Adolescents' Intentions for Upper Secondary Education: The Role of Metacognitive Awareness

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***Abstract*—The study contributes to the growing body of research on the importance of learners' Metacognitive Awareness (MA) beyond childhood. It offers insights into the key factors that explain young people's study-related decisions during adolescence and into adulthood. The study examines the role of adolescent MA in predicting students' (*N* = 5,879) intentions to pursue further studies in upper secondary education, and also describes how parental education and student learning outcomes relate to these intentions. MA was found to be a key factor in predicting students' intentions to pursue further studies. MA, along with parental education, also predicts learning outcomes. Boys' decisions are slightly more influenced by their parents than by their MA, while girls are more independent decision-makers. High achievers have higher MA scores than low achievers. We suggest that teachers should support students' MA and encourage them to achieve better learning outcomes, thereby promoting further studies at the upper secondary level.**

***Keywords*—metacognitive awareness, adolescence, learning outcomes, intentions for upper secondary education, parental education**

I. Introduction

The present study examines the role of adolescent Metacognitive Awareness (MA) in explaining students' intentions to pursue further studies at the Upper Secondary Education (USE) level. It also examines the roles of parental education and learning outcomes. Thus, it contributes to the growing body of literature on the importance of teacher support for learners' MA beyond childhood [1]. Using a nationwide sample survey, this study provides insights into the central factors underlying the important educational decisions made by adolescents during their transition from childhood to adulthood. Since no similar analysis has been carried out on this topic, the study seeks to fill this research gap.

At the end of Lower Secondary Education (LSE), students must make important decisions regarding their path to USE—whether general education or Vocational Education and Training (VET)—and their future educational pursuits. At this point, students enter a significant transitional period between childhood and adulthood, which involves changes in complex cognitive functions as well as socio-emotional and behavioral processes [2]. Adolescence is a time of numerous opportunities, but also a period of increased risk-taking behavior and a higher incidence of psychiatric disorders as young people progress through important developmental stages into adulthood [3]. Therefore, decisions about future studies may be made during an unstable stage of development. It is a pertinent question requiring further study whether students' capability to utilize their MA in learning is at a sufficiently high level to enable them to choose a suitable educational path after LSE. Another important question concerning adolescence and education is the extent to which adolescent MA influences students' decisions to pursue USE. The present study explores the connections between these two variables.

MA enables young people to plan, sequence, and monitor their learning so that any improvements are clearly reflected in performance. MA refers to higher order-thinking along with reflection skills [4] and is crucial to the development of learner autonomy [5]. Previous research suggests an association between metacognition, learning outcomes, and parents' educational backgrounds; however, such findings have mostly been based on experimental or quasi-experimental designs in elementary education [6]. Since MA continues to develop after childhood [7], it is important to assess the different variables affecting adolescents' academic development.

A. Metacognitive Awareness (MA) in Adolescence

Metacognition has a multidimensional nature and has been studied for more than four decades from different perspectives in a variety of disciplines. It is generally defined as both the knowledge of one's own cognitive processes [8] and the act of monitoring and controlling those processes [9]. In educational research, scholars often describe metacognition as "thinking about thinking" [10]. However, the importance of awareness and understanding of one's own thinking is not always systematically emphasized.

As the term "awareness" describes variations in how people experience situations like learning [11], we use

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"Metacognitive Awareness (MA)" here to emphasize the conscious nature of one's thinking and the effort to understand one's own learning, especially focusing on the strategies used to acquire knowledge [12]. According to Schraw and Dennison [13], MA has two components: "knowledge of cognition" and "regulation of cognition". Knowledge of cognition includes declarative knowledge (knowledge about oneself and learning strategies), procedural knowledge (knowledge of how to apply strategies), and conditional knowledge (knowledge of when and why to employ strategies). Regulation of cognition refers to aspects of learning such as planning, monitoring comprehension, debugging strategies, and evaluation.

The need to understand students' learning processes more fully has become increasingly crucial in recent years, as the world becomes more reliant on complex technological systems. The ways in which human activities, technology, and nature are interconnected form the basis for a new vision of professional roles. This vision is complex, but it is an inescapable reality that adolescent learners must confront when considering their future studies. Being an expert no longer means specializing in just one field; instead, it requires competence in a network of fields. Therefore, in response to twenty-first-century skill demands, such as understanding the knowledge and skills required for learners to develop into balanced individuals and members of society [14], one of the primary goals of education is to foster learners' understanding of their own learning [15]. This awareness will lead students to adopt a new role as lifelong learners, grounded in a meta-awareness of their own learning.

The age at which students transition from LSE to USE is crucial for MA development. Hence, adolescence is a critical stage of overall development, especially considering the metacognitive and affective regulation of learning [16] and the desire to pursue future studies. Even though most studies on MA have traditionally focused on children older than 15 [17], it has been well established that MA development does not stop at the LSE level but continues through adolescence and into adulthood [18]. Empirical evidence suggests that MA continues to develop among adolescents at the USE level, especially in relation to more complex tasks and metacognitive judgements [19]. The importance of adolescent MA aligns with a study by Veenman and Beishuizen [20] showing that MA development occurs especially between the ages of 14 and 15, when metacognitive skills become more general across various tasks and domains. MA particularly develops through learning experiences as studies progress from the USE level to higher education [21, 22], and continues to develop into adulthood [21].

B. Gender

According to Kallio *et al*. [23], young male students at the USE have difficulties with MA, especially in terms of self-assessment and knowledge of cognition. The study showed that MA—in which learning content (declarative knowledge) and study strategies (procedural knowledge) are selected according to the students' stated goals—does not function effectively for young men in VET. One possible explanation is that young men may not know what they want to achieve and therefore do not have a clear goal for their future studies [23]. This could explain why they lack focus on what to study in their later years.

Developmental psychology suggests that cognitive abilities develop earlier in girls than in boys. Forsthuber *et al*. [24] agree that girls tend to have better literacy than boys and this gap appear early and persists with age. There is evidence that at the USE, female students are generally more academically oriented than male students [25], whereas fewer girls are in practice-oriented programs. However, Akyol *et al.* [26] did not find any strong gender differences in the use of metacognitive strategies. Thus, previous research provides somewhat divergent findings on gender differences, although most studies report that girls exhibit higher levels of MA than boys [26].

C. Learning Outcomes

A wide body of research examines academic achievement [6]. There is broad theoretical and empirical consensus that MA contributes to learning outcomes. For example, studies have shown that at ages 14–15, MA is an important predictor of school achievement [27].

Reflecting on and regulating one's learning demonstrates awareness of the learning process and helps learners oversee it by evaluating and improving their progress [28]. Such reflection benefits students transitioning to USE [29] and promotes MA, which is associated with improved learning outcomes [28]. According to Nederhand *et al*. [18], low-performing students tend to have lower MA. A review of recent literature confirms that MA enables learners to calibrate and self-regulate their learning, leading to higher academic achievement [30]. In turn, low academic achievement and poor preparedness can make the transition to the next school level difficult [31].

D. Parental Education

There is extensive evidence on the importance of family background for students' psychological functioning in later educational stages like the USE level [32]. This finding is also in line with empirical results from previous studies that stress the unique importance of parents' educational background [33]. For example, a high socioeconomic status is a stronger predictor of students' educational aspirations than individual ability [34]. Hence, a student's identity at university can depend on basic factors like their parents' educational background [32]. Students whose parents are not highly educated may feel distanced from academically inclined peers, since many of those peers come from highly educated families [35].

Psychological research shows that, even as institutional discrimination has decreased [35], students from underrepresented social groups still often experience feelings of detachment in their studies [36]. According to Janke *et al*. [32], students whose parents are not highly educated tend to struggle more with their academic

identity, leading to uncertainty about their ability to cope with academic challenges. This suggests that parental education has a far-reaching effect on a student's further studies. Prior studies also show that these students often lack confidence in their academic abilities, leading them not to apply to higher education and instead pursue lower-level educational tracks as they transition from LSE to USE. Furthermore, parents with strong academic backgrounds often clearly communicate high expectations for their children's academic achievement and help them realize their cognitive potential [37], thereby preventing underachievement relative to the students' abilities.

In line with evidence linking educational background to one's social identity; one can presume that parental educational background and a student's choice to pursue USE studies are closely connected. A student's educational background is also closely associated with lifestyle, behavior, and psychological functioning [38]. Also, there is some evidence that a learner's family socioeconomic status may be related to their use of metacognitive strategies [26]. Crucially, research indicates that the proportion of students whose parents are not highly educated—but who still choose to pursue USE—has increased recently [32]. This finding provides grounds for a closer exploration of these variables. The present study thus offers insight into the association between students' intentions to pursue USE and their parents' educational background.

II. Research Questions

The present study explores the role of metacognitive awareness (among other central factors) in students' intentions to pursue further studies at the USE level. The Research Questions (RQ) are as follows:

RQ1: How do students' metacognitive awareness levels predict their intentions to pursue further studies in relation to their gender, academic success, and parents' educational background?

RQ2: How do the metacognitive awareness levels of high- and low-achieving students differ based on their learning outcomes and parental education, and how does this relate to their intentions to pursue further studies?

III. Materials and Methods

A. Participants and Data

A representative cohort of ninth-grade students from 83 LSE schools in Finland was analyzed using a nationwide learning-to-learn assessment. The sample of 8,960 students was constructed as a randomized cluster sample in which the probability of selecting a school was proportional to its number of ninth graders. In total, 7,811 questionnaires were received, corresponding to a response rate of 87%.

Participants who provided incomplete or inappropriate responses on the Metacognitive Awareness Inventory (MAI) were removed from the data. Moreover, those who did not fully report their parents' level of education, their intentions for further studies, or their learning outcomes (grades in five subjects) were also excluded (n = 386). The final sample size was 5,879 (girls: n = 3,202, 54.5%; boys: n = 2,667, 45.5%; age: M = 15.2 years, SD = 0.51).

Strict APA ethical norms and practices were followed throughout the study. Participating students were informed about the nature of the project, the data collection process, and the anonymity of the stored data. Data handling and security measures ensured the protection of participant anonymity. A Finnish ethics review was not required because the participants were adult university students, and the study did not involve intervention in their physical integrity, deviate from the informed consent, expose participants to exceptionally strong stimuli, cause long-term mental harm beyond the risks of daily life, nor risk participants' security [39]. The online survey was administered during two regular school lessons, with teachers supervising and ensuring classroom discipline.

The participants were asked to report their learning outcomes, i.e. their grades in five school subjects. The achievement score was calculated as the mean of grades in the students' mother tongue, mathematics, A1 language (studied from third grade), history, social studies, and chemistry. Moreover, participants reported their intentions to pursue USE studies (general education or VET) and their parents' educational background. Parental education was encoded according to the European Qualifications Framework (EQF) (see Table I).

TABLE I. Distribution of the Data Based on Parental Education

Educational level	EQF	*n*	%
Both comprehensive level	2 & 2	296	5.0
Comprehensive & secondary	2 & 4	349	5.9
Comprehensive & higher educ.	2 & > 6	84	1.4
Both secondary level	4 & 4	2,717	46.2
Secondary & higher education	4 & > 6	1,168	19.9
Both higher education	> 6 & 6	1,265	21.5

EQF 2 = Comprehensive education;
EQF 4 = Secondary education;
EQF 6 = Higher education.

B. Educational System in Finland

Finnish compulsory education comprises primary education (grades 1–6), LSE (grades 7–9), and USE (grades 10–12). Pre-primary education is provided before compulsory education begins, usually at age six. USE is now compulsory and free of charge. In the final year of LSE, students choose between general education and VET, each of which usually takes three years to complete. Both tracks qualify students to apply for higher education. Students who do not continue to higher education after completing USE can enroll in studies providing specialist vocational qualifications [40].

C. Measures

To evaluate MA, the Metacognitive Awareness Inventory (MAI) [13, 24] was selected as the most suitable instrument due to its strong theoretical background and evidence of validity both internationally

and in the context of this study. The MAI indicates that knowledge of cognition and regulation of cognition are strongly interconnected [13, 41]. In the present study, the MAI was used to measure two components of MA, each of which includes several subcomponents. The knowledge-of-cognition component includes declarative knowledge, procedural knowledge, and conditional knowledge. The regulation-of-cognition component includes processes such as planning, monitoring, and evaluating. The two-component model of metacognition, i.e., knowledge of cognition and regulation of cognition [9, 12, 13], has received considerable research support and has been widely used in studies of MA.

The MAI, developed by Schraw and Dennison [13], was originally a 52-item self-report instrument designed to measure metacognitive awareness in adolescents and adults. Its items are structured according to the typical two-component model of metacognition: knowledge of cognition and regulation of cognition. The MAI has been used to study academic achievement, self-monitoring abilities, problem-solving skills, and the use of learning strategies [42].

D. Procedure and Analyses

In our previous article, we described compressing the original 52-item MAI questionnaire into a 24-item scale (MAI-24) [23]. Initially, this compression was based on Pearson's correlations among the subcomponents. Moreover, the internal consistency of both main components was explored to conclude the reliability by calculating Cronbach's [43] alphas (Regulation of Cognition, $\alpha = .91$, and Knowledge of Cognition, $\alpha = .81$). Finally, the MAI-24 model was tested using Confirmatory Factor Analysis (CFA).

In the present study, 18 items were selected to measure MA, given the survey's scope. The knowledge-of-cognition component comprised three subcomponents, each including three items. The regulation-of-cognition component was compressed into three subcomponents: Planning, Monitoring, and Self-evaluation. A new "Monitoring" subcomponent was created by combining three original MAI-24 subcomponents (Monitoring, Information Management, and Debugging). We then performed a CFA on the MAI-24 and selected the items with the highest factor loadings from the Monitoring, Information Management, and Debugging subscales for inclusion in the new structure. Finally, the fit of the resulting 18-item scale (MAI-18; see Table II) was evaluated by CFA. Despite the large sample size, the fit indices indicated an acceptable to good fit for both factor structures: knowledge-of-cognition (CFI = .92; TLI = .88; SRMR = .05) and regulation-of-cognition (CFI = .95; TLI = .92; SRMR = .04).

TABLE II. THE STRUCTURE OF THE MAI-18

Metacognitive Awareness	
Knowledge of cognition	**Regulation of cognition**
Conditional knowledge	Planning
Declarative knowledge	Monitoring (incl. IMS and Debugging)
Procedural knowledge	Self-evaluation

The central factors were significant with respect to the adolescents' educational decisions, and the factor loadings revealed a balanced weighting for each item (see Appendix 1). Moreover, the Cronbach's alphas indicated the internal consistency of the scale (MAI-18, $\alpha = .92$) and sub-scales (KC, $\alpha = .86$; RC, $\alpha = .88$).

The large sample size affected the χ^2 test results; thus, the goodness-of-fit of the models was estimated using several fit indices: the Comparative Fit Index (CFI > .90 indicates acceptable fit, while a CFI close to 0.95 indicates good fit), the Tucker-Lewis Index (TLI > .90 indicates acceptable fit, while a TLI close to 0.95 indicates good fit), standardised root mean residual (SRMR < 0.08 indicates good fit) and the root mean square error of approximation (RMSEA < .06 indicates good fit) [44].

IV. RESULT

A. Metacognitive Awareness in Predicting Students' Intentions to Pursue Further Studies

We studied how students' metacognitive awareness levels—in relation to their gender, success at school, and parents' educational background—predict their intentions to pursue further studies. We initially aligned the factors in terms of the extent to which parental education would predict students' MA, which would in turn predict their learning outcomes and ultimately their intentions to pursue further studies. As such, the model did not fit the data (χ^2(df) = 672.40(3), $p < .001$, CFI = .87, TLI = .73, RMSEA = .20, SRMR = .12).

The path linking parental education to students' MA was weak ($r = .16$), as was the modification index (535.01) for predicting students' learning outcomes based on their parents' level of education. We also assessed students' MA as a straightforward predictor of their intentions, but the relationship likewise proved weak ($r = .06$). Thus, we opted to predict learning outcomes based on both parental education and students' MA. The fit indices revealed a good fit (χ^2(df) = 110.09(2), $p < .001$, CFI = .98, TLI = .94, RMSEA = .10, SRMR = .03). However, we also thought it would be interesting to determine whether parental education straightforwardly predicts students' intentions to pursue further studies. For the final model, we added the path from parental education to students' intentions. The fit of the model proved even stronger (Fig. 1), though parental education proved to be a weak, straightforward predictor ($r = .09$) of students' intentions.

While the model fit for both girls and boys was excellent, the fit was slightly better for boys than for girls (for girls: χ^2(df) = 28.70(1), $p < .001$, CFI = .99, TLI = .94, RMSEA = .09, SRMR = .02 and $R^2 = .46$; for boys: χ^2(df) = 13.12(1), $p < .001$, CFI = 1.00, TLI = .98, RMSEA = .07, SRMR = .02 and $R^2 = .52$). The regression coefficients for the model also proved quite similar for boys and girls. However, we made the interesting observation that girls' learning outcomes are predicted more by their MA ($r = .35$) than by their

parents' level of education (r = .27), whereas boys' learning outcomes are predicted more by their parents' level of education (r = .34) than by their own MA (r = .29). The model does not predict intentions to pursue further studies based on parental education more for boys (r = .10) than for girls (r = .09). An important finding was that students' MA mean scores do not differ between genders (the variance was tested using the Student's t-test).

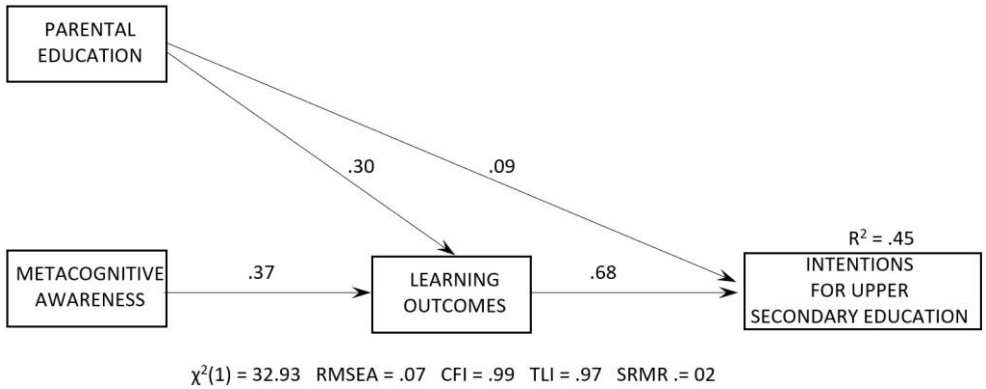

Fig. 1. Model explaining pupils' intentions to pursue further studies.

B. Differences between High and Low Achievers in Terms of MA and Intentions to Pursue Further Studies

To obtain further information on educational differences, we examined students' MA in relation to the other factors in more detail using the Student's t-test. First, we examined how high achievers differ from low achievers (according to their school grades). The MA mean score proved significantly higher (MD = .75, p < .001) among high achievers (upper quartile: n = 682) than among low achievers (lower quartile: n = 748). Second, the MA score of students with at least one parent having a higher education degree (EQF > 6) was higher than that of other pupils (MD = .29, p < .001).

Finally, we examined how students' MA scores differed based on their intentions to pursue further studies using One-Way ANOVA. The MA mean scores proved significantly higher (MD = .23, p < .001) for those students who intend to continue their studies at the USE level compared to those who intend to pursue VET studies (MD = .46, p < .001) or a double degree (USE and VET studies simultaneously).

V. Discussion

A. Implications for Theory and Practice

This study explored the role of MA in students' intentions to pursue further studies at USE. The study's implications are associated with expertise theory and teacher education. In terms of theoretical implications, we created and tested a model describing the key predictors of school choice, examining them together and in relation to each other as indicators of learners' intentions to pursue future studies. The study also provides an overall picture of the factors that explain the decision to pursue or not pursue USE, a perspective that had not been offered before.

In terms of practical implications, the findings indicate that MA is a key independent explanatory factor of students' intentions to pursue further studies. However, parental education alone does not explain students' MA, even though we observed that students with higher MA scores more often had at least one parent with a higher education degree. The impact of parental education on students' intentions to pursue further studies is minor compared to the impact of students' learning outcomes.

MA predicts learning outcomes together with the effect of parents' educational level. Boys' decisions are influenced slightly more by their parents' educational background than by their own MA, while girls are more independent decision-makers than boys. High achievers have significantly higher MA scores than low achievers—this difference explains the higher intentions to pursue further studies among high achievers.

The findings are important because they expose some of the confounding factors affecting the extent to which schools and teachers can influence students' choice to pursue further education, given that they have no influence over parents' level of education. However, teachers can support learners' MA, thereby encouraging students to achieve better learning outcomes [45]. Our research shows that, in this respect, teachers and schools can influence students' intentions to pursue further studies.

B. The Role of Parental Education

We found that parental education is not the most important factor influencing students' intentions to pursue further studies, but it still proved to be one of the important factors. The link between parental education and their children's learning outcomes, as well as their motivation and intention to learn, has been indicated in previous research [46]. Prior studies have suggested that parents with different backgrounds have different attitudes toward their children's further studies, and that parents with higher levels of educational attainment often have higher expectations for their children's academic success [45]. They are more likely to emphasize the importance of education, set high goals, and encourage

their children to succeed academically. This can positively affect students' motivation and attentiveness to their studies, which might explain our study's findings as well.

However, the ways in which parental education is related to their children's MA have not been previously investigated. It is likely that more highly educated parents tend to be more involved in their children's education, for example by helping them with homework and discussing it with them. Active parental involvement can create a supportive learning environment and increase students' attention and interest in learning. Having parents as role models can also positively influence students' mindsets. Students may imitate their parents' attitudes toward education and behaviors, setting their own educational aspirations higher or lower accordingly. However, our results reveal that parental education impacts students' learning outcomes but not their MA. This suggests that parents' involvement in their children's schoolwork reflects on a practical level but does not clearly affect their children's MA.

Likewise, the availability of resources can affect a student's future plans. Parents with a higher level of education often have better access to resources that can support their children's education, such as educational materials, technology, quality housing, and nutrition. These resources can enhance a student's learning experience by fostering curiosity and stimulating their capacity and interest to reflect on their own learning at a deeper level. Highly educated parents are more likely to encourage their children to pursue higher education and professional careers, which can motivate students to focus on their studies to achieve these goals.

C. Limitations and Future Directions

One limitation of the present study is that, although it included a representative sample of students, the study was conducted in only one country. Different countries have different school systems and cultures [34], and these differences may affect how MA is employed to match various cultural affordances [26]. Thus, more research is needed on the role of MA in adolescents' intentions to pursue further studies in different cultural contexts, such as different school systems.

It is also important to examine different educational systems and cultures in relation to the correlation between parental education and students' confidence in their ability to learn, and how this relationship affects academic performance. Research has shown that students are generally overly confident in their own performance [47].

We studied the parents' educational backgrounds, which means that we do not know what educational aspirations the parents might have for their children. The parents' education level was included as a background variable to determine whether it was related to students' intentions to pursue further studies. This study found that adolescents of highly educated parents have better learning outcomes and are more likely to have higher MA scores, even though parental education does not directly predict MA. The mechanisms by which parental education influences these outcomes—and how parental influence is transmitted to children—were not examined here. Future research should investigate such practices (e.g., doing homework together) or mechanisms, including whether they support the development of MA.

VI. Conclusions

The results confirmed that students' MA plays an important role in their enthusiasm for learning. Teacher support for students' MA is therefore crucial during adolescence, when students are planning their future studies. Since self-regulated learning methods are increasingly promoted in schools worldwide, it is particularly important that teachers support learners' MA as a way to enhance their intentions to pursue further studies. In particular, when parents have a low level of education, teachers play a major role in strengthening students' MA and encouraging them to pursue advanced studies by challenging the belief that a low level of education is inherited.

The results show that students who end up in VET have lower MA scores than those who choose to study at the USE level. This finding highlights the need for greater support for learners' MA, especially for lower-achieving students who more often enroll in VET programs. The emphasis on MA, along with self-regulated learning strategies, substantially contributes to the objectives of both LSE and USE, as well as to students' individual development plans. Students should understand how, what, when, and why to study, and they should be able to regulate their learning across different subject areas. MA plays a crucial role in all phases of learning, and it should be emphasized at every educational level in response to the requirements of twenty-first-century skills.

The current educational policy landscape is creating a need for new standards regarding educational content in many countries. Structural changes to various USE tracks are creating a need to focus more on supporting learners' MA at both the LSE and USE levels, particularly for students in VET studies, where the number of contact learning hours is being reduced. This study underscores the importance of MA in creating equal educational opportunities for everyone and in influencing students' choices of educational pathways from primary through secondary and into higher education.

Appendix. Factor Loadings and Descriptives of the MAI-18

Subcomponents & items	Factor loading[1]	M	SD	Skewness	Kurtosis
Conditional knowledge	**-**	**3.46**	**0.78**	**−0.32**	**0.17**
MAI_01	.62	3.54	0.99	−0.44	−0.18
MAI_02	.70	3.38	0.93	−0.26	−0.07
MAI_03	.69	3.45	1.02	−0.36	−0.27
Declarative knowledge	**-**	**3.41**	**0.74**	**−0.22**	**−0.04**
MAI_04	.73	3.22	0.91	−0.16	−0.07
MAI_05	.61	3.31	1.06	−0.29	−0.46
MAI_06	.64	3.71	0.83	−0.49	0.39
Procedural knowledge	**-**	**3.68**	**0.76**	**−0.42**	**0.18**
MAI_07	.61	4.01	0.89	−0.97	1.24

MAI_08	.68	3.63	0.96	−0.50	−0.01
MAI_09	.75	3.39	0.98	−0.32	−0.19
Planning	**-**	**3.07**	**0.85**	**−0.16**	**−0.19**
MAI_10	.65	3.07	1.06	−0.15	−0.43
MAI_11	.73	2.90	1.08	0.01	−0.59
MAI_12	.58	3.23	1.09	−0.24	−0.57
Monitoring and debugging	**-**	**3.33**	**0.79**	**−0.29**	**0.15**
MAI_13	.60	3.31	0.98	−0.25	−0.23
MAI_14	.66	3.45	1.00	−0.41	−0.19
MAI_15	.75	3.23	1.01	−0.24	−0.33
Evaluating	**-**	**3.01**	**0.85**	**−0.11**	**−0.16**
MAI_16	.72	3.02	1.01	−0.05	−0.40
MAI_17	.75	2.95	1.07	−0.08	−0.58
MAI_18	.71	3.05	1.01	−0.11	−0.33

[1]All factor loadings are statistically significant $p < .001$.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Heli Kallio, Manne Kallio, Kalle Virta and Tuike Iiskala, contributed to the study conception and design, as well writing of the manuscript. Material preparation, data collection and analysis were performed by Heli Kallio, Manne Kallio and Kalle Virta. Conceptualization: Heli Kallio, Manne Kallio, Kalle Virta and Tuike Iiskala; Methodology: Heli Kallio, Manne Kallio and Kalle Virta. All authors read and approved the manuscript to be submitted.

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