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Chapter 3

MEASURING STUDENTS' APPRAISALS OF THE RELEVANCE OF HISTORY: THE CONSTRUCTION AND VALIDATION OF THE RELEVANCE OF HISTORY MEASUREMENT SCALE (RHMS)²

This study explores the psychometric qualities of the Relevance of History Measurement Scale (RHMS), a questionnaire designed to measure students' beliefs about the relevance of history. Participants were 1459 Dutch secondary school students aged between 12 and 18. Data analysis revealed three reliable factors, compliant with our theoretical framework which defines three strands of relevance of history: relevance for building a personal identity, for citizenship, and for insight into the 'human condition'. The convergent and known-groups validity of the RHMS was demonstrated. The collected data show that students find history more relevant as they grow older, with most progress taking place between 14 and 16. Out of the three strands of relevance, building a personal identity scores lowest in students' appraisals. This study shows that the RHMS is psychometrically sound and can be used to evaluate effects of lesson interventions directed at enhancing the relevance of history to students.

3.1 Introduction

In documents describing standards for history teaching in Western countries, connecting the past to the present and the future is frequently being regarded as a means to prepare students for their future role as citizens in society (ACARA, 2018; DFE, 2013; NCHS, 1996; SLO, 2016; Seixas & Morton, 2013; VGD, 2006). As a rule, history's contributions to citizenship are expressed in terms of general goals of history teaching expounded in the preambles of these curriculum documents. In most of the more specific content descriptions, however, systematic elaborations of meaningful links between the past, the present and the future are largely absent. Content standards focus almost entirely on understanding the past and learning historical thinking skills as aims in themselves. This is reinforced by high-stakes tests emphasizing the acquisition of factual knowledge described in the standards (Saye & SSIRC, 2013; Stern, 2010). There is, therefore, a

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discrepancy between general goals explicating the value of history beyond school and specific learning objectives focusing on ‘value-within-content’ (i.e. the value of certain content knowledge in view of mastering more content knowledge) (Francis, 2014). Apparently, developers of history curricula assume that studying the past yields insights into the present and the future as a matter of course, and they take knowledge transfer beyond school for granted without any explicit learning activities directed at achieving this aim.

Research suggests that such expectations may not be justified. According to Haeberli (2005), students may develop either an ‘intimate’ or an ‘external’ relationship with history. Students of the ‘intimate’ type enjoy history and consider it useful in view of their understanding of the world and of their own lives, while students of the ‘external’ type have a much more negative attitude and hardly see the benefits of studying the past. The latter type is probably much more numerous among secondary school students than the first, as indeed appeared to be the case in Haeberli’s (2005) study. Research has shown that 14-year-old students in countries like Germany, Denmark and the Netherlands tend to think that history is ‘dead and gone and has nothing to do with my present life’ (Angvik & Von Borries, 1997, p. B26). Dutch secondary students find history significantly less useful than English language, economics and mathematics (Wilschut, 2013). Several studies indicate that students in England and North America have limited views on the purposes and benefits of history and struggle to explain the point of studying the past (Barton & Levstik, 2011; Biddulph & Adey, 2003; Foster, Ashby, & Lee, 2008; Harris & Reynolds, 2014; Haydn & Harris, 2010; VanSledright, 1997; Zhao & Hoge, 2005). All of this implies that there are ample reasons for an active attitude among teachers to promote the relevance of history by means of linking the past to the present and the future.

In earlier work pedagogical approaches were devised for teaching history in ways which may be expected to improve students’ appraisals of the relevance of history in terms of building a personal identity, becoming a citizen and understanding the human condition (Van Straaten, Wilschut, & Oostdam, 2016). The extent to which such approaches are effective can only be determined by means of valid and reliable measurement tools. To date, appropriate tools for measuring students’ views with regard to the three relevance domains mentioned above are not available. Extant measures are

designed to gauge students' personal affiliation with historical subject matter (e.g. Grever, Pelzer, & Haydn, 2011; Harris & Reynolds, 2014); students' epistemological beliefs about history (e.g. Maggioni, VanSledright, & Alexander, 2009; Stoel, Logtenberg, Wansink, Huijgen, Van Boxtel, & Van Drie, 2017); relationships between students' self-identity and history teaching (e.g. Andrews, McGlynn, & Mycock, 2009); or students' experiences with school history (e.g. Angvik & Von Borries, 1998; Biddulph & Adey, 2003). Some of these measures do question students why history matters, but always in a very general way (i.e. not specified to the three relevance domains as defined in this study).

In the absence of appropriate measurement tools for assessing students' attitudes towards the relevance of history, we developed the Relevance of History Measurement Scale (RHMS). The development process and the psychometric qualities of the RHMS are reported in this study. First, we formulate a theoretically underpinned definition of the concept of 'relevance of history' and describe its operationalization in the design of the RHMS. Second, we examine the reliability and the validity of the RHMS, using data collected from a sample of 1459 Dutch secondary schools students between the ages of 12 and 18. Third, we discuss results of RHMS measurements among our sample group and possible uses of the RHMS for practitioners and researchers.

3.2 Relevance of history

The relevance of history has been defined as 'allowing students to recognize and experience what history has to do with themselves, with today's society and their general understanding of human existence' (Wilschut, Van Straaten, & Van Riessen, 2013, p. 36). This description stemmed from three types of theoretical sources: (1) educational philosophy on meaningful education, (2) constructivist educational theory on meaningful learning, and (3) historical philosophy on historical consciousness and historical thinking in relation to the temporal dimension of human existence.

3.2.1 Educational philosophy

The first category of literature yields overall goals for meaningful education, including history education (e.g. Biesta, 2010; Pring, 2005; Winch, 2006). Three main functions

of education are commonly distinguished: qualification, socialization and subjectification.

Qualification entails that education should prepare students to accomplish something later on in their lives (e.g. exercising a profession or participating in political life). History can play a role in qualifying students, because it may enhance their political literacy, for example by means of studying the origins of political ideas or by means of acquiring the requisite vocabulary for understanding political phenomena and processes; mastering historical thinking skills may also enhance students' ability to develop and substantiate opinions with fact-based arguments and qualify them to participate in political and social discourses (Barton & Levstik, 2004; Davies, 2000; Jordanova, 2006).

Socialization implies that students are initiated into societal structures whose traditions, rules, values and norms they have to become familiar with in order to function as citizens. History obviously has an eminently socializing effect. It provides narratives for nation-building and collective-memories approaches which can be powerful tools for cultural acclimation of young people, in particular the younger generations of newcomers (VanSledright, 2008; Wertsch, 2002). It teaches students where institutions, traditions and dominant ways of thinking originate from and why it may be worthwhile to uphold or rather to contest them. Students learn how society has developed historically, how to grasp processes of change and continuity in past and present societies, how society operates and what is needed for successful civic participation and action (Gies, 2004; Stearns, 2000; Stricker, 1992). History sheds light on the origins and development of human culture over long spans of time. Historiography implies reproducing 'culture' which is thus transferred to future generations. The activities of critically analyzing primary sources and shaping plausible images of the past also socialize students into the rules and standards that apply in the academic world (Wineburg, 1991).

Subjectification means that students develop their own identities based on values, ideals and beliefs which make them unique persons vis-à-vis the communities to which they belong (family, ethnic group, religious community, etc.). Learning about the history of these and other communities enables students to reflect on the traditions, customs and beliefs that have shaped their personality, or to which they might wish to oppose. Students also have personal experiences, which are usually remembered as an ongoing story shaping a person into an individual. Temporal continuity 'identifies' a person:

without a past, without memorized experiences, developing a personal identity is inconceivable (Ishige, 2005). Finally, through the study of history students encounter all sorts of people with whom they have to ‘communicate’ in order to make sense of the past; studying the lives of others may result in a better understanding of oneself (Southgate, 2013; Wineburg, 2010).

3.2.2 Constructivist learning theory

Constructivist learning theory dissuades rote learning and focuses on active construction of knowledge and knowledge transfer to extracurricular contexts (Narayan, Rodriguez, Araujo, Shaqlaih, & Moss, 2013). Meaningful learning is nurtured if students are emotionally engaged and relate new information to prior knowledge, personal needs, interests and goals (Novak, 2002). Linking subject matter to students’ needs increases its relevance and may also positively influence students’ motivation (Frymier & Shulman, 1995; Muddiman & Frymier, 2009; Pintrich, 2003). ‘Authentic pedagogy’ propagates inquiry-based instruction on disciplinary ideas and emphasizes learning outcomes beyond successful performing in school (Newmann et al., 1996; Saye and SSIRC, 2013). Inquiry-based instruction may also meet one of the ‘basic needs in education’ related to motivation, viz. the need for autonomy to decide on learning objectives and learning activities (Ryan & Deci, 2000).

These constructivist learning principles are consistent with empirical research in the field of history education. For example, organizing the history curriculum around inquiry into enduring societal issues promotes student engagement and creates more opportunities for meaning making than a curriculum mainly focusing on learning facts and dates (Barton & Levstik, 2011; Saye and SSIRC, 2013). History becomes meaningful to students if the past is connected to the present and if students feel emotionally involved, for instance by examples of inhumane or heroic behavior of people in the past (Barton, 2008). Real life issues may lead to effective construction of new knowledge if incidents and events in history are interpreted in the context of general conceptual frameworks, which facilitate relating new to already existing knowledge (Jadallah, 2000).

3.2.3 Historical philosophy

Historical philosophy on historical consciousness and historical thinking in relation to the temporal dimension of human existence emphasizes that history is about mankind in other times: very different from today, but also similar because people have always shared fundamental aspects of being human. Collingwood's (1973) philosophy of history is principally based on the idea that time gaps can be overcome by 're-thinking' thoughts of historical agents, which is only possible because people in past and present share the essences of being human.

Dressel (1996) distinguishes eleven basic human experiences: space and time, religion, family, food, dealing with nature, the human body, sexuality, labor, conflicts, gender and encounters with strangers. The tension between the familiar and the unfamiliar in issues such as these defines one of the essential functions of the study of history. 'The strangeness of the past offers the possibility of surprise and amazement, of encountering people, places, and times that spur us to reconsider how we see ourselves as human beings' (Wineburg, 2010, p. 83). Another fundamental aspect of history is the awareness of existing in time: people need to relate to a past and a future, because, endowed with memories and expectations, they cannot think otherwise than in terms of past, present and future (Friedman, 2005; Kahneman, 2011; Karlsson, 2011; Rösen, 2004). The past permeates the present in the form of various narratives to which people must learn to relate. According to Rösen (2005), relationships with these narratives exist in different modes, such as taking the past as an example to follow literally, or dealing with the past critically by seeing the present in contrast with the past. The most developed of Rösen's (2005) modes is, what he calls, 'genetic historical consciousness', implying that one is fully aware of the fact that the past is always viewed from a contemporary perspective and that processes of change are inherent in human existence, including one's own variability over time.

3.2.4 Three objectives of relevant history teaching

The three theoretical sources offer various angles to approaching the concept of relevance of history. What they have in common is the importance of constructing and using narratives that may create meaning in societal and educational contexts. Historical philosophy shows how people construct narratives that can give meaning to human

existence, educational philosophy shows how these narratives are to be connected to the development of personal and societal identities, and constructivist learning theory shows how meaningful knowledge can originate from personal experiences, real life issues and focusing on generic concepts rather than specific facts and dates. Based on these insights, three objectives of relevant history teaching were distinguished (Van Straaten, Wilschut, & Oostdam, 2016):

- Building a personal identity: seeing oneself as an individual with a personal past and developing one's own values, opinions and ideals vis-à-vis those of the historically shaped communities to which one belongs (subjectification).
- Becoming a citizen: understanding the origins of social institutions, traditions, values and norms and enhancing political literacy in order to function as a citizen in society (qualification and socialization).
- Understanding the human condition: becoming aware of one's own historicity and supplementing one's experiences with past approaches to human issues.

3.3 Developing the Relevance of History Measurement Scale (RHMS)

Referring to the objectives described above, we conceived an instrument for measuring students' appraisals of the relevance of history. The design of the instrument was based on generally accepted insights in the field of opinion research (Hinkin, 1998; Nemoto & Beglar, 2014) and executed in accordance with a methodology used for the School Subject Experience Scale (SSES) developed in the Netherlands (Martinot, Kuhlemeier, & Feenstra, 1988; Otten & Boekaerts, 1990). The SSES measures four aspects of school subject experience: practical use, enjoyment, difficulty and interest. Each of these aspects is measured by eight items, out of which four are positively formulated and four negatively. None of the aspects measures relevance of a school subject in the way we defined it for history. 'Practical use' is understood as the importance of a school subject for later life, for example for getting a job or practicing a profession, and the extent to which students experience a school subject as enjoyable, difficult or interesting are not related to relevance as we defined it either. The four SSES-parameters have been used to find out how students experience a school subject. The SSES was not specifically designed for history, but it has been used for a range of school subjects, one of which was history. The RHMS, on the other hand, was exclusively designed for history and

investigates whether students derive any meanings from studying the past in terms of learning about themselves, society and humanity. Examples of SSES-items are: ‘I think there are only a few professions for which [school subject x] may be useful’ (practical use); ‘without [school subject x] school would be much more fun’ (enjoyment); ‘I’m pretty good in [school subject x]’ (difficulty); ‘our [school subject x] lessons are often fascinating and interesting’ (interest). Examples of RHMS-items are (see also Tables 3.1 and 3.4): ‘history helps me to get to know myself better’; ‘you can’t use history to predict the future ’; ‘history makes me understand the news better’. All of this shows that the RHMS differs from the SSES both in nature and purpose.

The first draft of the RHMS consisted of 32 items that were set to a four-point Likert-type scale ranging from ‘strongly disagree’ to ‘strongly agree’. We decided to use a scale with an even number of points, without a ‘neutral’ category. Research indicates that a neutral response is given in three cases: either (1) the respondent is deliberately neutral, or (2) the respondent does not take trouble to define his/her position, or (3) the respondent does not have adequate knowledge about the subject on which to base an answer; the first of these is the least frequent. Because lack of knowledge cannot play any role in view of the fact that the RHMS collects subjective data, and because not bothering to make a choice had to be avoided, no neutral response option was included in the instrument (Fowler, 2014; Sturgis, Roberts, & Smith, 2014).

The 32 items of the RHMS corresponded to the three objectives of relevant history teaching presented above: eight items referring to ‘building a personal identity’, eight referring to ‘understanding the human condition’ and sixteen to ‘becoming a citizen’ (see Table 3.1). More items were assigned to ‘becoming a citizen’ because – driven by the need for measurable constructs – two aspects of this objective were distinguished that cover a part of the broader concept of citizenship and are probably indicative of the objective: (1) explaining present-day events, developments and phenomena by means of history, and (2) forming opinions and substantiating judgments about current affairs by means of history. Following the SSES example, eight items were formulated for each aspect, of which half were positively and half negatively formulated to avoid response tendency and thus enhance measurement reliability (Spector, 1992). Items took the form of statements relating to one relevance aspect only, formulated as briefly as possible and in a language that would fit students from grade 7 to grade 12. To this end, nine students

(13- to 17-year-olds, 5 males, 4 females) were interviewed in triads to figure out what language they used when talking about the relevance of history. The 32 statements were reviewed by secondary school history teachers ($N = 14$; 7 males, 7 females) on issues of comprehensibility and validity. Fourteen students (13- to 15-year-olds, 7 males, 7 females) were asked to read the statements aloud and score them. We assumed that if the statements would be clear to students of these ages, older students would not encounter problems with the questionnaire either. Finally, the first draft of the RHMS was piloted among a sample of secondary school students ($N = 135$) to determine whether the items and instructions were clear to students and to explore the reliability of the instrument.

Table 3.1 Objectives for teaching the relevance of history and initial numbers of RHMS-items corresponding with these objectives.

Relevance Objective	Description	Number of items	Item example
Building a personal identity (IDE)	Seeing oneself as an individual with a personal past and developing one's own values, opinions and ideals vis-à-vis those of the historically shaped communities to which one belongs	8	History has no bearing on what happens to me in my life (24)
Becoming a citizen (CIT)	Explaining present-day events, developments and phenomena by means of history	8	I can't really use history to understand what is going on in the world (23)
	Forming opinions and substantiating judgments about current affairs by means of history	8	History enables me to develop personal opinions about things (08)
Under-standing the human condition (HUM)	Becoming aware of one's own historicity and supplementing one's experiences with past approaches to human issues	8	History enables us to imagine what the world might look like later on (04)

As a consequence of these activities, alterations and adaptations of items took place, resulting in the final questionnaire that was subjected to this validation study. For example, for reasons of ambiguity of wording, the statement 'I don't think history is important for the present, because it all has already happened' was replaced by 'I can't

really use history to understand what is going on in the world'. An additional adjustment was the replacement of the four-point Likert scale by a six-point scale because piloting the instrument showed that, in spite of the instruction to mark only one answer, students frequently put their marks between two scale-points, which made their answers invalid. Using a six-point scale enables students to exercise more discriminatory precision in rating the items and also counteracts aversion to filling out the questionnaire (Fowler, 2014).

3.4 Method

3.4.1 Educational context

Pivotal to the Dutch history curriculum for secondary education is a frame of reference knowledge organized around ten eras, beginning with the 'era of hunters and farmers' and ending with the 'era of television and computer' (Wilschut, 2009, 2015). Each era has its characteristic features, such as 'feudalism' for the 'era of monks and knights' (early Middle Ages), or 'industrial revolution' for the 'era of citizens and steam engines' (19th century). This knowledge frame is designed to enable students to orientate in time and space (i.e. to contextualize specific historical events, phenomena, persons or developments, even those which are completely new to them). Aspects of historical thinking, such as causation, empathy or change and continuity, are also part of the history curriculum. Encompassing overview knowledge and historical thinking skills, history teaching in secondary education aims at fostering historical consciousness among students. In the context of this study it is important to note that 'the use of history' – a substantive component of the Norwegian and Swedish curriculum (Nordgren, 2016) – does not appear in the Dutch curriculum. This means that students who participated in this study were not familiar with the relevance categories underlying the constructs of the RHMS.

3.4.2 Sample and procedure

Participants were 1459 students from 29 secondary schools located in nine out of the twelve provinces of the Netherlands (see Table 3.2). Dutch secondary education has three tracks: lower secondary pre-vocational education (VMBO, 4 years), middle level general secondary education (HAVO, 5 years) and pre-university secondary education (VWO, 6 years). The research sample included students in the middle level track ($n = 852$; 58%) and in the pre-university track ($n = 607$; 42%). Nationwide, out of the total number of students in these two tracks in 2016, 56% took middle level secondary and 44% pre-university secondary education (Statline/CBS, 2016). Participants' ages ranged from 12 to 18 years, the mean age being 15.32 ($SD = 1.71$); 49% were males and 51% females, percentages corresponding to the male/female ratio in these two tracks nationwide in 2016 (Statline/CBS, 2016).

Table 3.2 Size and structure of the sample: educational levels, age, gender and total numbers.

Age	12	13	14	15	16	17	18	Total
Middle level secondary education female	20	59	58	105	87	75	27	431
Middle level secondary education male	34	70	63	86	75	62	31	421
Pre-university secondary education female	16	30	36	51	55	88	37	313
Pre-university secondary education male	16	28	29	43	63	74	41	294
Total	86	187	186	285	280	299	136	1459

Administration of the questionnaires took place from February to November 2016. Hard copies were sent to the participating history teachers who administered the RHMS to their students during class. The items were listed randomly and the students completed the questionnaire anonymously in as much time as needed. On average, filling out the questionnaire took 25 min. The teachers returned the forms to the researchers.

For reasons of validation, the eight items of the SSES 'practical use' subscale were added to the questionnaire on top of the 32 RHMS items. Data collected by means of this subscale were used to calibrate the RHMS. Furthermore, for calibration purposes, students were asked to rate how frequently they talked about history outside class (one item with a four-point Likert scale varying from 'never' to 'often'). We assumed positive

correlations between the outcomes of the SSES ‘practical use’ subscale, the variable on talking about history outside class, and students’ appraisals of the relevance of history.

3.4.3 Data analysis

Having ensured that the observations in the dataset were normally distributed, the interquartile range (IQR) was employed to identify outliers. Nine outliers were detected out of which seven were moderate (using the 2.2 multiplier) and two were extreme (using the 3.0 multiplier). Closer examination of the answering patterns of the moderate cases showed sufficient consistency and variability whereas those of the extreme ones did not. In the latter cases students consistently agreed or disagreed both on positively formulated items and their negatively formulated counterparts. The two outliers were removed from the dataset.

3.4.4 Construct validity

Several methods were employed to examine the construct validity of the RHMS-questionnaire. First, an expert panel consisting of teacher educators at the history department of the Amsterdam University of Applied Sciences ($N = 13$) assigned the 32 items to the relevance objectives of our theoretical framework. These experts participated voluntarily and made the assignment individually and anonymously by means of an online survey. They read brief descriptions of each of the relevance objectives and then classified the items appearing on their screens in a random order. The degree of agreement was calculated with the Fleiss’ Kappa coefficient.

Second, an exploratory factor analysis (EFA) was carried out after having determined that the 32 items met standard criteria for this type of analysis (Beavers et al., 2013). We started with EFA to provide the first empirical basis for detecting distinctive factors among 32 items which all were designed to measure the relevance of history (Fabrigar, Wegener, MacCallum, & Strahan, 1999). EFA was conducted using the principal axis factoring extraction and oblique rotation method (Oblimin). Primary factor loadings greater than 0.40 were considered salient for further analysis and items with non-salient loadings or substantial cross-loadings (> 0.30) were removed.

Third, a confirmatory factor analysis (CFA) was performed to examine whether the factor structure extracted by EFA would provide a good model fit. Using Mplus (Muthén

& Muthén, 2017), maximum likelihood with robust standard errors (MLR) was selected as the estimator and multiple fit indices were used to evaluate the appropriateness of model fit: the χ^2 test, the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Residual (SRMR). For good model fit, the ratio of χ^2 to the degrees of freedom (*df*) should be ≤ 3 (Schreiber, Stage, King, Nora, & Barlow, 2006). CFI and TLI values ≥ 0.90 are indicative for an acceptable fit and values ≥ 0.95 for a good fit (Hu & Bentler, 1999). For SRMR and RMSEA, values < 0.05 indicate a close fit, values between 0.05 and 0.08 an adequate fit, and values ≥ 0.10 a poor fit (Browne & Cudeck, 1992).

3.4.5 Convergent validity

The outcomes of the SSES ‘practical use’ subscale were used to determine whether the RHMS in fact measured students’ beliefs about the relevance of history and not their perceptions of school subjects or school experiences in general. The SSES ‘practical use’ subscale had been proven reliable (Cronbach’s $\alpha > 0.82$) in two other surveys among large samples of Dutch secondary school students (Otten & Boekaerts, 1990; Wilschut, 2013). In both of these surveys, in which the SSES was employed to assess students’ experiences with a number of school subjects, the subscale detected ‘practical use’ perceptions of history which differed significantly from those about other school subjects (history scoring lowest in terms of practical use compared to subjects like mathematics, economics, English and Dutch language). The SSES subscale had thus proven to represent not only a reliable, but also a discriminatory construct. Calculating correlations between scores on this scale and scores on the RHMS subscales made it possible to examine the convergent validity of the RHMS, assuming that positive correlations substantiated validity claims.

3.4.6 Known-groups validity

Finally, the validity of the instrument was investigated by testing one literature based hypothesis and a number of assumptions. We hypothesized that seventh grade students (12- and 13-year-olds) would find history less relevant than tenth grade students (15- and 16-year olds). One of the two aforementioned SSES based studies had shown that, although history scored lowest in terms of practical use in both seventh and tenth grade,

appraisals of history were significantly higher among tenth graders than among seventh graders (Wilschut, 2013). Assuming positive correlations between the SSES-scale and the RHMS-scales, similar effects could be expected in our present study.

Assumptions about differences between senior and junior secondary students were further grounded in research showing that students' abilities to think abstractly, to use metacognitive skills, and to reflect on themselves in terms of expectations and thoughts about their futures increase with age – albeit not linear by rule (Wigfield, Byrnes, & Eccles, 2012; Van der Stel & Veenman, 2014). With these insights in mind and taking into account increasing historical expertise and accumulation of domain-specific knowledge with the passing of grades, hypothesizing higher RHMS-scores for senior students seemed plausible.

In addition, a number of assumptions were tested to be able to assess the instrument's validity. First, we assumed that students' inclination to talk about history outside class would correlate positively with their appraisal of the relevance of history. Second, we supposed that students in the higher track of secondary education (pre-university) would consider history more relevant than those in the middle track (middle level secondary education). Third, we compared the scores of the 18-year-old secondary students from our sample ($n = 136$) with those of first-year university students being trained as history teachers ($N = 84$; 55 males, 29 females; mean age 19.86 years, $SD = 2.36$), assuming that the latter would consider history more relevant. Last, the RHMS was administered to first-year students in elementary school teacher education without specialization in a particular subject ($N = 51$; 18 males, 33 females; mean age 18.51 years, $SD = 1.58$), assuming that they would consider history less relevant than students being trained as secondary history teachers.

3.5 Results

3.5.1 Construct validity

Calculations on the outcomes of the validity test performed by the expert panel resulted in a Fleiss' Kappa (κ) of 0.80, which means there was 'good' agreement among the experts regarding the sorting of the 32 items into their corresponding relevance objectives (Fleiss, Levin, & Paik, 2003; Landis & Koch, 1977).

Conducting factor analyses on the RHMS data was appropriate, because all items correlated 0.30 or more with at least one other item and the anti-image correlation matrix diagonals were above 0.50. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.96, exceeding the recommended minimum value of 0.6, and the Bartlett's test of sphericity showed a statistically significant chi-square value.

EFA extracted five factors with initial eigenvalues exceeding 1.0. A scree test suggested that no more than three factors should be distinguished. Examining the loading patterns, two of the three factors coincided with 'building a personal identity' and 'understanding the human condition' as described in our theoretical framework. The items designed for the two subscales of 'becoming a citizen', however, loaded on one single factor, which means that they could not be considered as measures of two separate underlying constructs. Extraction of three factors with principal axis factoring and oblique rotation resulted in eight invalid items due to either low primary factor loadings (< 0.4) or considerably high cross loadings (> 0.3). These items were eliminated. The factors accounted for 47% of the total variance (factor 1: 35%; factor 2: 7%; factor 3: 5%).

CFA indicated that the three-factor model provided an adequate fit for the data, $\chi^2(249) = 989.915$, $p < 0.001$; $\chi^2/df = 3.98$; CFI = 0.91; TLI = 0.90; RMSEA = 0.05; SRMR = 0.04. However, the ratio between χ^2 and df was greater than the cutoff value of 3. Modification indices suggested freeing error covariances between items 05 and 17 and between items 22 and 24. Allowing error covariances is justified if items use similar vocabulary of phrasing, which is the case with these two items pairs. A subsequent model freeing these paths was found to have a better fit to the constrained model, $\chi^2(247) = 874.965$, $p < 0.001$; $\chi^2/df = 3.54$; CFI = 0.93; TLI = 0.92; RMSEA = 0.04; SRMR = 0.04. This model seemed to apply equally well to different groups of our sample: males versus

females and middle level secondary education versus pre-university secondary education (see Table 3.3).

Table 3.3 Goodness-of-fit indexes for the 3-Factor Confirmatory Model of the RHMS by 'educational level' and 'gender'.

	χ^2	<i>df</i>	χ^2/df	CFI	TLI	RMSEA	SRMR
<i>Middle level secondary education (n = 849)</i>	629.792***	247	2.55	.91	.90	.04	.04
<i>Pre-university secondary education (n = 606)</i>	563.180***	247	2.28	.93	.93	.05	.04
<i>Males (n = 712)</i>	495.716***	244	2.03	.94	.93	.04	.04
<i>Females (n = 743)</i>	650.774***	247	2.63	.92	.91	.05	.05

*** $p < .001$

As displayed by Table 3.4, factor loadings of the items ranged acceptably from 0.44 to 0.76 and correlations between the factors were moderate in strength (Hinkle, Wiersma, & Jurs, 2003).

In sum, the RHMS comprised three subscales with 24 items of which 12 were negatively and 12 positively formulated (see Appendix A). The descriptive statistics are presented in Table 3.5. Cronbach's α for the subscales were above 0.80, indicating robust internal consistency and proper reliability of each scale. The overall alpha value was 0.92, which is considered 'highly reliable' (Cohen, Manion, & Morrison, 2007, p. 506). The distribution of data was approximately symmetric for 'personal identity' and 'becoming a citizen', while for 'human condition' they were very moderately skewed.

Table 3.4 Standardized loadings for the 3-Factor Confirmatory Model of the RHMS ($N = 1459$). The numbering of the items is according to their order in the questionnaire.

<i>Item</i>	<i>IDE</i>	<i>CIT</i>	<i>HUM</i>
19 History helps me to get to know myself better	.76		
16 History affects the way I behave	.65		
06 History teaches me little about myself	.64		
21 History helps me to understand what is good or bad for me	.61		
24 History has no bearing on what happens to me in my life	.55		
22 History relates to what happens to me in my life	.53		
01 History has nothing to do with how I behave	.45		
13 History makes me understand the news better		.66	
10 History does not change my opinion		.66	
07 History is of little use if you want to understand the news		.65	
15 History makes me understand better what is happening in the world		.64	
20 History is of little use if I want to develop an opinion about something		.63	
14 History is of little use if I want to substantiate my opinions		.62	
23 I can't really use history to understand what is going on in the world		.62	
11 I find history useful because it often plays a role in conversations		.61	
08 History enables me to develop personal opinions about things		.59	
17 In history lessons we learn words that are not very useful		.50	
05 History teaches me words that I can also use in everyday life		.44	
12 Because of history I know the difference between facts and opinions		.42	
18 History enables you to imagine what will happen in the future			.73
02 History is of little use if you want to know what will happen in the future			.72
03 History does not help us to solve today's problems			.66
04 History enables us to imagine what the world might look like later on			.66
09 You can't use history to predict the future			.59
Correlations between factors			
IDE		.65**	
CIT			.62**
HUM	.50**		

Note: IDE = building a personal identity; CIT = becoming a citizen; HUM = understanding the human condition

** $p < .01$

Table 3.5 Descriptive statistics for the RHMS. Mean scores based on a 6-point-scale varying from totally disagree (1) to totally agree (6).

	Number of items	N	M	SD	α	Skewness	Kurtosis
Personal identity	7	1459	2.92	0.92	.80	0.15	-0.42
Becoming a citizen	12	1459	3.88	0.83	.86	-0.45	0.02
Human condition	5	1459	3.92	1.02	.80	-0.54	-0.09
Overall		1459	3.61	0.78	.92	-0.26	-0.14

3.5.2 Convergent validity

The eight SSES-items were aggregated into a subscale referring to the practical use of history. Reliability analysis showed good internal consistency for this scale (Cronbach's $\alpha = 0.85$; $n = 1414$). The SSES-scale and the RHMS subscales were positively correlated (see Table 3.6). The correlations were significant and varied in strength from moderate (identity and human condition) to strong (citizen), supporting the convergent validity of the RHMS.

Table 3.6. Pearson's r correlations between the 'practical use' SSES-scale and the RHMS ($N=1459$).

	Practical use of history (SSES)
Personal identity (RHMS)	.62**
Becoming a citizen (RHMS)	.76**
Human condition (RHMS)	.56**
RHMS	.77**

** $p < .01$ (1-tailed)

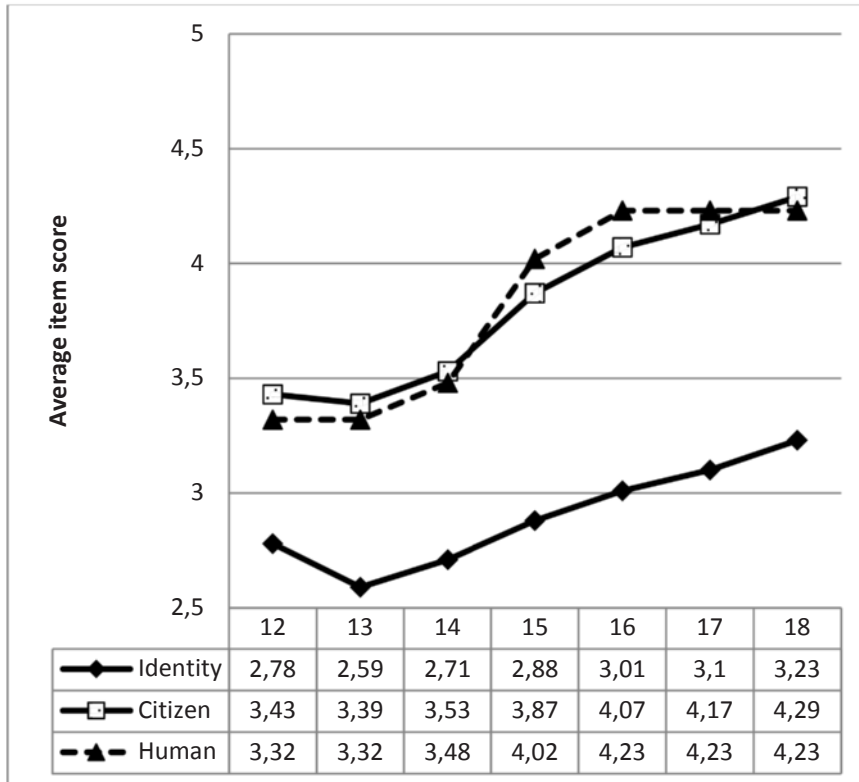
3.5.3 Known-groups validity

To test the hypothesis that grade 7 students (12- and 13-year-olds) would assess history less relevant than grade 10 students (15- and 16-year-olds), overall mean scores for these age groups were computed. The mean score for the 12- and 13-year-olds (taken together as one group, $n = 273$) was $M = 3.16$ ($SD = 0.78$); the mean score for the 15- and 16-year-olds (taken together as one group, $n = 565$) was $M = 3.70$ ($SD = 0.70$). The mean score difference appeared to be significant, $t(836) = -9.96$, $p < 0.001$, $d = 0.69$. Thus, in accordance with our hypothesis, the junior secondary students had lower appraisals of the relevance of history than the senior secondary students.

The measurement results for all age groups of our sample are shown in Fig. 3.1. History is appreciated as more relevant by students each successive year from the age of 14, resulting in the highest scores for the 18-year-olds in all three relevance domains; for 'human condition' this highest score is already reached at the age of 16 and is stable until

the age of 18. Substantial increases occur between the ages of 14 and 16 for ‘human condition’ and ‘becoming a citizen’. The scores for ‘personal identity’ show a deviant pattern, with lower appraisals for all ages and a more gradual increase as students grow older.

Figure 3.1 Mean scores on the RHMS, measured by age (12-18). Scores based on a 6-point-scale varying from totally disagree (1) to totally agree (6).



The testing of our assumptions led to the following results. First, students’ talking about history outside class was positively correlated with their appraisals of the relevance of history with regard to all three subscales: $r(1346) = 0.42$ (talking/human condition); $r(1346) = 0.48$ (talking/identity), $r(1346) = 0.58$ (talking/citizen). These correlations were moderate in strength and significant at the $p < 0.01$ level (2-tailed) (Hinkle, Wiersma, & Jurs, 2003).

Second, the overall mean scores for students of pre-university secondary education ($n = 607$) were $M = 3.74$ ($SD = 0.79$) and for students of the middle level secondary education ($n = 852$) $M = 3.52$ ($SD = 0.75$). The mean score difference was significant, $t(1248) = -5.24$, $p < 0.001$, $d = 0.30$. Levene's test indicated unequal variances ($F = 5.63$, $p = 0.018$), so degrees of freedom were adjusted from 1459 to 1248. As predicted, students of the higher educational track considered history more relevant than students of the lower educational track.

Last, we compared the scores for first-year student-teachers for secondary school history in history teacher education with the scores for 12th grade secondary students (age 18) and first-year student-teachers for elementary school respectively (see Tables 3.7 and 3.8). Consistent with our assumptions, the history student-teachers found history in all three relevance domains significantly more relevant than students from both other groups.

Table 3.7 T-test results comparing RHMS scores for 1st year student-teachers for secondary school history and 12th grade secondary students (age 18).

	1st year student-teachers for secondary school history			12th grade secondary students (age 18)			<i>t</i>	<i>df</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>			
Personal identity	4.13	0.79	84	3.23	0.88	136	-7.11**	218	0.96
Becoming a citizen	4.76	0.48	84	4.29	0.64	136	-6.21**	209	0.86
Human condition	4.60	0.79	84	4.23	0.81	136	-3.33**	218	0.45
Overall (RHMS)	4.55	0.49	84	3.99	0.65	136	-7.31**	208	1.10

Note: Equal variances not assumed for Becoming a citizen and Overall (RHMS).

** $p < .01$

Table 3.8 T-test results comparing RHMS scores for 1st year student-teachers for secondary school history 1st year student-teachers for elementary education.

	1st year student-teachers for secondary school history			1st year student-teachers for elementary education			<i>t</i>	<i>df</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>			
Personal identity	4.13	0.79	84	3.53	0.83	51	4.21**	133	0.73
Becoming a citizen	4.76	0.48	84	4.10	0.71	51	5.89**	78	1.33
Human condition	4.60	0.79	84	4.13	0.84	51	3.27**	133	0.57
Overall (RHMS)	4.55	0.49	84	3.94	0.68	51	5.54**	81	1.23

Note: Equal variances not assumed for Becoming a citizen and Overall (RHMS).

** $p < .01$

3.6 Conclusion and discussion

The purpose of this study was to evaluate the validity and the reliability of the Relevance of History Measurement Scale. We developed the RHMS to measure students' beliefs about the relevance of history for building a personal identity, for becoming a citizen and for understanding the human condition. Factor analyses resulted into three reliable subscales corresponding with these aspects of relevance. The subscales correlated positively with measurements performed with the valid SSES 'practical use' subscale, which supports convergent validity. Compliant with other studies, there were significant differences between junior and senior secondary students; the main progress in students' relevance appraisals took place between the ages of 14 and 16. Students' talking about history outside class correlated positively with their relevance perceptions. The known-groups validity of the instrument was further demonstrated by the mean scores of first-year students in history teacher education, which were – according to expectation – the highest of all.

In interpreting the results of this study, two considerations on the outcomes of the factor analyses deserve attention. First, one can argue about removing or maintaining

items with moderate primary loadings (0.40–0.45) or some degree of cross loading (0.25–0.30). We kept these items for two reasons: (1) large samples (as in this study) guarantee stable factor solutions, even with the aforementioned loading sizes (Floyd & Widaman, 1995; Guadagnoli & Velicer, 1988), and (2) because each subscale of our instrument measures relevance of history in one way or another, cross loadings of items are acceptable to a certain degree. Second, seeking the optimal factor structure of the instrument, subject-specific considerations were important next to inferences based on factor loading figures. For example, because data analyses did not reveal two separate factors for two aspects of ‘becoming a citizen’ (i.e. ‘explaining the present’ and ‘opinion forming’), it was worth considering leaving one of these aspects out of the instrument. Dropping the items of ‘opinion forming’ would have refined and bolstered the factor structure in general (with the remaining items explaining 50% of the total variance). Yet we decided to keep them for the sake of the content of this construct: dealing with facts and opinions is an important aspect of meaningful history teaching in terms of enhancing citizenship and part of a broader set of historical thinking skills which are widely regarded as important learning objectives of history teaching (Ercikan & Seixas, 2015; Lévesque, 2008; Seixas & Morton, 2013; Thornton & Barton, 2010; Van Drie & Van Boxtel, 2008).

Some limitations of this study should be borne in mind. Because the RHMS was developed in the Netherlands, it is unclear how students from other countries will respond to this questionnaire. It seems unlikely, however, that the instrument would be unsuitable in other Western countries with a similar educational system and pedagogical culture, taking into account the similarities in students’ attitudes towards history as revealed by comparative international surveys (Angvik & Von Borries, 1997; Grever, Pelzer, & Haydn, 2011). Furthermore, it should be noted that the RHMS refers to three ways in which history may be relevant to students, not encompassing all thinkable areas of relevance. Data analysis revealed three strands of relevance, but taking into account substantial correlations between the subscales and one dominant factor in explaining the total variance, further research is needed to extend current conceptualization and validation of the constructs. As a result of this study, items were removed which in some cases limited the initial scope of the constructs. For example, it has proven difficult to translate coping with enduring human issues (an aspect of ‘human condition’) into

psychometrically sound questionnaire items. Nevertheless, the items included in the RHMS may well be indicative of general beliefs about the relevance of history among students.

The findings of this study address a number of issues that are worth pursuing. Students' inclination to dissociate the relevance of history from their own identity in terms of personal beliefs and standards seems at odds with the popular notion that adolescents are in an identity crisis and busy discovering who they really are and how they fit in the social environments they are part of. However, exploring psychological characteristics of the self in the process of identity building occurs late in adolescence and sometimes not even until young adulthood (Steinberg & Morris, 2001). This might explain why, as this study has revealed, senior secondary students consider history more important in view of their own identity than junior secondary students. This is in line with the outcomes of an empirical study conducted by Andrews, McGlynn and Mycock (2009) among English undergraduates, which demonstrated strong correlations between students' self-identity and their attitudes towards history.

Our finding that young students have lower relevance appraisals than their senior peers (in particular regarding identity building) corresponds to the data of other studies (Haeberli, 2005; Haydn & Harris, 2010, VanSledright, 1997). Students' epistemological beliefs about historical knowledge may provide an explanation here. Research shows that young students tend to think that one cannot know what happened in the past because 'we were not there' (Lee, 2005). For them the past is fixed, a closed entity of dates and facts that is 'given' – not the outcome of inquiry resulting in narratives that meet present-bound questions, personal needs and interests (Lee, 2005; Maggioni, Alexander, & VanSledright, 2004; Stoel et al., 2017). The premise here would be that young students' epistemological ideas about the past as a world 'out there' may refrain them from thinking about the benefits and purposes of history and affect their relevance perceptions. This needs further research, but it seems plausible that sophisticated epistemic stances are conducive to the ability to bridge the gap between past, present and future and stimulate reflections on the practical implications and uses of studying the past. If this is the case, it would argue for reinforcing the teaching of disciplinary concepts and epistemological issues in the lower grades of secondary history education.

The RHMS allows to investigate correlations between relevance of history perceptions and variables that influence students' learning performances in general. For example, it is well-known that value awareness of school subjects is a strong impetus for students' engagement and motivation (Brophy, 1999; Eccles, 2004; Martin, 2003; Pintrich, 2003). The RHMS may also be used to assess goals of meaningful history teaching and effects of lesson interventions in this field, assuming that increases in students' relevance perceptions are indicators of successful attainment. Finally, the RHMS can be a tool for closely examining students' attitudes and feelings towards history and to grasp the state of mind in which they attend history class. The availability of a reliable and valid instrument to measure students' beliefs about the relevance of history may thus contribute to the practice of a much needed kind of history teaching focusing on enhancing relevance by connecting the past to the present and the future.