	---	
meUNK	-126	-368	-208	-283	-338	148	226	380	222	---

**8 1st-Order Factors (agEAL): MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	858	---						
agTEA	507	667	---					
meEFF	399	265	179	---				
meABL	213	163	-104	646	---			
meLUC	-095	-182	-263	082	448	---		
meTEA	-043	-097	-388	139	428	651	---	
meUNK	-124	-311	-336	149	228	377	221	---

**2nd-Order agEAL: MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-858	---						
agTEA	507	665	---					
meEFF	399	262	179	---				
meABL	214	163	-104	646	---			
meLUC	-095	-176	-263	082	448	---		
meTEA	-043	-090	-387	139	428	651	---	
meUNK	-125	-312	-336	149	228	378	221	---

**Raw and Raw-Corrected Correlations, Reliabilities, and Moments**

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*759	757	762	804	502	893	393	237	-083	-014	-157
agEFF	613	*863	860	789	636		232	038	-265	-120	-352
agABL	589	709	*787	825	632		280	215	-193	-123	-214
agLUC	633	663	661	*817	571		229	209	-037	034	-294
agTEA	386	522	495	456	*781	706	201	-094	-289	-389	-333
agEAL	691	886	893	879	553	*788	284	179	-187	-078	-330
meEFF	271	171	197	164	141	200	*628	666	050	123	104
meABL	166	028	153	152	-067	128	424	*644	416	409	203
meLUC	-063	-214	-148	-029	-222	-144	035	290	*754	654	360
meTEA	-011	-098	-096	027	-303	-061	086	289	501	*778	200
meUNK	-114	-271	-157	-220	-244	-243	068	135	259	147	*687
Mean	2.859	3.116	2.847	2.728	3.037	2.897	2.658	2.389	1.830	1.854	2.149
Std	627	463	494	504	533	432	417	403	491	518	437

*Table 15*  
*Relations among the CAMI constructs for Moscow 1990 (n = 551)*

10 1st-Order Factors: MACS model estimates

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	872	---								
agABL	788	780	---							
agLUC	757	754	869	---						
agTEA	532	554	582	563	---					
meEFF	214	221	068	-011	163	---				
meABL	-024	-151	-117	-090	-207	591	---			
meLUC	-105	-296	-270	-285	-339	073	633	---		
meTEA	-145	-263	-299	-267	-423	121	638	782	---	
meUNK	-131	-253	-222	-256	-365	249	438	514	461	---

8 1st-Order Factors (agEAL): MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	898	---						
agTEA	533	645	---					
meEFF	212	108	163	---				
meABL	-025	-130	-207	589	---			
meLUC	-105	-323	-339	074	633	---		
meTEA	-144	-309	-424	120	638	782	---	
meUNK	-132	-273	-365	249	436	514	461	---

2nd-Order agEAL: MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-889	---						
agTEA	533	632	---					
meEFF	212	092	163	---				
meABL	-025	-130	-207	589	---			
meLUC	-105	-314	-339	074	633	---		
meTEA	-143	-309	-424	120	638	782	---	
meUNK	-133	-269	-365	249	436	514	461	---

Raw and Raw-Corrected Correlations, Reliabilities, and Moments

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*766	770	746	701	476	906	195	013	-098	-169	-112
agEFF	610	*819	745	718	518		198	-114	-284	-267	-243
agABL	554	573	*722	885	570		060	-108	-283	-325	-246
agLUC	538	570	659	*769	543		001	-057	-295	-274	-254
agTEA	314	353	365	359	*569	667	167	-181	-339	-392	-370
agEAL	661	826	875	869	419	*695	105	-114	-352	-354	-304
meEFF	142	149	042	001	105	073	*693	646	065	119	255
meABL	009	-081	-072	-039	-107	-075	422	*615	628	654	450
meLUC	-075	-227	-212	-228	-225	-259	048	434	*777	794	509
meTEA	-128	-209	-238	-208	-256	-255	085	443	605	*747	448
meUNK	-083	-187	-178	-190	-238	-215	181	300	382	330	*725
Mean	3.012	3.048	2.975	2.769	2.768	2.931	2.731	2.175	1.810	1.915	2.276
Std	566	449	490	472	436	403	493	541	552	562	562

*Table 16*  
*Relations among the CAMI constructs for Moscow 1992 (n = 358)*

**10 1st-Order Factors: MACS model estimates**

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	877	---								
agABL	749	789	---							
agLUC	792	843	844	---						
agTEA	555	745	644	709	---					
meEFF	161	172	142	076	308	---				
meABL	-143	-139	-111	-190	-254	383	---			
meLUC	-190	-444	-302	-334	-441	-200	542	---		
meTEA	-258	-460	-290	-345	-499	-143	496	780	---	
meUNK	-168	-336	-247	-250	-216	-138	314	521	386	---

**8 1st-Order Factors (agEAL): MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	901	---						
agTEA	554	787	---					
meEFF	161	159	308	---				
meABL	-144	-164	-255	383	---			
meLUC	-190	-415	-441	-200	543	---		
meTEA	-257	-430	-500	-143	497	781	---	
meUNK	-167	-319	-216	-138	314	521	385	---

**2nd-Order agEAL: MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-895	---						
agTEA	554	774	---					
meEFF	161	147	308	---				
meABL	-144	-162	-255	383	---			
meLUC	-190	-410	-440	-200	543	---		
meTEA	-257	-418	-500	-144	496	781	---	
meUNK	-167	-314	-216	-138	314	521	385	---

**Raw and Raw-Corrected Correlations, Reliabilities, and Moments**

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*757	806	703	748	519	933	167	-089	-183	-210	-188
agEFF	642	*839	738	813	735		175	-117	-430	-421	-337
agABL	543	600	*789	815	602		157	-081	-298	-275	-241
agLUC	577	660	642	*786	698		080	-175	-336	-343	-249
agTEA	347	517	411	475	*590	841	338	-287	-431	-459	-207
agEAL	676	866	857	885	538	*693	170	-154	-440	-430	-342
meEFF	117	129	112	057	208	114	*645	454	-200	-096	-121
meABL	-064	-089	-059	-128	-183	-106	302	*686	491	466	280
meLUC	-144	-357	-240	-270	-300	-332	-145	369	*822	784	531
meTEA	-153	-322	-204	-254	-295	-300	-064	323	595	*699	381
meUNK	-150	-283	-196	-202	-146	-261	-089	212	441	291	*838
Mean	3.074	3.111	3.007	2.851	2.871	2.990	2.786	2.195	1.726	1.814	2.131
Std	574	484	479	497	447	423	495	509	518	486	610

*Table 17*  
*Relations among the CAMI constructs for Moscow 1994 (n = 435)*

10 1st-Order Factors: MACS model estimates

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	755	---								
agABL	683	687	---							
agLUC	668	682	828	---						
agTEA	474	661	567	699	---					
meEFF	364	332	138	237	207	---				
meABL	102	-143	-094	-012	-022	554	---			
meLUC	-237	-494	-410	-401	-387	-146	560	---		
meTEA	-154	-395	-315	-327	-379	-107	581	847	---	
meUNK	-159	-385	-317	-311	-232	-277	231	567	568	---

8 1st-Order Factors (agEAL): MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	829	---						
agTEA	472	768	---					
meEFF	365	276	205	---				
meABL	103	-101	-021	556	---			
meLUC	-238	-521	-386	-145	558	---		
meTEA	-155	-416	-378	-106	580	847	---	
meUNK	-161	-395	-231	-275	231	567	569	---

2nd-Order agEAL: MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-825	---						
agTEA	474	754	---					
meEFF	365	281	206	---				
meABL	103	-097	-022	556	---			
meLUC	-238	-511	-387	-145	558	---		
meTEA	-155	-406	-380	-106	580	847	---	
meUNK	-161	-397	-232	-276	230	567	568	---

Raw and Raw-Corrected Correlations, Reliabilities, and Moments

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*747	709	647	660	461	831	345	097	-235	-153	-183
agEFF	544	*788	650	683	659		308	-126	-497	-388	-391
agABL	493	508	*776	816	552		083	-078	-411	-326	-299
agLUC	494	526	624	*752	705		215	006	-406	-332	-301
agTEA	327	480	399	502	*673	789	207	-025	-375	-367	-217
agEAL	609	809	850	854	549	*720	249	-082	-542	-431	-408
meEFF	236	216	058	148	134	167	*626	669	-129	-083	-226
meABL	064	-085	-052	004	-016	-053	405	*588	510	513	200
meLUC	-184	-399	-328	-319	-279	-416	-093	354	*820	847	582
meTEA	-114	-298	-248	-249	-261	-316	-057	340	664	*749	584
meUNK	-136	-297	-226	-224	-152	-297	-153	131	451	433	*734
Mean	3.073	3.146	3.043	2.844	2.971	3.011	2.842	2.327	1.714	1.808	2.139
Std	587	482	488	477	479	404	502	566	582	555	635

*Table 18*  
*Relations among the CAMI constructs for Los Angeles 1992 (n = 657)*

**10 1st-Order Factors: MACS model estimates**

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	649	---								
agABL	707	860	---							
agLUC	600	841	956	---						
agTEA	428	710	570	654	---					
meEFF	498	212	172	181	175	---				
meABL	087	-108	-077	-111	-095	573	---			
meLUC	-067	-298	-229	-280	-302	189	622	---		
meTEA	-033	-378	-164	-247	-488	204	655	660	---	
meUNK	-123	-408	-401	-333	-252	185	335	444	376	---

**8 1st-Order Factors (agEAL): MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	695	---						
agTEA	425	687	---					
meEFF	497	193	173	---				
meABL	087	-102	-095	574	---			
meLUC	-067	-290	-301	190	621	---		
meTEA	-032	-275	-486	204	653	659	---	
meUNK	-124	-406	-252	186	335	443	374	---

**2nd-Order agEAL: MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-695	---						
agTEA	425	680	---					
meEFF	497	200	173	---				
meABL	087	-104	-095	574	---			
meLUC	-067	-284	-300	190	621	---		
meTEA	-032	-277	-485	204	653	659	---	
meUNK	-124	-403	-252	187	335	443	374	---

**Raw and Raw-Corrected Correlations, Reliabilities, and Moments**

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*699	609	677	613	486	745	477	098	-068	-048	-118
agEFF	463	*829	756	785	730		191	-112	-281	-371	-382
agABL	483	587	*728	942	578		140	-065	-234	-172	-407
agLUC	427	595	669	*694	711		158	-082	-268	-250	-329
agTEA	338	553	411	493	*693	793	169	-104	-333	-495	-253
agEAL	529	834	874	881	561	*722	192	-102	-307	-312	-439
meEFF	324	141	098	107	115	133	*663	569	181	196	175
meABL	064	-080	-044	-054	-068	-068	363	*614	629	689	345
meLUC	-050	-224	-175	-195	-243	-229	129	432	*768	669	440
meTEA	-034	-284	-124	-175	-347	-223	134	454	493	*707	389
meUNK	-084	-297	-297	-235	-180	-319	122	232	330	280	*732
Mean	3.286	3.136	2.946	2.873	2.901	2.985	2.870	2.239	1.861	1.838	2.165
Std	632	525	560	577	602	479	487	537	601	572	588

*Table 19*  
*Relations among the CAMI constructs for Tokyo 1993 (n = 816)*

**10 1st-Order Factors: MACS model estimates**

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	625	---								
agABL	695	669	---							
agLUC	-031	-313	-281	---						
agTEA	187	579	319	-281	---					
meEFF	337	339	190	-053	179	---				
meABL	077	-114	-168	395	-141	423	---			
meLUC	081	-227	-182	760	-222	-161	289	---		
meTEA	045	-337	-271	509	-507	-157	219	571	---	
meUNK	-029	-119	-185	281	-002	-043	129	264	102	---

**8 1st-Order Factors (agEAL): MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	765	---						
agTEA	186	603	---					
meEFF	338	321	178	---				
meABL	074	-257	-140	423	---			
meLUC	076	-408	-219	-159	284	---		
meTEA	045	-471	-505	-157	219	562	---	
meUNK	-029	-231	-002	-043	128	262	102	---

**2nd-Order agEAL: MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-747	---						
agTEA	186	585	---					
meEFF	338	319	178	---				
meABL	074	-261	-139	423	---			
meLUC	077	-423	-219	-159	284	---		
meTEA	045	-477	-505	-157	219	562	---	
meUNK	-029	-242	-002	-043	128	262	102	---

**Raw and Raw-Corrected Correlations, Reliabilities, and Moments**

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*765		662	052	194	734	308	111	103	056	-029
agEFF	440	*118		-692			824	-300	-574	-868	-314
agABL	505	506	*759	-229	358		174	-192	-185	-279	-192
agLUC	039	-205	-172	*746	-318	498	-027	420	820	527	281
agTEA	146	471	268	-237	*742	367	184	-172	-225	-568	-006
agEAL	543	702	738	364	268	*717	264	068	246	-043	-016
meEFF	232	243	130	-020	136	192	*738	423	-158	-154	-039
meABL	082	-086	-141	304	-124	048	305	*704	313	238	143
meLUC	084	-183	-149	656	-180	193	-126	243	*856	601	273
meTEA	044	-269	-219	410	-440	-033	-119	180	500	*809	111
meUNK	-024	-101	-157	227	-005	-013	-032	113	237	093	*878
Mean	2.388	3.029	2.602	1.989	2.871	2.540	3.140	2.491	1.636	1.345	2.603
Std	625	494	527	530	559	309	476	546	562	446	697

*Table 20*  
*Relations among the CAMI constructs for Prague 1991 (n = 799)*

**10 1st-Order Factors: MACS model estimates**

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	648	---								
agABL	578	771	---							
agLUC	607	780	931	---						
agTEA	336	534	648	561	---					
meEFF	408	254	048	128	127	---				
meABL	095	-009	-059	000	-121	510	---			
meLUC	-067	-349	-143	-148	-109	-076	342	---		
meTEA	-079	-369	-189	-156	-235	-042	412	649	---	
meUNK	-023	-336	-266	-226	-255	025	334	485	476	---

**8 1st-Order Factors (agEAL): MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	669	---						
agTEA	334	639	---					
meEFF	406	144	123	---				
meABL	093	-037	-122	512	---			
meLUC	-067	-227	-110	-074	342	---		
meTEA	-079	-261	-235	-041	412	648	---	
meUNK	-023	-296	-256	029	333	485	476	---

**2nd-Order agEAL: MACS model estimates**

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-668	---						
agTEA	334	634	---					
meEFF	406	151	123	---				
meABL	093	-027	-122	512	---			
meLUC	-067	-229	-110	-074	342	---		
meTEA	-079	-257	-235	-041	412	648	---	
meUNK	-023	-302	-256	030	334	485	476	---

**Raw and Raw-Corrected Correlations, Reliabilities, and Moments**

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*663	629	545	603	352	735	393	101	-070	-078	-027
agEFF	458	*798	695	745	522		235	-012	-346	-356	-327
agABL	384	537	*750	877	627		038	-081	-130	-190	-256
agLUC	402	545	622	*670	559		107	-010	-145	-160	-230
agTEA	201	327	381	321	*492	703	144	-120	-090	-208	-260
agEAL	493	833	849	849	406	*678	162	-042	-264	-299	-339
meEFF	271	178	028	074	085	113	*717	498	-078	-044	022
meABL	066	-008	-057	-007	-068	-028	340	*648	378	431	367
meLUC	-053	-285	-103	-110	-058	-200	-061	280	*848	670	493
meTEA	-056	-281	-145	-116	-129	-218	-033	306	545	*781	473
meUNK	-018	-240	-182	-155	-150	-230	016	243	374	344	*677
Mean	2.933	3.136	2.764	2.715	2.720	2.872	2.965	2.569	1.787	1.936	2.251
Std	536	453	423	414	371	362	453	483	547	507	479



*Table 21*  
*Relations among the CAMI constructs for Warsaw 1991 (n = 190)*

10 1st-Order Factors: MACS model estimates

	Cntrl	agEFF	agABL	agLUC	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---									
agEFF	938	---								
agABL	735	880	---							
agLUC	803	816	870	---						
agTEA	560	853	675	615	---					
meEFF	350	118	-003	192	035	---				
meABL	163	-004	-020	007	-138	860	---			
meLUC	-117	-349	-123	-151	-393	064	260	---		
meTEA	-074	-269	-049	-031	-402	119	260	667	---	
meUNK	-169	-238	-199	-380	-400	-078	092	526	442	---

8 1st-Order Factors (agEAL): MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	906	---						
agTEA	559	807	---					
meEFF	346	109	030	---				
meABL	163	001	-138	857	---			
meLUC	-118	-267	-394	073	259	---		
meTEA	-074	-176	-402	122	260	667	---	
meUNK	-170	-304	-400	-074	091	523	442	---

2nd-Order agEAL: MACS model estimates

	Cntrl	agEAL	agTEA	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	---							
agEAL	-901	---						
agTEA	565	795	---					
meEFF	347	107	032	---				
meABL	166	-008	-137	857	---			
meLUC	-119	-245	-393	073	259	---		
meTEA	-078	-146	-403	122	260	667	---	
meUNK	-173	-295	-399	-075	091	523	442	---

Raw and Raw-Corrected Correlations, Reliabilities, and Moments

	Cntrl	agEFF	agABL	agLUC	agTEA	agEAL	meEFF	meABL	meLUC	meTEA	meUNK
Cntrl	*707	710	558	643	420	823	325	180	-044	-064	-168
agEFF	539	*815	805	757	760		119	-007	-300	-247	-226
agABL	395	611	*708	864	624		-011	-014	-122	-100	-250
agLUC	450	568	605	*691	608		216	047	-140	-070	-407
agTEA	253	491	376	362	*513	859	026	-108	-382	-402	-337
agEAL	537	843	871	848	478	*602	137	010	-242	-180	-379
meEFF	226	089	-008	149	015	088	*688	848	039	154	-124
meABL	121	-005	-009	031	-062	006	560	*634	298	297	128
meLUC	-032	-238	-090	-103	-240	-165	028	208	*773	697	504
meTEA	-045	-187	-070	-049	-242	-117	107	198	514	*704	445
meUNK	-120	-174	-180	-289	-206	-250	-088	087	378	318	*726
Mean	2.973	3.042	2.942	2.876	2.902	2.953	2.762	2.565	1.983	2.053	2.261
Std	533	406	446	426	403	364	404	451	504	489	501

*Appendix B:**Raw Correlations with Academic Performance and Raven.*

							<u>Page</u>
East Berlin	1990	.	.	.	.	.	49
East Berlin	1991	.	.	.	.	.	50
East Berlin	1992	.	.	.	.	.	51
West Berlin	1991	.	.	.	.	.	52
West Berlin	1992	.	.	.	.	.	53
West Berlin	1993	.	.	.	.	.	54
Moscow	1990	.	.	.	.	.	55
Moscow	1992	.	.	.	.	.	56
Moscow	1994	.	.	.	.	.	57
Los Angeles	1992	.	.	.	.	.	58
Tokyo	1993	.	.	.	.	.	59
Prague	1991	.	.	.	.	.	60
Warsaw	1991	.	.	.	.	.	61

*Overview of Differences Between Schools in the Various Socio-Cultural Contexts*

<i>Table 35</i>	.	.	.	.	.	.	62
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Table 22  
Raw Correlations with Academic Performance and Raven: East Berlin 1990

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.56	.51	.36	.38	.70	.49	.	.	.	.	.	.
	G	.55	.51	.36	.36	.68	.48	.	.	.	.	.	.
	R	.55	.51	.36	.36	.68	.48	.	.	.	.	.	.
<b>Agency Beliefs</b>													
Effort		.71	.68	.46	.55	.72	.62	.	.	.	.	.	.
	G	.70	.66	.46	.55	.72	.61	.	.	.	.	.	.
	R	.70	.66	.46	.55	.72	.61	.	.	.	.	.	.
Ability		.59	.58	.57	.62	.79	.62	.	.	.	.	.	.
	G	.58	.56	.58	.65	.79	.63	.	.	.	.	.	.
	R	.58	.56	.58	.65	.79	.63	.	.	.	.	.	.
Luck		.71	.59	.57	.57	.76	.61	.	.	.	.	.	.
	G	.71	.57	.57	.55	.75	.62	.	.	.	.	.	.
	R	.71	.57	.57	.55	.75	.62	.	.	.	.	.	.
Teacher		.43	.45	.22	.28	.58	.38	.	.	.	.	.	.
	G	.42	.42	.22	.24	.55	.36	.	.	.	.	.	.
	R	.42	.42	.22	.24	.55	.36	.	.	.	.	.	.
<b>Means Ends Beliefs</b>													
Effort		.22	.37	.02	.16	.17	.18	.	.	.	.	.	.
	G	.23	.39	.02	.16	.15	.20	.	.	.	.	.	.
	R	.23	.39	.02	.16	.15	.20	.	.	.	.	.	.
Ability		.30	.20	.24	.06	.05	.17	.	.	.	.	.	.
	G	.29	.25	.24	.05	.03	.18	.	.	.	.	.	.
	R	.29	.25	.24	.05	.03	.18	.	.	.	.	.	.
Luck		-.14	-.22	-.22	-.12	-.31	-.19	.	.	.	.	.	.
	G	-.14	-.20	-.22	-.16	-.29	-.21	.	.	.	.	.	.
	R	-.14	-.20	-.22	-.16	-.29	-.21	.	.	.	.	.	.
Teacher		-.21	-.13	-.02	-.10	-.10	-.11	.	.	.	.	.	.
	G	-.22	-.12	-.01	-.03	-.13	-.11	.	.	.	.	.	.
	R	-.22	-.12	-.01	-.03	-.13	-.11	.	.	.	.	.	.
Unknown		.00	-.15	-.05	-.01	-.04	-.05	.	.	.	.	.	.
	G	.02	-.13	-.05	-.04	.01	-.05	.	.	.	.	.	.
	R	.02	-.13	-.05	-.04	.01	-.05	.	.	.	.	.	.

Note. P is what has been partialled. G = the effects of Gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. R = additional Raven and Raven2 partialled.

*Table 23*  
*Raw Correlations with Academic Performance and Raven: East Berlin 1991*

CAMI Construct	P	Academic Performance					Raven						
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.42	.59	.53	.50	.43	.47	.20	.31	.29	.31	.17	.16
	<i>G</i>	.44	.57	.52	.50	.43	.47	.20	.32	.29	.31	.17	.24
	<i>R</i>	.40	.49	.47	.41	.41	.42						
<b>Agency Beliefs</b>													
Effort		.43	.73	.50	.67	.71	.58	.28	.39	.37	.38	.40	.22
	<i>G</i>	.42	.72	.51	.67	.70	.58	.28	.40	.37	.38	.39	.34
	<i>R</i>	.36	.66	.41	.60	.63	.51						
Ability		.48	.74	.72	.67	.79	.63	.29	.36	.52	.41	.41	.18
	<i>G</i>	.48	.72	.71	.70	.80	.65	.29	.37	.52	.41	.41	.35
	<i>R</i>	.42	.66	.62	.62	.75	.58						
Luck		.33	.69	.46	.66	.65	.50	.21	.48	.33	.44	.32	.05
	<i>G</i>	.32	.68	.47	.67	.65	.54	.21	.48	.33	.44	.32	.33
	<i>R</i>	.28	.59	.37	.57	.60	.45						
Teacher		.33	.58	.26	.41	.43	.39	.13	.19	.14	.20	.25	.03
	<i>G</i>	.33	.59	.25	.42	.41	.39	.12	.19	.13	.20	.25	.17
	<i>R</i>	.30	.56	.22	.38	.34	.35						
<b>Means Ends Beliefs</b>													
Effort		.14	.26	.31	.36	.04	.20	.04	.24	.39	.32	-.03	.20
	<i>G</i>	.14	.26	.31	.38	.09	.22	.04	.24	.39	.31	.00	.15
	<i>R</i>	.13	.18	.21	.24	.09	.18						
Ability		-.01	.28	.28	.18	.09	.11	-.01	.17	.44	.22	.12	.06
	<i>G</i>	-.03	.26	.31	.21	.10	.13	-.01	.17	.45	.21	.12	.11
	<i>R</i>	-.02	.20	.14	.09	.03	.07						
Luck		-.15	-.18	-.33	-.25	.18	-.12	-.12	-.20	-.22	-.34	.07	-.34
	<i>G</i>	-.17	-.19	-.38	-.28	.15	-.16	-.12	-.20	-.23	-.34	.05	-.16
	<i>R</i>	-.15	-.13	-.35	-.07	.15	-.10						
Teacher		-.11	-.12	-.28	-.22	.02	-.12	-.07	-.08	-.04	-.13	.10	-.14
	<i>G</i>	-.09	-.14	-.37	-.22	.04	-.11	-.07	-.08	-.05	-.14	.11	-.05
	<i>R</i>	-.07	-.11	-.40	-.15	-.02	-.11						
Unknown		-.21	-.22	-.15	.01	-.09	-.14	-.13	-.10	-.46	-.07	.18	-.08
	<i>G</i>	-.19	-.22	-.27	.00	-.13	-.15	-.13	-.10	-.49	-.06	.17	-.11
	<i>R</i>	-.17	-.18	-.06	.08	-.24	-.11						

*Note.* *P* is what has been partialled. *G* = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. *R* = additional Raven and Raven2 partialled.

**Table 24**  
**Raw Correlations with Academic Performance and Raven: East Berlin 1992**

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.28	.30	.53	.39	.53	.39	.18	.13	.39	.19	.21	.19
	G	.27	.29	.47	.36	.55	.38	.19	.13	.36	.22	.20	.20
	R	.19	.24	.38	.31	.53	.33						
<b>Agency Beliefs</b>													
Effort		.39	.46	.63	.40	.58	.48	.27	.24	.30	.33	.20	.25
	G	.38	.45	.62	.38	.59	.47	.28	.24	.28	.35	.19	.26
	R	.30	.38	.57	.27	.59	.41						
Ability		.43	.44	.66	.59	.68	.55	.25	.27	.40	.38	.37	.24
	G	.42	.43	.63	.59	.71	.55	.27	.27	.38	.39	.36	.32
	R	.35	.34	.56	.53	.65	.47						
Luck		.44	.45	.66	.51	.62	.52	.18	.26	.37	.42	.30	.14
	G	.43	.44	.60	.49	.63	.51	.19	.26	.34	.45	.29	.29
	R	.38	.36	.55	.39	.58	.44						
Teacher		.15	.29	.32	.17	.40	.26	.14	.18	.01	.08	.04	.06
	G	.12	.28	.23	.15	.41	.24	.16	.19	-.05	.09	.04	.11
	R	.03	.19	.28	.13	.49	.22						
<b>Means Ends Beliefs</b>													
Effort		.20	.31	.20	.16	.18	.21	.05	.05	.10	.14	.07	.15
	G	.18	.35	.19	.13	.20	.22	.06	.05	.10	.15	.06	.07
	R	.16	.36	.17	.08	.19	.21						
Ability		.12	-.02	-.17	-.04	-.02	-.01	.04	-.08	-.03	.06	.08	.01
	G	.14	-.01	-.24	-.02	-.01	-.01	.04	-.08	-.05	.06	.08	.01
	R	.12	.03	-.24	-.07	-.08	-.01						
Luck		.01	-.30	-.38	-.25	-.33	-.21	-.08	-.36	-.15	-.23	-.05	-.34
	G	.05	-.32	-.42	-.26	-.38	-.24	-.09	-.36	-.16	-.23	-.03	-.19
	R	.08	-.17	-.40	-.18	-.44	-.17						
Teacher		.07	-.20	-.16	-.06	-.12	-.09	.06	-.14	.02	-.08	-.14	-.08
	G	.11	-.20	-.18	-.08	-.13	-.09	.05	-.14	.02	-.08	-.14	-.05
	R	.09	-.15	-.20	-.04	-.07	-.07						
Unknown		-.12	.01	-.15	-.18	-.19	-.12	.07	-.09	-.12	-.10	.05	-.05
	G	-.10	.02	-.15	-.17	-.19	-.11	.06	-.09	-.12	-.10	.05	-.03
	R	-.15	.08	-.12	-.17	-.25	-.10						

*Note.* *P* is what has been partialled. *G* = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. *R* = additional Raven and Raven2 partialled.

*Table 25*  
*Raw Correlations with Academic Performance and Raven: West Berlin 1991*

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.40	.36	.43	.39	.58	.41	.01	.18	.15	.03	.24	.07
	G	.41	.36	.43	.40	.60	.42	.02	.18	.15	.04	.25	.10
	R	.45	.32	.41	.43	.55	.41						
<b>Agency Beliefs</b>													
Effort		.40	.48	.58	.45	.67	.50	.01	.31	.27	.25	.24	.20
	G	.40	.48	.58	.46	.70	.50	.09	.31	.27	.25	.25	.22
	R	.40	.40	.53	.40	.67	.46						
Ability		.46	.49	.57	.57	.70	.55	.09	.32	.28	.37	.28	.20
	G	.47	.50	.57	.59	.74	.56	.09	.32	.28	.38	.30	.25
	R	.49	.41	.53	.51	.71	.51						
Luck		.45	.49	.63	.49	.54	.50	.06	.20	.25	.15	.11	.04
	G	.45	.49	.63	.48	.53	.51	.06	.20	.25	.15	.10	.15
	R	.48	.46	.60	.48	.54	.50						
Teacher		.30	.32	.27	.22	.38	.29	.08	.12	.00	.09	.04	.04
	G	.32	.32	.29	.22	.37	.29	.09	.12	.00	.08	.03	.07
	R	.31	.30	.32	.20	.38	.29						
<b>Means Ends Beliefs</b>													
Effort		.23	.25	.02	.00	.01	.12	-.01	.11	.19	.01	.15	.16
	G	.24	.25	.03	.01	.00	.12	-.01	.11	.19	.02	.14	.08
	R	.27	.22	-.06	-.03	-.05	.08						
Ability		.25	.24	.07	.03	.07	.15	.01	.01	.17	.10	.11	.01
	G	.25	.24	.07	.05	.08	.15	.01	.01	.17	.12	.11	.06
	R	.28	.28	.00	-.01	.06	.13						
Luck		-.08	-.07	-.17	-.20	-.21	-.13	-.12	-.13	-.24	-.04	-.32	-.31
	G	-.08	-.07	-.18	-.21	-.22	-.13	-.13	-.13	-.24	-.04	-.32	-.16
	R	-.03	-.01	-.08	-.23	-.10	-.07						
Teacher		-.17	.00	-.11	-.07	-.20	-.10	-.30	-.06	.05	-.08	-.10	-.17
	G	-.16	.00	-.13	-.06	-.24	-.11	-.29	-.05	.06	-.07	-.11	-.11
	R	-.05	.03	-.18	-.05	-.22	-.07						
Unknown		-.01	.03	-.05	-.07	.05	-.01	-.01	.00	.09	-.07	.05	.04
	G	-.01	.03	-.04	-.07	.02	-.01	-.01	.01	.09	-.08	.04	.01
	R	-.02	.03	-.09	-.03	-.01	-.03						

*Note.* P is what has been partialled. G = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. R = additional Raven and Raven2 partialled.

Table 26  
Raw Correlations with Academic Performance and Raven: West Berlin 1992

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.42	.38	.51	.50	.38	.44	.22	.15	.14	.19	.22	.12
	<i>G</i>	.42	.39	.51	.51	.42	.45	.23	.18	.14	.19	.23	.19
	<i>R</i>	.37	.36	.51	.48	.36	.42						
<b>Agency Beliefs</b>													
Effort		.39	.44	.54	.58	.59	.51	.20	.28	.25	.17	.37	.17
	<i>G</i>	.39	.44	.53	.58	.60	.51	.21	.29	.24	.17	.37	.24
	<i>R</i>	.35	.35	.48	.58	.51	.46						
Ability		.45	.46	.62	.64	.66	.57	.27	.30	.34	.28	.46	.28
	<i>G</i>	.45	.45	.63	.66	.69	.58	.29	.29	.35	.27	.46	.32
	<i>R</i>	.38	.36	.56	.62	.59	.51						
Luck		.36	.47	.58	.66	.54	.52	.17	.21	.27	.29	.24	.08
	<i>G</i>	.36	.48	.58	.66	.55	.53	.17	.22	.27	.29	.24	.22
	<i>R</i>	.32	.44	.53	.61	.51	.49						
Teacher		.25	.28	.29	.29	.41	.30	.30	.21	.17	.14	.24	.16
	<i>G</i>	.25	.28	.28	.29	.39	.30	.31	.20	.16	.14	.24	.19
	<i>R</i>	.13	.21	.24	.25	.33	.24						
<b>Means Ends Beliefs</b>													
Effort		.11	.18	.18	.22	.30	.18	.30	.22	.11	.11	.12	.21
	<i>G</i>	.11	.15	.18	.22	.29	.18	.32	.18	.11	.11	.12	.16
	<i>R</i>	-.05	.06	.17	.22	.28	.12						
Ability		.14	.18	.18	.00	.21	.14	.20	.08	.14	.08	.13	.06
	<i>G</i>	.14	.18	.18	.01	.23	.15	.20	.07	.14	.07	.14	.12
	<i>R</i>	.05	.17	.12	.00	.20	.10						
Luck		-.13	-.21	-.12	-.28	-.06	-.15	.00	-.03	-.12	-.22	-.07	-.30
	<i>G</i>	-.13	-.22	-.13	-.28	-.05	-.16	-.01	-.04	-.12	-.22	-.07	-.09
	<i>R</i>	-.15	-.24	-.11	-.22	-.02	-.13						
Teacher		-.17	-.14	-.18	-.04	.24	-.07	-.02	-.13	-.01	-.05	.05	-.10
	<i>G</i>	-.17	-.13	-.17	-.06	.27	-.07	-.02	-.11	.00	-.03	.04	-.06
	<i>R</i>	-.18	-.08	-.23	-.06	.28	-.05						
Unknown		-.14	-.16	-.09	-.10	.14	-.09	-.20	-.02	.02	-.06	.01	-.10
	<i>G</i>	-.14	-.19	-.09	-.10	.14	-.09	-.21	-.07	.03	-.06	.01	-.05
	<i>R</i>	-.04	-.19	-.13	-.06	.14	-.08						

Note. *P* is what has been partialled. *G* = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. *R* = additional Raven and Raven2 partialled.

Table 27  
Raw Correlations with Academic Performance and Raven: West Berlin 1993

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.33	.53	.53	.53	.31	.43	.	.	.	.	.	.
	G	.33	.54	.55	.53	.32	.44	.	.	.	.	.	.
	R	.33	.54	.55	.53	.32	.44	.	.	.	.	.	.
<b>Agency Beliefs</b>													
Effort		.45	.56	.51	.54	.43	.49	.	.	.	.	.	.
	G	.45	.57	.52	.55	.44	.50	.	.	.	.	.	.
	R	.45	.57	.52	.55	.44	.50	.	.	.	.	.	.
Ability		.47	.48	.54	.62	.55	.53	.	.	.	.	.	.
	G	.47	.48	.57	.65	.56	.55	.	.	.	.	.	.
	R	.47	.48	.57	.65	.56	.55	.	.	.	.	.	.
Luck		.56	.50	.55	.51	.47	.51	.	.	.	.	.	.
	G	.56	.50	.54	.52	.47	.52	.	.	.	.	.	.
	R	.56	.50	.54	.52	.47	.52	.	.	.	.	.	.
Teacher		.40	.39	.32	.33	.12	.31	.	.	.	.	.	.
	G	.39	.39	.31	.32	.12	.31	.	.	.	.	.	.
	R	.39	.39	.31	.32	.12	.31	.	.	.	.	.	.
<b>Means Ends Beliefs</b>													
Effort		.17	.18	.44	.26	.12	.23	.	.	.	.	.	.
	G	.17	.18	.42	.27	.14	.23	.	.	.	.	.	.
	R	.17	.18	.42	.27	.14	.23	.	.	.	.	.	.
Ability		.16	.07	.34	.07	.22	.17	.	.	.	.	.	.
	G	.16	.07	.32	.07	.23	.18	.	.	.	.	.	.
	R	.16	.07	.32	.07	.23	.18	.	.	.	.	.	.
Luck		-.10	-.10	-.28	-.24	.01	-.12	.	.	.	.	.	.
	G	-.10	-.11	-.32	-.24	.00	-.13	.	.	.	.	.	.
	R	-.10	-.11	-.32	-.24	.00	-.13	.	.	.	.	.	.
Teacher		-.06	-.15	-.06	.05	.17	.01	.	.	.	.	.	.
	G	-.06	-.16	-.09	.06	.16	.00	.	.	.	.	.	.
	R	-.06	-.16	-.09	.06	.16	.00	.	.	.	.	.	.
Unknown		-.27	-.11	.00	-.05	.14	-.09	.	.	.	.	.	.
	G	-.27	-.12	.04	-.05	.14	-.09	.	.	.	.	.	.
	R	-.27	-.12	.04	-.05	.14	-.09	.	.	.	.	.	.

Note. *P* is what has been partialled. *G* = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. *R* = additional Raven and Raven2 partialled.



Table 28

*Raw Correlations with Academic Performance and Raven: Moscow 1990*

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.33	.07	.43	.28	.49	.31	.03	.02	.17	.29	.18	.04
	G	.30	.06	.36	.25	.47	.27	-.03	.01	.08	.28	.17	.10
	R	.34	.07	.36	.13	.45	.26						
<b>Agency Beliefs</b>													
Effort		.49	.25	.49	.38	.37	.39	.27	.11	.25	.27	.24	.17
	G	.46	.22	.44	.31	.37	.35	.21	.09	.18	.25	.24	.19
	R	.43	.21	.41	.21	.32	.30						
Ability		.53	.26	.49	.44	.42	.42	.16	.18	.25	.33	.22	.23
	G	.51	.25	.44	.42	.43	.40	.10	.18	.19	.32	.22	.21
	R	.53	.22	.40	.32	.39	.36						
Luck		.58	.31	.48	.27	.57	.43	.26	.13	.23	.20	.18	.07
	G	.56	.29	.44	.24	.58	.41	.20	.12	.17	.19	.18	.17
	R	.54	.27	.41	.18	.57	.38						
Teacher		.28	.17	.28	.22	.14	.21	.30	.11	.15	.14	-.05	.04
	G	.25	.15	.28	.20	.13	.19	.26	.10	.14	.13	-.05	.11
	R	.17	.14	.25	.16	.16	.16						
<b>Means Ends Beliefs</b>													
Effort		.01	.26	.13	.02	.15	.12	.04	.21	.13	.24	.03	.15
	G	.02	.24	.13	.09	.19	.13	.05	.19	.13	.27	.04	.14
	R	.00	.18	.09	-.04	.19	.09						
Ability		-.20	.07	.13	-.20	.13	.00	-.17	.03	.13	.02	.11	-.04
	G	-.20	.07	.13	-.17	.21	.02	-.18	.03	.13	.04	.13	.04
	R	-.14	.06	.09	-.20	.18	.01						
Luck		-.25	-.03	.05	-.16	-.15	-.09	-.33	-.21	-.03	-.10	.10	-.28
	G	-.22	-.04	.00	-.24	-.16	-.11	-.30	-.22	-.07	-.13	.10	-.14
	R	-.11	.04	.03	-.19	-.21	-.06						
Teacher		-.29	-.05	-.01	-.11	-.20	-.12	-.24	-.15	.02	.01	.14	-.10
	G	-.28	-.04	-.07	-.11	-.15	-.12	-.22	-.15	-.03	.01	.16	-.05
	R	-.21	.01	-.06	-.14	-.22	-.11						
Unknown		-.24	-.03	-.02	-.10	-.09	-.09	-.21	-.13	.04	.03	-.02	-.16
	G	-.19	-.03	-.04	-.13	-.07	-.08	-.14	-.13	.01	.02	-.02	-.06
	R	-.15	.01	-.05	-.15	-.07	-.06						

*Note.* P is what has been partialled. G = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. R = additional Raven and Raven2 partialled.

**Table 29**  
**Raw Correlations with Academic Performance and Raven: Moscow 1992**

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.20	.14	-.07	.28	.24	.20	.	.	.	.	.	.
	G	.15	.13	-.11	.25	.22	.16	.	.	.	.	.	.
	R	.15	.13	-.11	.25	.22	.16	.	.	.	.	.	.
<b>Agency Beliefs</b>													
Effort		.39	.32	.24	.36	.38	.36	.	.	.	.	.	.
	G	.36	.30	.21	.31	.36	.32	.	.	.	.	.	.
	R	.36	.30	.21	.31	.36	.32	.	.	.	.	.	.
Ability		.41	.29	.57	.49	.43	.41	.	.	.	.	.	.
	G	.40	.27	.56	.49	.41	.40	.	.	.	.	.	.
	R	.40	.27	.56	.49	.41	.40	.	.	.	.	.	.
Luck		.37	.34	.47	.54	.43	.40	.	.	.	.	.	.
	G	.35	.35	.46	.54	.41	.39	.	.	.	.	.	.
	R	.35	.35	.46	.54	.41	.39	.	.	.	.	.	.
Teacher		.39	.21	.31	.22	.25	.28	.	.	.	.	.	.
	G	.34	.19	.30	.22	.23	.26	.	.	.	.	.	.
	R	.34	.19	.30	.22	.23	.26	.	.	.	.	.	.
<b>Means Ends Beliefs</b>													
Effort		.15	.28	.06	-.07	.01	.10	.	.	.	.	.	.
	G	.15	.29	.07	-.02	.00	.11	.	.	.	.	.	.
	R	.15	.29	.07	-.02	.00	.11	.	.	.	.	.	.
Ability		-.03	.16	-.17	.05	.06	.04	.	.	.	.	.	.
	G	-.01	.19	-.16	.07	.09	.06	.	.	.	.	.	.
	R	-.01	.19	-.16	.07	.09	.06	.	.	.	.	.	.
Luck		-.36	-.07	-.45	-.12	-.03	-.19	.	.	.	.	.	.
	G	-.36	-.07	-.47	-.12	-.02	-.19	.	.	.	.	.	.
	R	-.36	-.07	-.47	-.12	-.02	-.19	.	.	.	.	.	.
Teacher		-.25	-.08	-.34	-.31	.03	-.17	.	.	.	.	.	.
	G	-.27	-.10	-.32	-.28	.07	-.17	.	.	.	.	.	.
	R	-.27	-.10	-.32	-.28	.07	-.17	.	.	.	.	.	.
Unknown		-.16	.05	-.21	-.10	.05	-.06	.	.	.	.	.	.
	G	-.14	.06	-.25	-.16	.07	-.06	.	.	.	.	.	.
	R	-.14	.06	-.25	-.16	.07	-.06	.	.	.	.	.	.

*Note.* P is what has been partialled. G = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. R = additional Raven and Raven2 partialled.

Table 30

*Raw Correlations with Academic Performance and Raven: Moscow 1994*

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.41	.39	.26	.29	.16	.29	.	.	.	.	.	.
	G	.41	.42	.25	.26	.18	.28	.	.	.	.	.	.
	R	.41	.42	.25	.26	.18	.28	.	.	.	.	.	.
<b>Agency Beliefs</b>													
Effort		.39	.38	.31	.40	.22	.35	.	.	.	.	.	.
	G	.40	.35	.31	.37	.22	.32	.	.	.	.	.	.
	R	.40	.35	.31	.37	.22	.32	.	.	.	.	.	.
Ability		.47	.30	.28	.52	.20	.38	.	.	.	.	.	.
	G	.46	.39	.27	.50	.26	.37	.	.	.	.	.	.
	R	.46	.39	.27	.50	.26	.37	.	.	.	.	.	.
Luck		.44	.41	.32	.51	.35	.41	.	.	.	.	.	.
	G	.41	.42	.31	.49	.31	.39	.	.	.	.	.	.
	R	.41	.42	.31	.49	.31	.39	.	.	.	.	.	.
Teacher		.22	.45	.18	.35	.39	.31	.	.	.	.	.	.
	G	.21	.43	.17	.32	.34	.28	.	.	.	.	.	.
	R	.21	.43	.17	.32	.34	.28	.	.	.	.	.	.
<b>Means Ends Beliefs</b>													
Effort		.03	-.03	.11	.04	.24	.06	.	.	.	.	.	.
	G	.04	.01	.10	.04	.24	.06	.	.	.	.	.	.
	R	.04	.01	.10	.04	.24	.06	.	.	.	.	.	.
Ability		.04	-.14	.08	-.06	.41	.02	.	.	.	.	.	.
	G	.02	-.03	.09	.00	.40	.06	.	.	.	.	.	.
	R	.02	-.03	.09	.00	.40	.06	.	.	.	.	.	.
Luck		-.24	-.39	-.07	-.37	.14	-.24	.	.	.	.	.	.
	G	-.27	-.36	-.07	-.36	.19	-.22	.	.	.	.	.	.
	R	-.27	-.36	-.07	-.36	.19	-.22	.	.	.	.	.	.
Teacher		-.16	-.19	-.02	-.20	.00	-.13	.	.	.	.	.	.
	G	-.16	-.21	-.02	-.17	.09	-.11	.	.	.	.	.	.
	R	-.16	-.21	-.02	-.17	.09	-.11	.	.	.	.	.	.
Unknown		-.26	-.16	-.02	-.18	.09	-.12	.	.	.	.	.	.
	G	-.26	-.14	-.01	-.17	.08	-.11	.	.	.	.	.	.
	R	-.26	-.14	-.01	-.17	.08	-.11	.	.	.	.	.	.

*Note.* P is what has been partialled. G = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. R = additional Raven and Raven2 partialled.

*Table 31*  
*Raw Correlations with Academic Performance and Raven: Los Angeles 1992*

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.16	.28	.05	.27	.09	.16	.14	-.05	.17	.19	.07	.10
	G	.17	.26	.04	.25	.05	.16	.14	-.04	.17	.19	.05	.11
	R	.12	.30	-.01	.22	.04	.14						
<b>Agency Beliefs</b>													
Effort		.23	.31	.37	.38	.13	.28	.12	.03	.03	-.01	.01	.01
	G	.22	.28	.35	.31	.14	.27	.10	.04	.04	-.02	.02	.04
	R	.19	.27	.33	.31	.12	.26						
Ability		.21	.29	.34	.39	.13	.27	.13	.05	.14	.11	-.01	.02
	G	.20	.28	.36	.39	.14	.27	.11	.06	.13	.11	-.01	.08
	R	.17	.27	.33	.38	.12	.25						
Luck		.28	.30	.49	.40	.10	.32	.13	.02	.19	-.04	-.01	-.03
	G	.27	.27	.48	.37	.12	.32	.12	.03	.20	-.04	-.01	.05
	R	.26	.27	.45	.38	.10	.30						
Teacher		.31	.25	.33	.03	-.02	.18	.20	.09	.06	.09	-.05	.05
	G	.31	.25	.32	-.01	-.02	.18	.20	.09	.07	.09	-.05	.08
	R	.26	.23	.27	-.04	-.03	.14						
<b>Means Ends Beliefs</b>													
Effort		.02	.05	.03	.09	.12	.05	.01	.01	.05	.16	.07	.15
	G	.03	.05	.03	.12	.12	.06	.03	.01	.05	.16	.07	.06
	R	.03	.06	-.01	.11	.12	.06						
Ability		-.08	-.08	.01	.13	.03	-.01	.01	-.06	.21	-.01	.09	.05
	G	-.06	-.09	.04	.15	.02	.00	.03	-.05	.21	-.01	.09	.04
	R	-.06	-.08	-.03	.19	.00	.00						
Luck		-.29	-.28	-.25	-.05	-.13	-.20	-.17	-.20	-.10	-.09	-.07	-.24
	G	-.28	-.30	-.25	-.06	-.14	-.21	-.15	-.20	-.10	-.09	-.07	-.12
	R	-.24	-.24	-.15	-.03	-.11	-.16						
Teacher		-.27	-.25	-.20	.03	-.01	-.15	-.16	-.17	-.03	-.06	.03	-.12
	G	-.26	-.23	-.19	.06	-.01	-.14	-.15	-.19	-.04	-.06	.03	-.08
	R	-.22	-.18	-.09	.08	-.01	-.10						
Unknown		-.18	-.29	-.11	-.12	-.03	-.15	-.11	-.19	-.07	-.04	-.09	-.15
	G	-.17	-.29	-.15	-.09	-.06	-.15	-.10	-.19	-.05	-.04	-.11	-.09
	R	-.13	-.22	-.11	-.07	-.05	-.11						

*Note.* *P* is what has been partialled. *G* = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. *R* = additional Raven and Raven2 partialled.

*Table 32*  
*Raw Correlations with Academic Performance and Raven: Tokyo 1993*

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.12	.28	.28	.29	.38	.27	.04	.23	.12	.24	.17	.11
	G	.13	.26	.28	.31	.38	.27	.05	.22	.12	.24	.17	.15
	R	.12	.17	.26	.22	.36	.22						
<b>Agency Beliefs</b>													
Effort		.28	.31	.18	.27	.40	.28	.18	.23	.09	.17	.25	.16
	G	.25	.29	.17	.25	.40	.27	.16	.22	.08	.16	.25	.17
	R	.20	.21	.15	.21	.32	.21						
Ability		.36	.50	.24	.49	.55	.42	.22	.24	.07	.37	.35	.16
	G	.40	.49	.30	.52	.56	.45	.24	.23	.11	.39	.33	.26
	R	.33	.45	.29	.38	.47	.37						
Luck		-.15	-.10	-.09	-.20	-.25	-.16	-.22	-.09	-.08	-.09	-.23	-.17
	G	-.16	-.10	-.13	-.26	-.25	-.18	-.22	-.09	-.12	-.12	-.20	-.15
	R	-.06	-.06	-.09	-.23	-.19	-.12						
Teacher		.08	.16	.04	.12	.11	.10	-.07	.15	-.01	.17	.11	.07
	G	.04	.13	.05	.11	.11	.09	-.11	.14	-.01	.16	.10	.06
	R	.11	.08	.05	.03	.05	.07						
<b>Means Ends Beliefs</b>													
Effort		.15	.15	.08	.11	.17	.12	.06	.22	.10	.14	.01	.22
	G	.15	.15	.10	.13	.17	.13	.06	.22	.12	.15	.03	.10
	R	.13	.04	.05	.07	.16	.09						
Ability		.16	-.12	-.20	-.26	-.21	-.14	.14	.03	-.13	-.13	-.17	.00
	G	.17	-.11	-.18	-.23	-.21	-.12	.14	.04	-.11	-.12	-.20	-.04
	R	.11	-.15	-.14	-.20	-.13	-.11						
Luck		-.19	-.14	-.09	-.12	-.09	-.12	-.23	-.12	-.11	-.11	.03	-.19
	G	-.19	-.15	-.12	-.15	-.09	-.14	-.23	-.12	-.14	-.13	.04	-.12
	R	.09	-.10	-.06	-.11	-.14	-.09						
Teacher		-.23	-.25	-.03	-.23	-.18	-.19	-.22	-.18	-.14	-.14	-.15	-.23
	G	-.21	-.24	-.05	-.23	-.18	-.19	-.20	-.17	-.16	-.14	-.16	-.19
	R	-.09	-.16	-.00	-.20	-.12	-.11						
Unknown		.14	-.13	-.11	-.09	-.28	-.10	.13	-.06	-.09	-.12	-.15	-.10
	G	.12	-.13	-.11	-.09	-.28	-.10	.11	-.06	-.08	-.12	-.17	-.05
	R	.07	-.11	-.08	-.02	-.21	-.07						

*Note.* *P* is what has been partialled. *G* = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. *R* = additional Raven and Raven2 partialled.

*Table 33*  
*Raw Correlations with Academic Performance and Raven: Prague 1991*

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.18	.17	.13	.37	.28	.23	-.03	.05	-.05	-.03	.26	-.03
	<i>G</i>	.18	.16	.16	.37	.27	.23	.01	.09	-.10	-.03	.28	.10
	<i>R</i>	.18	.14	.16	.38	.24	.22						
<b>Agency Beliefs</b>													
Effort		.43	.41	.27	.45	.39	.39	.01	-.08	.01	.02	.16	.03
	<i>G</i>	.43	.40	.28	.44	.37	.38	.02	-.02	.00	.04	.18	.06
	<i>R</i>	.44	.40	.28	.44	.35	.38						
Ability		.41	.41	.37	.53	.54	.46	.01	.03	.00	.11	.12	.00
	<i>G</i>	.41	.41	.40	.54	.56	.47	.05	.04	-.05	.11	.12	.08
	<i>R</i>	.41	.41	.41	.53	.55	.46						
Luck		.46	.52	.31	.55	.56	.48	.08	.06	-.05	.08	.08	-.07
	<i>G</i>	.46	.52	.32	.56	.56	.49	.10	.10	-.05	.08	.09	.07
	<i>R</i>	.45	.52	.32	.55	.55	.49						
Teacher		.22	.31	.25	.32	.33	.29	.00	.05	.09	.02	.04	-.01
	<i>G</i>	.22	.31	.25	.30	.30	.28	.06	.07	.11	.03	.06	.03
	<i>R</i>	.22	.31	.26	.29	.29	.28						
<b>Means Ends Beliefs</b>													
Effort		.11	.02	.00	.06	-.06	.03	-.02	-.16	-.08	.06	.08	.00
	<i>G</i>	.11	.01	.02	.08	-.03	.03	-.03	-.13	-.13	.04	.06	.02
	<i>R</i>	.12	.00	.01	.08	-.03	.03						
Ability		-.05	-.04	-.04	-.09	-.04	-.05	-.16	-.17	-.16	-.14	-.12	-.12
	<i>G</i>	-.06	-.04	-.02	-.08	.00	-.04	-.14	-.17	-.21	-.14	-.14	-.10
	<i>R</i>	-.05	-.04	-.03	-.05	.02	-.03						
Luck		-.28	-.18	-.06	-.06	.00	-.11	-.17	.02	-.10	.00	.01	-.14
	<i>G</i>	-.28	-.18	-.08	-.09	.01	-.13	-.14	.01	-.08	.01	.01	-.04
	<i>R</i>	-.28	-.17	-.10	-.10	-.01	-.12						
Teacher		-.38	-.23	-.05	.02	.09	-.11	-.19	.10	-.09	.00	.00	-.03
	<i>G</i>	-.38	-.22	-.05	.01	.13	-.10	-.17	.07	-.09	.01	-.02	-.06
	<i>R</i>	-.38	-.22	-.06	.00	.13	-.10						
Unknown		-.12	-.22	-.15	-.15	-.07	-.11	-.11	-.06	-.10	-.05	-.14	-.11
	<i>G</i>	-.12	-.22	-.17	-.15	-.05	-.15	-.09	-.07	-.08	-.05	-.15	-.08
	<i>R</i>	-.13	-.22	-.18	-.14	-.03	-.14						

*Note.* *P* is what has been partialled. *G* = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. *R* = additional Raven and Raven2 partialled.

Table 34

*Raw Correlations with Academic Performance and Raven: Warsaw 1991*

CAMI Construct	P	Academic Performance						Raven					
		2	3	4	5	6	Tot	2	3	4	5	6	Tot
<b>Control Expectancy</b>													
		.35	.	.50	.	.53	.46	.36	.	-.14	.	.25	.19
	G	.29	.	.48	.	.50	.42	.35	.	-.14	.	.22	.16
	R	.12	.	.54	.	.43	.40						
<b>Agency Beliefs</b>													
Effort		.35	.	.51	.	.56	.47	.31	.	-.10	.	.36	.23
	G	.25	.	.48	.	.51	.41	.31	.	-.11	.	.32	.18
	R	.09	.	.54	.	.39	.37						
Ability		.30	.	.52	.	.54	.46	.14	.	.05	.	.39	.17
	G	.21	.	.53	.	.60	.45	.12	.	.05	.	.40	.19
	R	.18	.	.55	.	.49	.40						
Luck		.32	.	.60	.	.50	.47	.25	.	.23	.	.37	.23
	G	.25	.	.59	.	.45	.43	.24	.	.24	.	.34	.27
	R	.13	.	.56	.	.34	.35						
Teacher		.33	.	.39	.	.33	.34	.28	.	-.05	.	.35	.09
	G	.22	.	.35	.	.19	.25	.29	.	-.05	.	.30	.19
	R	.06	.	.43	.	.09	.19						
<b>Means Ends Beliefs</b>													
Effort		.23	.	.40	.	.08	.23	.23	.	.23	.	.08	.18
	G	.25	.	.44	.	.11	.27	.23	.	.23	.	.09	.19
	R	.14	.	.42	.	.07	.21						
Ability		.18	.	.22	.	-.01	.13	.10	.	.21	.	.25	.10
	G	.20	.	.27	.	.03	.17	.11	.	.22	.	.27	.19
	R	.17	.	.21	.	-.14	.08						
Luck		-.10	.	-.14	.	-.05	-.09	-.22	.	.23	.	-.02	-.19
	G	-.15	.	-.09	.	.05	-.06	-.23	.	.25	.	.02	-.02
	R	-.01	.	-.18	.	-.02	-.07						
Teacher		-.23	.	-.13	.	-.04	-.13	-.41	.	.04	.	.17	-.12
	G	-.23	.	-.08	.	.04	-.09	-.41	.	.04	.	.21	-.09
	R	.01	.	-.15	.	-.14	-.07						
Unknown		.04	.	-.32	.	-.11	-.12	-.11	.	-.13	.	-.26	-.15
	G	.01	.	-.29	.	-.01	-.10	-.12	.	-.13	.	-.23	-.15
	R	.10	.	-.33	.	.02	-.04						

*Note.* *P* is what has been partialled. *G* = the effects of gender have been partialled from the by grade estimates and the effects of gender, linear grade, and quadratic grade have been partialled from the overall (Tot) estimates. *R* = additional Raven and Raven2 partialled.

*Table 35*  
*Overview of Differences Between Schools in the Various Socio-Cultural Contexts*

Data-set		$\Delta\chi^2$	df	p	Unequated Constructs	ratio	%
E90	<u>s</u> : Means	22.31	11	0.02			
	Variances	9.50	11	0.58			
	Correlations	84.96	54	0.01			
	Gender/Grade/Grade2	39.46	34	0.24			
E91	<u>s</u> : Means	25.61	11	0.01			
	Variances	10.88	11	0.45			
	Correlations	76.74	54	0.02			
	Gender/Grade/Grade2	73.38	34	0.00			
	<u>f</u> : Gender/Grade/Grade2	54.42	31	0.01	agTEA/Grade	1/34	97
E92	<u>s</u> : Means	39.32	22	0.01			
	Variances	13.37	22	0.92			
	Correlations	142.19	108	0.02			
	Gender/Grade/Grade2	97.98	68	0.01			
U92	<u>s</u> : Means	9.37	11	0.59			
	Variances	13.06	11	0.29			
	Correlations	84.57	54	0.01			
	Gender/Grade/Grade2	63.65	34	0.00			
	<u>f</u> : Gender/Grade/Grade2	57.34	33	0.01	agTEA/Grade	1/34	97
J93	<u>s</u> : Means	50.23	11	0.00			
	Variances	40.29	11	0.00			
	Correlations	85.57	54	0.00			
	Grade/Grade2	114.99	22	0.00			
	Gender	13.12	12	0.36			
		<u>f</u> : Means	16.72	5	0.01	agTEA agLUC Cntrl meTEA meEFF meLUC	6/11
	Variances	14.86	10	0.14	meTEA	1/11	91
	Correlations	77.72	53	0.02	meTEA/meLUC	1/66	98
	Grade/Grade2	30.29	14	0.01	agTEA/Grade agEFF/Grade Cntrl/Grade agLUC/Grade meUNK/Grade meLUC/Grade meEFF/Grade2 meABL/Grade2	8/22	64



Table 35, continued

Data-set		$\Delta\chi^2$	df	p	Unequated Constructs	ratio	%
M90	<b>s:</b> Means	12.93	11	0.30			
	Variances	22.35	11	0.02			
	Correlations	71.96	54	0.05			
	Gender/Grade/Grade2	48.78	25	0.05			
M92	<b>s:</b> Means	17.32	11	0.10			
	Variances	14.92	11	0.19			
	Correlations	61.02	54	0.24			
	Gender/Grade/Grade2	60.79	34	0.00			
	<b>f:</b> Gender/Grade/Grade2	48.18	33	0.05	meABL/Grade	1/34	97
M94	<b>s:</b> Means	29.50	11	0.00			
	Variances	15.97	11	0.14			
	Correlations	104.21	54	0.00			
	Gender/Grade/Grade2	65.29	34	0.00			
	<b>f:</b> Means	24.83	10	0.01	ACHVE	1/11	91
	Correlations	80.20	51	0.01	meABL/meEFF meUNK/meTEA meLUC/meABL	3/66	95
	Gender/Grade/Grade2	48.18	33	0.05	meEFF/Grade2	1/34	97
P91	<b>s:</b> Means	40.04	33	0.19			
	Variances	66.52	33	0.00			
	Correlations	185.79	162	0.10			
	Gender/Grade/Grade2	200.76	102	0.00			
	<b>f:</b> Variances	53.60	31	0.01	meEFF (schl 3) ACHVE (schl 4)	2/33	94
	Gender/Grade/Grade2	131.75	94	0.01	ACHVE (schl 2)/Gender agEFF (schl 2)/Gender agTEA (schl 3)/Gender meUNK (schl 3)/Grade agTEA (schl 4)/Grade meEFF (schl 2)/Grade2 agLUC (schl 3)/Grade2 ACHVE (schl 4)/Grade2	8/102	92
W91	<b>s:</b> Means	25.18	11	0.01			
	Variances	17.32	11	0.10			
	Correlations	88.17	54	0.00			
	Gender/Grade/Grade2	65.00	34	0.00			
	<b>f:</b> Correlations	81,81	53	0.01	agLUC/meEFF	1/66	98
	Gender/Grade/Grade2	52.79	33	0.02	agTEA/Grade	1/34	97

Table 35, continued

Data-set		$\Delta\chi^2$	df	p	Unequated Constructs	ratio	%
W92	<u>s</u> : Means	19.24	11	0.06			
	Variances	7.15	11	0.79			
	Correlations	79.13	54	0.15			
	Gender/Grade/Grade2	61.48	34	0.00			
	<u>f</u> : Gender/Grade/Grade2	47.46	33	0.05	meEFF/Grade	1/34	97
W93	<u>s</u> : Means	45.44	11	0.00			
	Variances	22.94	11	0.02			
	Correlations	84.10	54	0.01			
	Gender/Grade/Grade2	57.13	34	0.01			
	<u>f</u> : Means	23.88	9	0.01	agTEA meEFF	2/11	82
Z91	<u>s</u> : Means	16.36	11	0.13			
	Variances	15.51	11	0.16			
	Correlations	63.05	54	0.19			
	Gender/Grade/Grade2	48.91	34	0.05			

*Note.* s = statistics. f = statistics of models with unequated constructs. ratio = percentage of difference. % = percentage of similarity. Schl = School.

*Appendix C: Conceptual Version of the CAMI: English Language edition.***1. AGENCY BELIEFS: EFFORT (agEFF)****Positive Items**

- P1 (01). I can really pay attention in class.
- P2 (34). When it comes down to it, I can really work hard at school.
- P3 (39). If I decide to, I can listen very carefully to what my teacher says.

**Negative Items**

- N1 (04). I have a hard time making myself listen carefully to my teachers.
- N2 (30). It's hard for me to really put in enough effort at school.
- N3 (44). I have trouble paying attention in class.

**2. AGENCY BELIEFS: ABILITY (agABL)****Positive Items**

- P1 (02). I can learn the things I need for school pretty fast, without really trying a lot.
- P2 (11). I'm pretty smart in school--even without working very hard.
- P3 (42). When it comes to school, I'm pretty smart.

**Negative Items**

- N1 (07). I'm just sort of dumb in school.
- N2 (29). Sometimes I think that I just don't have the brains to do good at school.
- N3 (41). I often feel that I'm not smart enough to get the answers right (like in math or spelling), no matter how hard I try.

**3. AGENCY BELIEFS: LUCK (agLUC)****Positive Items**

- P1 (08). I would say that I'm a person who has luck with my homework.
- P2 (09). When it comes to getting good grades, I usually have lots of luck.
- P3 (31). When it comes to school work, I'm a lucky duck.

**Negative Items**

- N1 (06). When it comes to answering hard questions, I'm usually out of luck.
- N2 (28). As far as learning something hard goes, I'm usually unlucky.
- N3 (43). I'm pretty unlucky with my homework.

#### 4. AGENCY BELIEFS: TEACHERS (agTEA)

##### Positive Items

- P1 (14). On the whole, my teachers like me.
- P2 (36). I have teachers who will help me when I want them to.
- P3 (38). When I think about it, I would say that my teachers are pretty satisfied with me.

##### Negative Items

- N1 (03). I think that my teachers don't really like me very much.
- N2 (35). I have a hard time getting the teacher to help me even when I need it.
- N3 (37). It's difficult for me to get my teachers to help me very much, even when I need it.

#### 5. CONTROL EXPECTANCY (Cntrl)

##### Positive Items

- P1 (10). When I sit myself down to learn something really hard, I can learn it.
- P2 (13). If I decide not to get any bad grades, I can really do it.
- P3 (27). If I decide not to get any problems wrong (like on a spelling paper), I can really do it.
- P4 (33). If I want to do good in school, I can.

#### 6. MEANS-ENDS BELIEFS: EFFORT (meEFF)

##### Positive Items

- P1 (12). When a kid knows a lot about something, is it because the kid works hard at learning it?
- P2 (15). When a kid does good on schoolwork, is it because the kid works very carefully?
- P3 (57). What's the reason kids understand what teachers say? Is it because they pay attention and really listen?

##### Negative Items

- N1 (18). When a kid doesn't understand something at school, is it because the kid doesn't pay enough attention?
- N2 (54). When kids don't learn very much in class, is it because they don't work very hard?
- N3 (56). A teacher asks a kid a question and the kid gives the wrong answer. Is that because the kid isn't trying hard enough?

**7. MEANS-ENDS BELIEFS: ABILITY (meABL)****Positive Items**

- P1 (05). When kids give the right answers to questions in class, is it because they're just good students?
- P2 (17). A kid manages to learn hard things in school, is it because the kid's smart?
- P3 (46). If kids understand things fast, is it because they're just very good at school?

**Negative Items**

- N1 (19). When kids get bad grades, is it just because they're no good at school?
- N2 (48). When kids don't understand something, is it because they're just no good at school?
- N3 (58). A kid gives the wrong answer to a teacher's question. Is it because the kid's just not smart enough?

**8. MEANS-ENDS BELIEFS: TEACHERS (meTEA)****Positive Items**

- P1 (20). Let's say a kid gets good grades. Is that because the kid gets along well with the teacher?
- P2 (47). When a kid does well in school is that because the kid gets along fine with the teachers?
- P3 (49). When kids do really well in a subject, is it because of the teacher?

**Negative Items**

- N1 (16). Let's say a kid gets bad grades. Is it because the teacher doesn't like that kid?
- N2 (25). When a kid does bad in school, is it because the teacher doesn't really like that kid very much?
- N3 (32). When kids do bad in a subject, is it usually because the teachers just don't help them?

**9. MEANS-ENDS BELIEFS: LUCK (meLUC)****Positive Items**

- P1 (24). Is doing well in school a matter of luck?
- P2 (51). Does getting good grades come from luck?
- P3 (53). When a teacher calls on a kid and the kid knows the answer, would you say it's because the kid's lucky?

**Negative Items**

- N1 (22). When kids get bad grades is it because they have bad luck?
- N2 (50). When a kid does bad on homework, is that because the kid's out of luck?
- N3 (55). When kids have a hard time learning something, is it because the kids are unlucky?

**10. MEANS-ENDS BELIEF: UNKNOWN FACTORS (meUNK)****Positive Items**

- P1 (23). When kids do better than usual in a subject, is it hard to tell why?
- P2 (45). When kids get good grades in school, is it hard to know why?
- P3 (52). Just imagine that a kid does really great on a test. Is it hard to know the reason why?

**Negative Items**

- N1 (21). When kids mess up in school, is it hard to figure out why that happens?
- N2 (26). A kid gets lots of problems wrong (like in spelling). Is it hard to know the reason why?
- N3 (40). When kids give the wrong answer to a teacher's question, is it hard to find out why that happens?

*Appendix D: Conceptual Version of the CAMI: German Language edition.***1. AGENCY BELIEFS: EFFORT (agEFF)****Positive Items**

- P1 (01). Ich kann im Unterricht eigentlich gut aufpassen.
- P2 (34). Wenn es darauf ankommt, kann ich mich in der Schule sehr anstrengen.
- P3 (39). Wenn ich es mir vornehme, kann ich ganz genau auf das aufpassen, was mein Lehrer sagt.

**Negative Items**

- N1 (04). Ich finde es ganz schön schwer, den Lehrern immer genau zuzuhören.
- N2 (30). Ich habe Schwierigkeiten, mich für die Schule wirklich genug anzustrengen.
- N3 (44). Es fällt mir schwer, im Unterricht gut aufzupassen.

**2. AGENCY BELIEFS: ABILITY (agABL)****Positive Items**

- P1 (02). Ich kann das, was ich für die Schule brauche, schnell lernen, ohne mich groß dabei anzustrengen.
- P2 (11). Ich stelle mich in der Schule klug an, ohne besonders hart dafür zu arbeiten.
- P3 (42). In schulischen Dingen bin ich einfach ziemlich schlau.

**Negative Items**

- N1 (07). Ich bin nun mal kein besonders guter Schüler.
- N2 (29). Es fehlt mir die Klugheit, um in der Schule wirklich gut zu sein.
- N3 (41). Ich habe oft das Gefühl, daß ich nicht klug genug bin, um auf die richtigen Lösungen zu kommen (z.B. in einer Mathearbeit), egal wie sehr ich mich anstrenge.

### 3. AGENCY BELIEFS: LUCK (agLUC)

#### Positive Items

- P1 (08). Ich glaube, daß ich jemand bin, der in Klassenarbeiten einfach Glück hat.
- P2 (09). Wenn es darum geht, gute Noten zu bekommen, habe ich normalerweise Glück.
- P3 (31). Ich würde sagen, daß ich in der Schule ein Glückspilz bin.

#### Negative Items

- N1 (06). Wenn es im Unterricht darauf ankommt, komplizierte Fragen zu beantworten, dann habe ich meistens Pech.
- N2 (28). Wenn etwas Schwieriges zu lernen ist, habe ich normalerweise Pech.
- N3 (43). Mit den Hausaufgaben habe ich einfach Pech.

### 4. AGENCY BELIEFS: TEACHERS (agTEA)

#### Positive Items

- P1 (14). Im großen und ganzen, können mich meine Lehrer gut leiden.
- P2 (36). Ich habe Lehrer, die mir helfen, wenn ich das will.
- P3 (38). Ich glaube, daß meine Lehrer mit mir zufrieden sind.

#### Negative Items

- N1 (03). Ich glaube, daß meine Lehrer mich nicht besonders leiden mögen.
- N2 (35). Es ist schwer, Hilfe von meinen Lehrern zu bekommen, auch wenn ich sie brauche.
- N3 (37). Ich glaube, daß meine Lehrer mir gegenüber nicht sehr hilfsbereit sind, selbst wenn ich Hilfe brauche.

### 5. CONTROL EXPECTANCY (Cntrl)

#### Positive Items

- P1 (10). Wenn ich mich hinsetze, um etwas wirklich Schwieriges zu lernen, dann gelingt mir das auch.
- P2 (13). Wenn ich mir vornehme, keine schlechten Noten zu bekommen, dann kann ich das.
- P3 (27). Wenn ich keine Fehler machen will (z.B. in einem Diktat), dann gelingt mir das.
- P4 (33). Wenn ich in der Schule gut sein will, dann kann ich das.



## 6. MEANS-ENDS BELIEFS: EFFORT (meEFF)

### Positive Items

- P1 (12). Wenn ein Kind viel von etwas mitkriegt, liegt das daran, daß es sich sehr damit beschäftigt?
- P2 (15). Wenn ein Kind gute Klassenarbeiten schreibt, ist das damit zu erklären, daß es sorgfältig arbeitet?
- P3 (57). Warum verstehen Kinder was ihre Lehrer erklären? Weil sie gut aufpassen?

### Negative Items

- N1 (18). Wenn ein Kind etwas in der Schule nicht versteht, liegt das daran, daß es nicht gut genug aufpaßt?
- N2 (54). Wenn Kinder im Unterricht nicht besonders viel mitbekommen, liegt das daran, daß sie sich keine Mühe geben?
- N3 (56). Ein Kind beantwortet die Fragen seiner Lehrer falsch. Ist das so, weil es sich nicht genug anstrengt?

## 7. MEANS-ENDS BELIEFS: ABILITY (meABL)

### Positive Items

- P1 (05). Wenn Kinder die Fragen im Unterricht richtig beantworten, liegt das daran, daß sie eben gute Schüler sind?
- P2 (17). Einem Kind gelingt es, in der Schule schwierige Dinge zu lernen. Liegt das dann daran, daß es einfach klug ist?
- P3 (46). Wenn Kinder Sachen schnell mitkriegen, ist das so, weil sie einfach sehr gut in der Schule sind?

### Negative Items

- N1 (19). Wenn Kinder schlechte Noten bekommen, liegt das dann daran, daß sie einfach nicht gut in der Schule sind?
- N2 (48). Wenn Kinder etwas nicht verstehen, würdest Du sagen, daß sie einfach nicht gut in der Schule sind?
- N3 (58). Ein Kind beantwortet die Fragen seines Lehrers falsch. Liegt das daran, daß es einfach nicht klug genug ist?

## 8. MEANS-ENDS BELIEFS: TEACHERS (meTEA)

### Positive Items

- P1 (20). Nehmen wir mal an, daß ein Kind gute Noten bekommt. Ist das so, weil es gut mit seinem Lehrer auskommt?
- P2 (47). Wenn ein Kind in der Schule gut vorankommt, liegt das daran, daß es sich mit den Lehrern gut versteht?
- P3 (49). Wenn Kinder in bestimmten Fächern besonders gut sind, liegt das an den Lehrern?

**Negative Items**

- N1 (16). Nehmen wir mal an, ein Kind kriegt schlechte Noten in der Schule. Liegt das daran, daß der Lehrer es nicht mag?
- N2 (25). Wenn ein Kind in der Schule schlecht ist, liegt das daran, daß der Lehrer es nicht besonders leiden kann?
- N3 (32). Wenn Kinder schlecht in einem bestimmten Fach sind, ist das so, weil der Lehrer ihnen einfach nicht hilft?

**9. MEANS-ENDS BELIEFS: LUCK (meLUC)****Positive Items**

- P1 (24). Hängt "Gutsein" in der Schule vom Glück ab?
- P2 (51). Hängen gute Schulnoten vom Glück ab?
- P3 (53). Wenn der Lehrer ein Kind aufruft und es weiß die Antwort, liegt das daran, daß es Glück hat?

**Negative Items**

- N1 (22). Wenn Kinder schlechte Noten bekommen, liegt das daran, daß sie kein Glück haben?
- N2 (50). Wenn ein Kind Fehler in einer Klassenarbeit macht, würdest Du sagen, daß Pech der Grund dafür ist?
- N3 (55). Wenn Kinder Schwierigkeiten damit haben, etwas zu lernen, würdest Du sagen: Das ist so, weil sie Pech haben?

**10. MEANS-ENDS BELIEF: UNKNOWN FACTORS (meUNK)****Positive Items**

- P1 (23). Wenn Kinder in einem Fach besser sind als sonst, ist es schwer zu sagen, warum?
- P2 (45). Wenn Kinder gute Noten bekommen, ist es dann schwer zu sagen, woran das eigentlich liegt?
- P3 (52). Stell Dir mal vor: Ein Kind schreibt eine ganz tolle Klassenarbeit. Ist es schwierig die Gründe dafür zu finden?

**Negative Items**

- N1 (21). Wenn Kinder in der Schule Fehler machen, ist es schwer zu sagen, woran das liegt?
- N2 (26). Ein Kind macht zum Beispiel viele Rechtschreibfehler. Ist es dann schwer, die genauen Gründe dafür zu finden?
- N3 (40). Wenn Kinder die Fragen ihrer Lehrer falsch beantworten, fällt es schwer, die Gründe dafür zu finden?

*Appendix E:*

*Presentation Version of the CAMI: Russian Language edition.*

ID \_\_\_\_\_

Имя, Фамилия \_\_\_\_\_

День, месяц и год рождения \_\_\_\_\_

Мальчик \_\_\_\_\_ Девочка \_\_\_\_\_

Школа \_\_\_\_\_

Класс \_\_\_\_\_

Дата \_\_\_\_\_

На следующих страницах описаны ситуации, в которых могут оказаться ученики твоего возраста. Такие ситуации, может быть, не случаются никогда, может быть, случаются редко, часто или всегда. Пожалуйста, отметь крестиком ответ для каждого из предположений в соответствии с тем, насколько часто такие ситуации случаются по ТВОЕМУ мнению.

Никто из учителей или из твоей семьи, кого ты знаешь, не увидит твоих ответов. Не существует правильных или неправильных ответов. Единственное, что здесь важно - это то, как ТЫ думаешь.

Вот два примера. Отметь крестиком тот из ответов, который больше всего подходит к тебе.

1. По вечерам я смотрю телевизор.

никогда	редко	часто	всегда
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2. На завтрак я пью молоко.

никогда	редко	часто	всегда
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1. Я могу быть по-настоящему внимательным на уроке.

никогда	редко	часто	всегда
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2. Я могу довольно быстро выучивать задания, которые мне дают в школе, не прикладывая слишком много усилий.

никогда	редко	часто	всегда
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3. Я думаю, что мои учителя не слишком любят меня.

никогда	редко	часто	всегда
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4. Мне бывает трудно заставить себя внимательно слушать учителей.

никогда	редко	часто	всегда
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5. Когда приходится отвечать на сложные вопросы, мне обычно не везет.

никогда	редко	часто	всегда
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6. Я просто довольно слабый ученик.

никогда	редко	часто	всегда
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7. Что касается хороших оценок, мне обычно везет. никогда редко часто всегда

никогда	редко	часто	всегда
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8. Я бы сказал, что я везучий в учебе. никогда редко часто всегда

никогда	редко	часто	всегда
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9. Если я решаю совсем не получать плохих оценок, то у меня это хорошо получается.

никогда	редко	часто	всегда
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10. Я довольно сообразительный ученик, даже хотя я и не очень усердно занимаюсь.

никогда	редко	часто	всегда
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11. Когда я берусь выучить какое-то по-настоящему трудное задание, я могу это сделать.

никогда	редко	часто	всегда
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12. В целом мои учителя хорошо относятся ко мне.

никогда	редко	часто	всегда
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13. Когда ученик много знает по какому-то предмету, это потому, что он усердно занимается по этому предмету?

никогда	редко	часто	всегда
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14. Предположим, что ученик получает плохие оценки. Это потому, что учитель плохо относится к этому ученику?

никогда	редко	часто	всегда
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15. Когда ученики на уроке правильно отвечают на вопросы, то это потому, что они просто хорошие ученики?

никогда	редко	часто	всегда
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16. Когда ученик не понимает чего-то на уроке, то это потому, что он недостаточно внимательный?

никогда	редко	часто	всегда
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17. Когда ученики получают плохие оценки, это просто потому, что они плохо учатся?

никогда	редко	часто	всегда
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18. Предположим, что ученик получает хорошие оценки. Это потому, что у ученика хорошие отношения с учителем?

никогда	редко	часто	всегда
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19. Ученик делает много ошибок (например, в диктанте). Трудно понять, почему это так?

никогда	редко	часто	всегда
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20. Когда ученики получают плохие оценки, то это потому, что им не везет?

никогда	редко	часто	всегда
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21. Когда ученики учатся по какому-то предмету лучше, чем обычно, то трудно сказать, почему это так?

никогда	редко	часто	всегда
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22. Хорошо учиться в школе - это зависит от везения?

никогда	редко	часто	всегда
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23. Когда ученик плохо учится, это потому, что учитель не очень хорошо относится к этому ученику?

никогда	редко	часто	всегда
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24. Если ученики делают много ошибок, то трудно объяснить, почему это происходит?

никогда	редко	часто	всегда
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25. Если я хочу хорошо учиться, то у меня это получается.

никогда	редко	часто	всегда
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26. Если нужно выполнить трудное задание, то мне обычно не везет.

никогда	редко	часто	всегда
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27. Мне часто кажется, что я недостаточно умный, чтобы правильно выполнять задания (например, по математике или в диктанте) независимо от того, насколько я стараюсь.

никогда	редко	часто	всегда
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28. Мне бывает трудно быть внимательным на уроке.

никогда	редко	часто	всегда
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29. Что касается учебы, я очень везучий.

никогда	редко	часто	всегда
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30. Если я решаю не делать ошибок (например, в диктанте), то у меня это хорошо получается.

никогда	редко	часто	всегда
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31. Когда мне это нужно я могу быть по-настоящему усердным в школе.

никогда	редко	часто	всегда
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32. Мне бывает трудно получить помощь учителя, даже если я в ней нуждаюсь.

никогда	редко	часто	всегда
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никогда	редко	часто	всегда
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33. У меня есть учитель, которые помогают мне, если в этого хочу.

34. Мне трудно добиться большой помощи от моих учителей, даже когда в ней нуждаюсь.

никогда	редко	часто	всегда
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35. Если задуматься об этом, то мне кажется, что мой учитель вполне довольны мной.

никогда	редко	часто	всегда
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36. Если я так решу, то я могу очень внимательно слушать моего учителя на уроке.

никогда	редко	часто	всегда
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37. Иногда я думаю, то я просто недостаточно умный, чтобы хорошо учиться в школе.

никогда	редко	часто	всегда
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38. Что касается учебы, то я довольно сообразительный.

никогда	редко	часто	всегда
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39. Я довольно невезучий в выполнении домашних заданий.

никогда	редко	часто	всегда
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40. Мне трудно быть по-настоящему старательным в школе.

никогда	редко	часто	всегда
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41. Когда ученики получают хорошие оценки в школе, то трудно узнать почему это так?

никогда	редко	часто	всегда
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42. Если ученики быстро схватывают новое на уроке, то это потому, что они просто очень хорошие ученики?

никогда	редко	часто	всегда
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43. Когда ученик хорошо учится, то это потому, что у него хорошие отношения с учителем?

никогда	редко	часто	всегда
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44. Когда ученики не понимают чего-то на уроке, то это потому, что они просто плохие ученики?

никогда	редко	часто	всегда
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45. Когда ученики очень хорошо учатся по какому-то предмету, то это благодаря учителю?

никогда	редко	часто	всегда
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46. Когда ученик плохо выполняет домашнее задание, то это потому, то ему не повезло?

никогда	редко	часто	всегда
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47. Когда учитель вызывает ученика, и ученик знает ответ, то как ты думаешь, это потому, что ученику повезло?

никогда	редко	часто	всегда
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48. Представь, что ученик великолепно выполнил контрольную работу. Трудно объяснить, почему так получилось?

никогда	редко	часто	всегда
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49. Получать хорошие оценки - это зависит от везения?

никогда	редко	часто	всегда
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50. Учитель задает ученику вопрос, и ученик неправильно на него отвечает. Это потому, что ученик недостаточно старательный?

никогда	редко	часто	всегда
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51. Если ученикам трудно выучить какое-то задание, то это потому, что им не везет?

никогда	редко	часто	всегда
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52. Когда ученики не очень много узнают на уроке, это потому, что они недостаточно усердно занимаются на уроке?

никогда	редко	часто	всегда
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53. Когда ученик хорошо выполняет школьные задания, это потому, что ученик делает это очень прилежно.

никогда	редко	часто	всегда
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54. Ученик неправильно отвечает на вопрос учителя. Это потому, что ученик просто недостаточно сообразительный?

никогда	редко	часто	всегда
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55. Когда ученики неправильно отвечают на вопросы учителя, то трудно определить, почему это происходит?

никогда	редко	часто	всегда
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56. Ученику удастся выучивать трудные задания в школе. Это потому, что ученик умный?

никогда	редко	часто	всегда
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57. Когда ученики плохо учатся по какому-то предмету, то это обычно потому, что учителя просто не помогают им?

никогда	редко	часто	всегда
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58. Почему ученики понимают то, что говорят учителя на уроке? Потому, что ученики внимательны и хорошо слушают?

никогда	редко	часто	всегда
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58 а. Для меня очень много значит, что мои учителя думают обо мне.

никогда	редко	часто	всегда
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58 б. Мнение моих учителей для меня важнее всего.

никогда	редко	часто	всегда
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58 в. То, что говорят мои учителя правильно и справедливо.

никогда	редко	часто	всегда
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58 г. Я делаю то, что мне говорят учителя.

никогда	редко	часто	всегда
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58 д. Я следую советам моих учителей.

никогда	редко	часто	всегда
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58 е. Если учитель дает мне задание, я его выполняю.

никогда	редко	часто	всегда
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58 ж. Я лучше знаю, что делать, чем мои учителя.

никогда	редко	часто	всегда
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58 з. Мне нравится ходить в школу.

никогда	редко	часто	всегда
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58 и. В целом, у меня хорошее отношение к школе.

никогда	редко	часто	всегда
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58 к. По-моему, многое в школе должно быть по-другому.

никогда	редко	часто	всегда
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58 л. Во время уроков мне бывает не по себе.

никогда	редко	часто	всегда
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58 м. Я доволен своей жизнью.

никогда	редко	часто	всегда
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58 н. Моя жизнь меня устраивает.

никогда	редко	часто	всегда
---------	-------	-------	--------

58 о. Я бы хотел, чтобы в моей жизни многое было по-другому.

никогда	редко	часто	всегда
---------	-------	-------	--------

58 п. Моя жизнь безрадостная.

никогда	редко	часто	всегда
---------	-------	-------	--------

*Appendix F:*

*Presentation Version of the CAMI: Japanese Language edition.*

The Japanese version of the CAMI was translated by the Performance Belief Project members, Takahiro Miyashita, Mayumi Karasawa, and Mari Mashima, and directed by Hiroshi Azuma, Department of Child Study, Shirayuri College. This presentation version is reproduced here with their kind permission.

# CAMI

(日本版)

学校名：

年 組 番

男子/女子 (どちらかに○をつけてください。)

名前：

生年月日： 昭和 年 月 日

## 【注意事項】

皆さんのような中学生の考えについて調べるために、これから質問をいたします。  
ときどき、似たような文章がありますが、気にしないで答えてください。

あなたの答えは、先生も家族の人も誰も読みません。これは、テストではありませんから  
どう答えても間違いということはないのです。

皆さんがどう思うかを答えてほしいのです。

例にならって、当てはまると思うものに丸(○)をひとつだけつけてください。

### [例]

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

1 私は、朝、はみがきをする。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

2 私は、夜、テレビを見る。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

1 私はよく集中して授業を受けることができる。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

2 すごく一生懸命にならなくても、学校でやることをすぐに学ぶことができる。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

3 先生たちは、私のことを嫌っていると思う。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

4 私は授業中、先生の言うことを集中して聞くことは難しい。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

5 悪い成績を取りそうだと思ってもどうしようもない。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

6 難しい問題がでる時、私にあたってしまうのは運が悪いからだ。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

7 私は学校で勉強がダメだと思う。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

8 私はいい成績を取る時は、たいてい運が良い。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

9 テストでは私は運がよいと思う。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

10 私は悪い点を取らないと決めたら、本当に悪い点を取らないことができる。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

11 一生懸命しなくても、学校でわりと良くできる。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

12 私はいくら努力しても、数学のテストなどで正解を出すことができないと思う。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

13 勉強しようと思えば、私はそうすることができる。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

14 私はだいたいの先生に好かれている。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

15 あることがらについてとても良く知っている生徒がいたとしたら、それはそのことについて一生懸命勉強したからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

16 悪い成績を取った生徒がいたとしたら、それは先生がその生徒を好きではないからだと思う。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

17 生徒たちが授業中、質問に正しく答えられるのは、その生徒たちがよくできるからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

18 生徒が授業で何かわからないとしたら、それはその生徒がちゃんと注意して聞いていないからだと思う。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

19 生徒たちが悪い成績を取るのは、勉強ができないからだと思う。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ



20 良い成績を取った生徒がいたとしたら、それはその生徒が先生と仲が良いからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

21 漢字の書取りなどで、生徒がたくさん間違えてしまった時、それがなぜだかわからない。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

22 生徒たちが悪い成績を取るのは運が悪いからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

23 生徒たちがなにかの教科でふだんより成績がよかった時、それがなぜだかわからない。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

24 学校で良い成績を取るのは運が良いからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

25 生徒が学校でできないのは、それは先生がその生徒のことをあまり好きではないからだ  
と思う。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

26 生徒が学校でひどい点を取った時、それがなぜだかわからない。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

27 私は学校で良い成績を取ろうと思えば、良い成績を取ることができる。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

28 何か難しいことを勉強しようとするときに限って、たいてい私は運が悪い。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

29 私はいくら勉強しても数学のテストや書き取りなどでいい点が取れるほど頭がよくないと  
しばしば思う。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

30 私は授業中、注意を集中するのが難しい。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

31 学校の勉強についていえば、私はとても運がよい。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

32 悪い成績を取りそうだとわかっているけど、どうしても悪い成績を取ってしまう。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

33 私は漢字の書き取りなどで間違えないと決めたら、間違えないようにすることができる。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

34 勉強をすると決めたら、私は学校ですごくがんばることができる。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

35 私は先生に教えてもらいたいことがあっても、なかなかそうしてもらえない。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

36 先生に何か聞きたい時、いつでもだれか答えてくれる先生が私にはいる。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

37 私が先生にとっても教えてもらいたい時でも、相手になってもらうことは難しい。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

38 担任の先生は私のことをよくがんばっていると思っているようだ。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

39 その気になれば先生の言うことをとても注意して聞くことができる。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

40 どんなに努力をしても私の取れる点は決まっている。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

41 学校で良い成績が取れるほど頭が良くないのではないかと思うことがある。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

42 学校の勉強で、私はかなりよくできる。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

43 私はテストでは、わりと運が悪い。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

44 学校で十分に努力することはどうしても難しい。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

45 ある生徒たちが学校で良い点を取る時、それがなぜだかわからない。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

46 生徒が物事を速くわかるのは、たんに勉強がよくできるからだ。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

47 生徒が学校で良くできるのは、先生と仲が良いからだ。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

48 生徒が何かをわからないのは、たんに勉強ができないからだと思う。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

49 生徒が、勉強がとてよくできたとしたら、それは先生のおかげだ。

ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

50 テストが悪かったのは、その生徒の運が悪かったからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

51 先生に質問されてその生徒が答えられたのは、運が良かったからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

52 生徒がテストですごく良くできた時、それがなぜだかわからない。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

53 良い成績が取れるのは運のおかげだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

54 先生が生徒に質問をしたら、その生徒が間違えました。それはその生徒が一生懸命答えようとしなかったからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

55 何かをなかなか勉強できない生徒がいたら、それは運が悪いからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

56 生徒が、授業中、よく勉強できないのは、一生懸命しないからだと思う。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

57 生徒が学校で良い成績を取ったのは、その生徒が集中して勉強したからだ。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

58 生徒が先生の質問に間違えたのは、その生徒がよくできないからだと思う。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

59 先生の質問に生徒が間違えて答えた時、それがなぜだかわからない。

ぜったいちがう      だいたいちがう      ときどきそうだ      いつもそうだ

- 60 生徒が学校で難しいことでも学習できるのは、その生徒がよくできるからだ。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 61 生徒が悪い成績だったのは、先生がよく教えなかったからだと思う。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 62 生徒がよく理解できるのは、先生の言うことを注意してきちんと聞いているからだ。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 63 先生が私をどう思っているかは、私にとって重要な問題だと思う。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 64 先生の意見は私にとって最も重要であると思う。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 65 先生が言うことは、いつも間違いがないと思う。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 66 私は先生の言うとおりにする。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 67 私は先生のすすめや意見に従う。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 68 私が先生に何かをやるように言われたらそのようにする。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 69 私は先生よりよく知っていると思う。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと
- 70 私は学校へ行くのが好きだ。  
ぜったいちがう      だいたいちがう      ときどきそうだと      いつもそうだと

*Appendix G: Sample LISREL code for the MACS models*

```
:Example of Structure of CAMI analyses 2 Groups -> E90
Data___: NI=62 NO=313 NG=2 MA=CM
CMatrix: FI=E90ALLK.MOM REWIND
Labels_: FI=E90ALLK.LAB REWIND
Select_:
  1 60 61 62 6 7 8 13 17 21 22 23 24
      26 27 28 30 31 32 34 35 36 38 39 40 42 43 44 /
Model: NY=28 NE=20 LY=FU,FI BE=FU,FI PS=SY,FI TE=DI,FR
```

```
PA LY
(4X, 20I2)4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0
1. 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2. 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
3. 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
4. 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
5. 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
6. 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
7. 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
8. 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
9. 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
10. 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
11. 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
12. 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
13. 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
14. 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
15. 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
16. 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
17. 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
18. 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
19. 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
20. 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
21. 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
22. 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
23. 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
24. 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
25. 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
26. 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
27. 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
28. 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
```

```
PA PS
0
0 0
0 1 0
0 1 1 0
0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

VA 1.0 PS(1,1)  
 VA 1.0 PS(2,2) PS(3,3) PS(4,4)  
 VA 0 PS(5,5) PS(6,6) PS(7,7) PS(8,8) PS(9,9) PS(10,10)  
 PS(11,11)  
 VA 0 PS(12,12)  
 VA 1.0 PS(13,13) PS(14,14)  
 VA 1.0 ps(15,15) PS(16,16) PS(17,17) PS(18,18) PS(19,19) PS(20,20)

FR BE(13,2) BE(13,3) BE(13,4)  
 FR BE(14,2) BE(14,3) BE(14,4)  
 FR BE(15,2) BE(15,3) BE(15,4)  
 FR BE(16,2) BE(16,3) BE(16,4)  
 FR BE(17,2) BE(17,3) BE(17,4)  
 FR BE(18,2) BE(18,3) BE(18,4)  
 FR BE(19,2) BE(19,3) BE(19,4)  
 FR BE(20,2) BE(20,3) BE(20,4)

FI BE(5,13) BE(6,14) BE(7,15) BE(8,16) BE(9,17) BE(10,18) BE(11,19)  
 FI BE(12,20)  
 VA 1.0 BE(5,13) BE(6,14) BE(7,15) BE(8,16) BE(9,17) BE(10,18) BE(11,19)  
 VA 1.0 BE(12,20)

FI TE(1,1) TE(2,2) TE(3,3) TE(4,4)  
 ST 0.0 TE(1,1) TE(2,2) TE(3,3) TE(4,4)

MA LY FI=MOD1F8.LY  
 MA BE FI=MOD1F8.BE  
 MA PS FI=MOD1F8.PS  
 MA TE FI=MOD1F8.TE

LEats\_:

MEAN GENDR GRADE GRADE2  
 1\_cnPOS 1\_agEAL 1\_agTEA 1\_meEFF 1\_meABL 1\_meLUC 1\_meTEA 1\_meUNK  
 2\_cnPOS 2\_agEAL 2\_agTEA 2\_meEFF 2\_meABL 2\_meLUC 2\_meTEA 2\_meUNK

OU: se tv rs so ad=off wp LY=MOD2F8.LY BE=MOD2F8.BE PS=MOD2F8.PS  
 TE=MOD2F8.TE

:Example of Structure of CAMI analyses 2 Groups -> W91

Data\_: NO=517

CMatrix: FI=W91ALLK.MOM REWIND

Labels\_: FI=W91ALLK.LAB REWIND

Select\_:

1 60 61 62 6 7 8 13 17 21 22 23 24  
 26 27 28 30 31 32 34 35 36 38 39 40 42 43 44 /

Model: LY=IN BE=PS PS=PS TE=PS

FR PS(1,1) PS(2,2) PS(3,3) PS(4,4)

FR BE(5,13) BE(6,14) BE(7,15) BE(8,16) BE(9,17) BE(10,18) BE(11,19)  
 FR BE(12,20)

FR BE(2,1) BE(3,1) BE(4,1) BE(5,1) BE(6,1) BE(7,1) BE(8,1) BE(9,1)  
 FR BE(10,1) BE(11,1) BE(12,1)  
 ST 0.2 BE(2,1) BE(3,1) BE(4,1) BE(5,1) BE(6,1) BE(7,1) BE(8,1) BE(9,1)  
 ST 0.2 BE(10,1) BE(11,1) BE(12,1)

LEats\_:

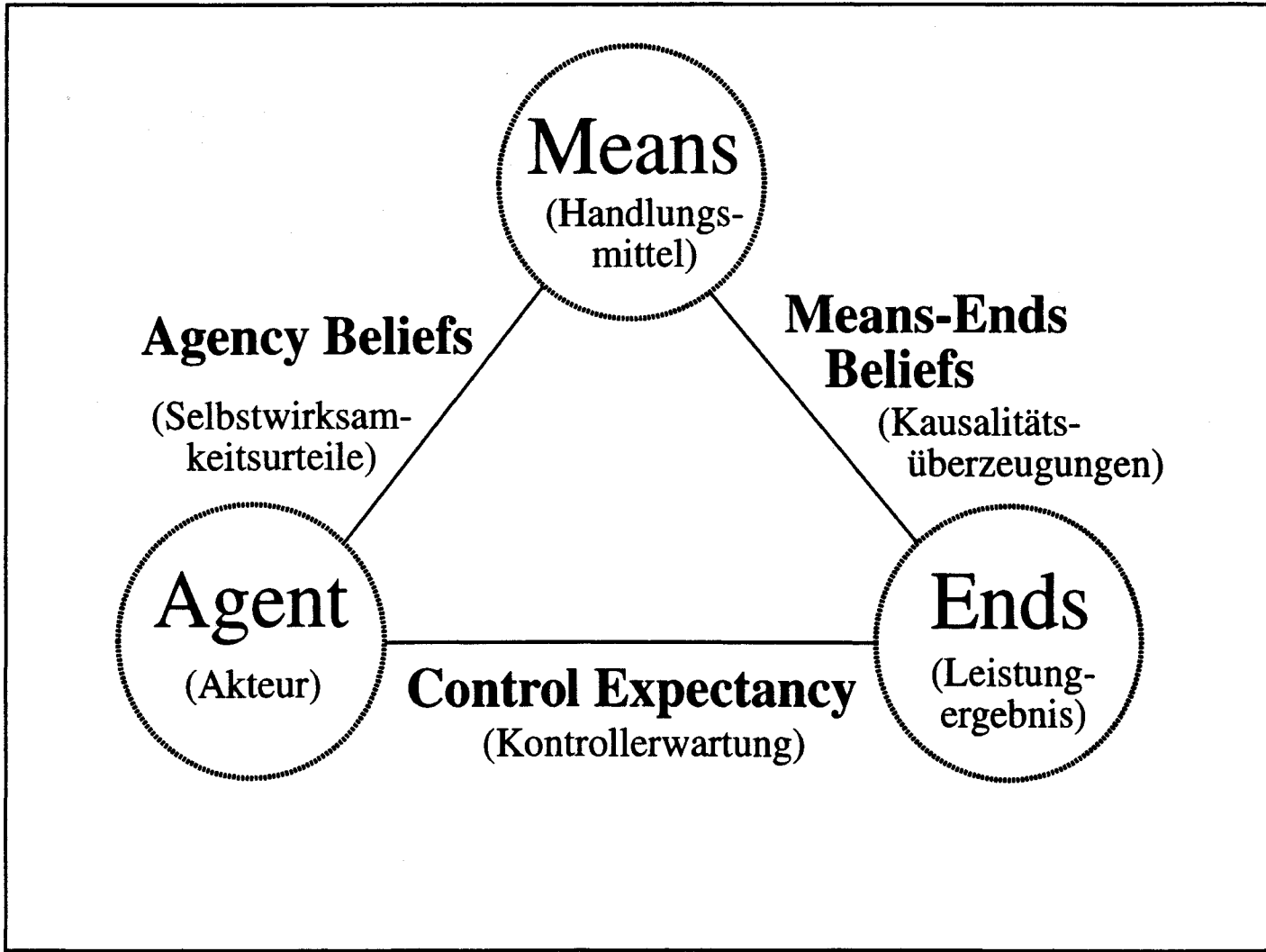
MEAN GENDR GRADE GRADE2  
 1\_cnPOS 1\_agEAL 1\_agTEA 1\_meEFF 1\_meABL 1\_meLUC 1\_meTEA 1\_meUNK  
 2\_cnPOS 2\_agEAL 2\_agTEA 2\_meEFF 2\_meABL 2\_meLUC 2\_meTEA 2\_meUNK

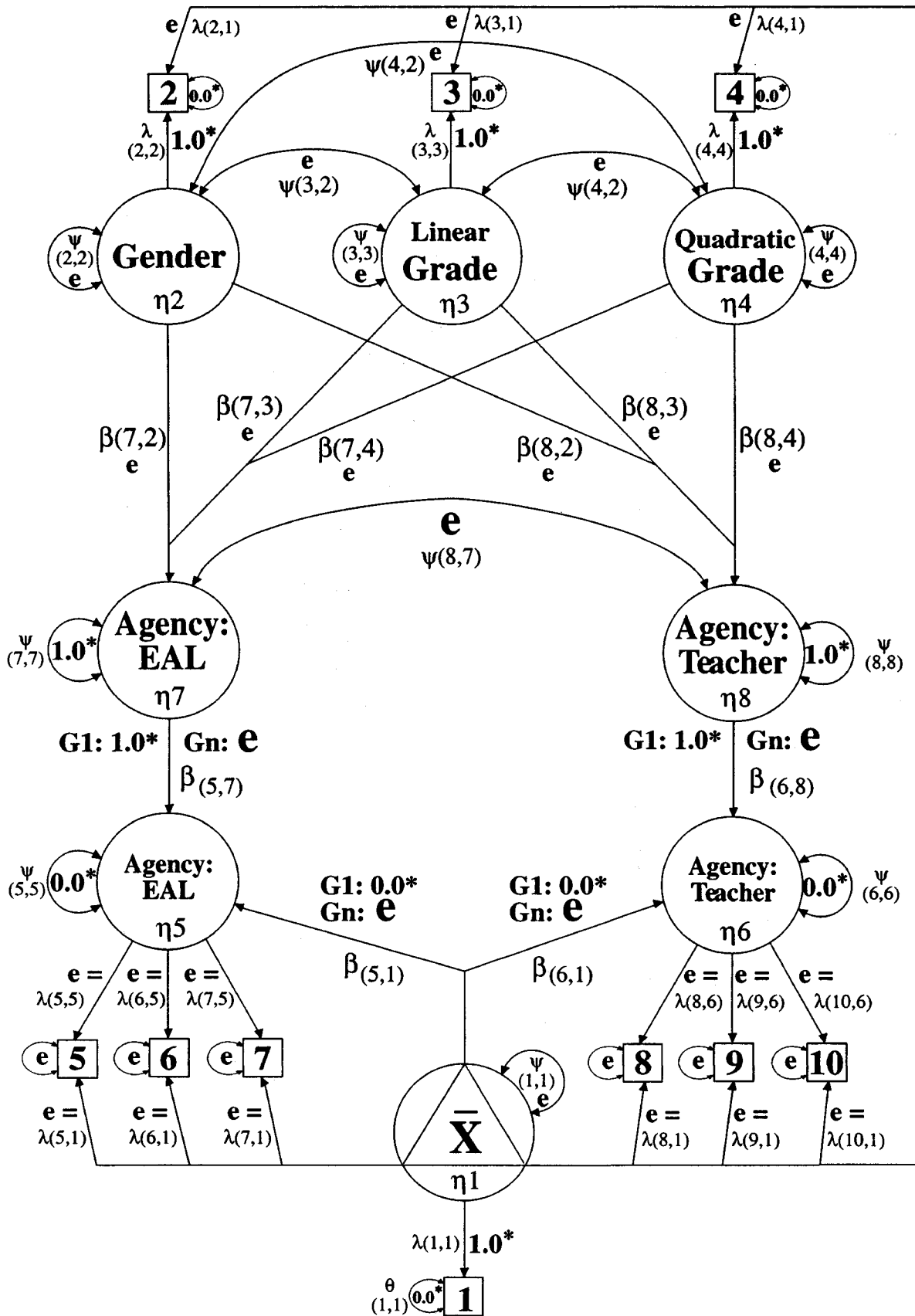
OU:

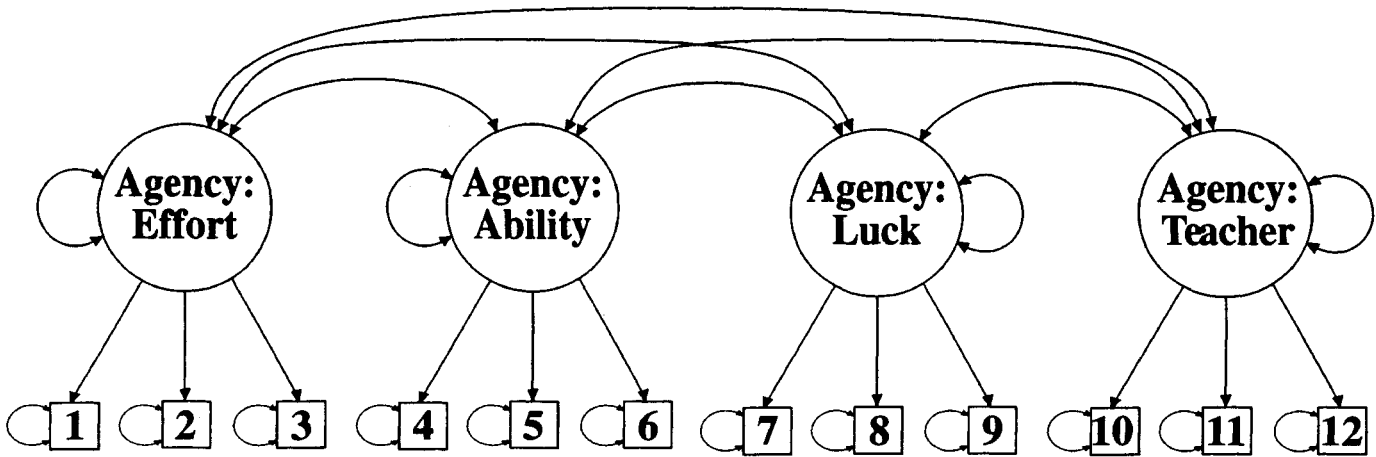
*Appendix H:**Figures 1, 2 and 3*

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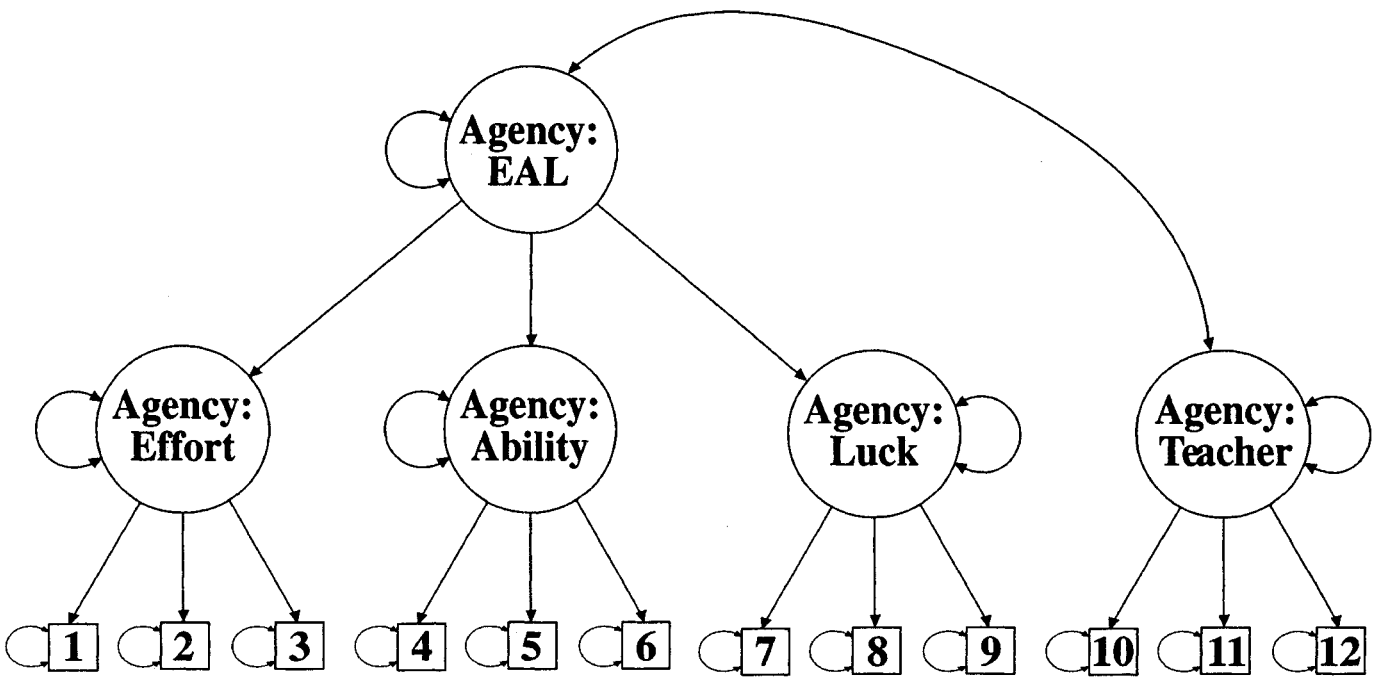




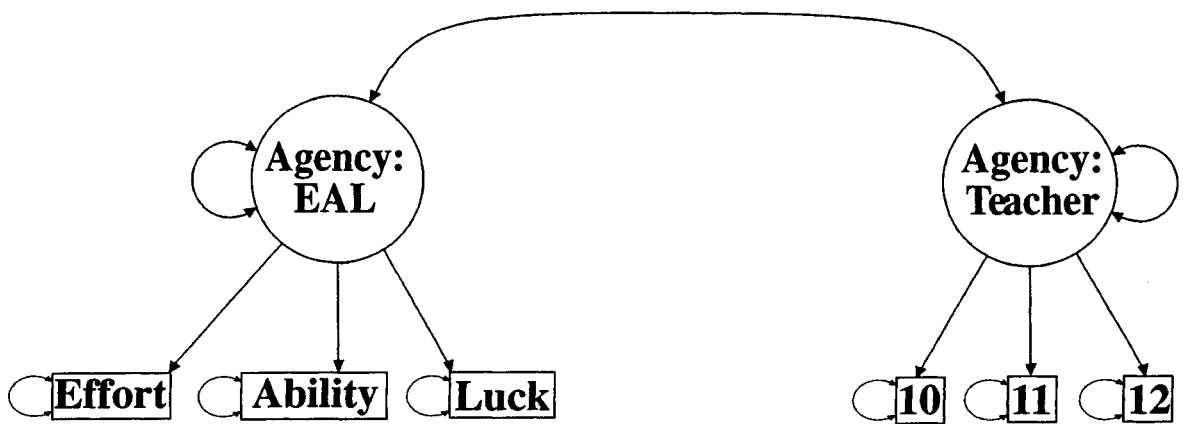




Panel A



Panel B



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