



WP1 – Final Item Selection for DIMI, 12-18 years

DIMI citation:

Laaber, F., Florack, A., Koch, T., & Hubert, M. (2023). Digital maturity: Development and validation of the digital maturity inventory (DIMI). *Computers in Human Behavior*, 143, 107709. <https://doi.org/10.1016/j.chb.2023.107709>

Formula for creating an overall Digital Maturity Score:

1. Create an average score for each dimension
2. Multiply these average scores with their respective weights, then add these for the overall score:
$$\text{DM Score} = \text{AutonomyChoice_score} \times 9.91 + \text{AutonomyWithin_score} \times 9.39 + \text{Literacy_score} \times 10.17 + \text{Growth_score} \times 10.43 + \text{Risk_score} \times 11.73 + \text{EmoNeg_score} \times 10.30 + \text{EmoAgg_score} \times 9.91 + \text{Support_score} \times 9.39 + \text{Respect_score} \times 10.30 + \text{Citizenship_score} \times 8.47$$

(SPSS Syntax appended to this document)

Autonomous Choice to Use Mobile Devices

Using mobile devices out of one's own choice rather than a feeling of obligation or compulsion.

Prosím zamysli sa nad tým, ako často sa za normálnych okolností stávajú nasledovné veci, keď používaš mobilné zariadenia (mobilný telefón, tablet alebo laptop).

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

*„Keď používam mobilné zariadenia... “
"When using a mobile device..."*

*Nikdy (1) - Málokedy (2) - Občas (3) - Často (4) - Vždy (5)
Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)*



Slovak	English	Variable name
som online, lebo si myslím, že by som vždy mal/a byť online	I am online because I feel like I have to be online all the time	autonomy_c1
som online, lebo inak mám pocit, že by som mohol/mohla niečo zmeškať	I am online because otherwise I feel like I am missing out on something	autonomy_c2
mám pocit, že to určuje môj život	I have the feeling that it is controlling my life	autonomy_c3

$\alpha = .77$, $CR = .78$, $AVE = .55$ ($N=558$)

Reverse coded items: autonomy_c1, autonomy_c2, autonomy_c3

Autonomy Within Digital Contexts

Deliberately choosing which digital contexts to engage with, viewing content which one finds interesting and enjoys.

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Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

*„Keď používam mobilné zariadenia... “
"When using a mobile device..."*

*Nikdy (1) - Málokedy (2) - Občas (3) - Často (4) - Vždy (5)
Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)*

Slovak	English	Variable name
vyhľadávam obsahy, ktoré chcem vidieť	I choose the content I want to see	autonomy_w1
robím to, čo baví mňa	I do the things that I like	autonomy_w2
robím to, čo ma zaujíma, bez ohľadu na to, čo si myslia iní	I decide what I do	autonomy_w3

$\alpha = .70$, $CR = .70$, $AVE = .44$ ($N=558$)

Digital Literacy

The technical skills to use mobile devices and the internet in a safe and effective manner.

Literacy Prosím uveď, do akej miery sa na teba hodia nasledovné tvrdenia, keď používaš internet alebo mobilné zariadenia ako mobilný telefón, tablet alebo laptop. Predstav si, že by si mal/a teraz hneď robiť tieto veci sám/sama. Ako veľmi sa na teba hodia tieto tvrdenia?

Please tell us how true the following statements are of you when thinking about how you use the internet and mobile devices such as mobile phones, tablets, iPads, or



laptop computers. Think about how true this would be of you if you had to do it now, on your own.

Vôbec nie (1) - Skôr nie (2) - Ako kedy (3) - Skôr áno (4) - Určite áno (5)
Not at all true of me (1) - Not very true of me (2) - Neither true or untrue of me (3) - Mostly true of me (4) - Very true of me (5)

Slovak	English	Variable name
Viem ako zmeniť nastavenia ochrany súkromia (napr. vymazať cookies)	I know how to change the privacy settings (for example, deactivate cookies)	literacy_1
Viem ako môžem zmeniť nastavenia súkromia na sociálnych médiách (napr. Instagram, Facebook, TikTok)	I know how to adjust the privacy settings of social media sites (for example, Instagram, Snapchat, TikTok)	literacy_2
Viem ako uložiť fotky, dokumenty alebo iné súbory na cloude (napr. Google Drive, iCloud)	I know how to store photos, documents or other files in the cloud (for example, Google Drive, iCloud)	literacy_3

$\alpha = .82$, $CR = .82$, $AVE = .61$ ($N=558$)

Individual Growth in Digital Contexts

The ability to use mobile devices and digital contexts for personal learning and growth.

Prosím zamysli sa nad tým, ako často sa za normálnych okolností stávajú nasledovné veci, keď používaš mobilné zariadenia (mobilný telefón, tablet alebo laptop).

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

„Keď používam mobilné zariadenia... “
"When using a mobile device..."

Nikdy (1) - Málokedy (2) - Občas (3) - Často (4) - Vždy (5)
Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Slovak	English	Variable name
učím sa nové veci	I learn new things	growth_1
učím sa užitočné veci	I learn something useful	growth_2
učím sa novým schopnostiam	I learn new skills	growth_3

$\alpha = .81$, $CR = .81$, $AVE = .59$ ($N=558$)



Digital Risk Awareness

Managing risks related to mobile devices and the online environment by being aware of potential dangers and influences.

Prosím zamysli sa nad tým, ako často sa za normálnych okolností stávajú nasledovné veci, keď používaš mobilné zariadenia (mobilný telefón, tablet alebo laptop).

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

*„Keď používam mobilné zariadenia... “
"When using a mobile device..."*

*Nikdy (1) - Málokedy (2) - Občas (3) - Často (4) - Vždy (5)
Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)*

Slovak	English	Variable name
som veľmi opatrný/á	I am very careful	risk_1
moja vlastná bezpečnosť je pre mňa veľmi dôležitá	my own safety is very important to me	risk_2
dávam si pozor, aby som bol/a opatrný/á	I make sure to be careful	risk_3

$\alpha = .85$, $CR = .85$, $AVE = .66$ ($N=558$)

Regulation of Negative Emotions in Digital Contexts

The ability to control and effectively regulate negative emotions due to frustrations in digital contexts.

Prosím zamysli sa nad tým, ako často sa za normálnych okolností stávajú nasledovné veci, keď používaš mobilné zariadenia (mobilný telefón, tablet alebo laptop).

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

*„Keď používam mobilné zariadenia... “
"When using a mobile device..."*

*Nikdy (1) - Málokedy (2) - Občas (3) - Často (4) - Vždy (5)
Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)*

Slovak	English	Variable name
a niečo ma na internete nahnevá alebo raní, trvá dlho, kým sa znova cítim lepšie	and I become annoyed or upset online, it takes me a long time to feel better	emotion_n1
a niečo ma na internete na nahnevá alebo raní, mám dlho zlú náladu	and I become annoyed or upset online, I stay in a bad mood for a long time	emotion_n2



a niečo ma internete na nahnevá alebo raní, je len málo vecí, ktoré ma vedia rozveseliť	and I become annoyed or upset online, there are only few things that can make me feel better	emotion_n3
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$\alpha = .84$, $CR = .85$, $AVE = .65$ ($N=558$)

Reverse coded items: emotion_n1, emotion_n2, emotion_n3

Regulation of Impulses in Digital Contexts

The ability to control one's behaviour and reactions to negative experiences in digital contexts.

Prosím zamysli sa nad tým, ako často sa za normálnych okolností stávajú nasledovné veci, keď používaš mobilné zariadenia (mobilný telefón, tablet alebo laptop).

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

„Keď používam mobilné zariadenia... “

"When using a mobile device..."

Nikdy (1) - Málokedy (2) - Občas (3) - Často (4) - Vždy (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Slovak	English	Variable name
a niekto ma na internete alebo v správe kritizuje, reagujem okamžite bez toho, aby som rozmýšľal/a nad dôsledkami	and somebody criticizes me online or in a text, I immediately react without considering the consequences	emotion_a1
a dostanem nejakú správu, ktorá ma nahnevá, reagujem prí rýchlo a potom to ľutujem	and a message makes me angry, I react too quickly and then later regret the way I responded	emotion_a2
a niekto ma urazí, snažím sa mu/jej to odplatiť	and somebody insults me, I try to get back at them	emotion_a3

$\alpha = .77$, $CR = .78$, $AVE = .54$ ($N=558$)

Reverse coded items: emotion_a1, emotion_a2, emotion_a3

Support-Seeking Regarding Digital Problems

The ability to seek support from others when encountering problems regarding mobile devices or digital contexts.



Prosím zamysli sa nad tým, **ako často sa za normálnych okolností stávajú nasledovné veci**, keď používaš **mobilné zariadenia** (mobilný telefón, tablet alebo laptop).

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

„Keď používam mobilné zariadenia...”

"When using a mobile device..."

Nikdy (1) - Málokedy (2) - Občas (3) - Často (4) - Vždy (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Slovak	English	Variable name
spýtam sa iných, aby mi pomohli, keď mám nejaký problém	I ask others for help when I have a problem	support_1
a neviem ako ďalej, požiadam niekoho iného o pomoc	and I don't know what to do, I ask others for help	support_2
a mám nejaký technický problém, popýtam niekoho iného o pomoc (napr. kamaráta/kamarátku, rodiča, súrodenca)	and there is a technical problem, I ask others for help (for example, a friend, parent, sibling)	support_3
a mám problémy s inými na internete, požiadam o pomoc	and I have problems with others on the internet, I get help	support_4

$\alpha = .80$, $CR = .81$, $AVE = .52$ ($N=558$)

Respect Towards Others in Digital Contexts

Acting respectfully when engaging with others and in content one shares online.

Prosím zamysli sa nad tým, **ako často sa za normálnych okolností stávajú nasledovné veci**, keď používaš **mobilné zariadenia** (mobilný telefón, tablet alebo laptop).

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

„Keď používam mobilné zariadenia...”

"When using a mobile device..."

Nikdy (1) - Málokedy (2) - Občas (3) - Často (4) - Vždy (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Slovak	English	Variable name
dávam si pozor na to, aké slová volím, keď s niekým	I watch my language when I disagree with someone, so that	respect_1



nezdierať názor, aby som neznal/a hrubo	what I say doesn't come across as mean	
beriem ohľad na pocity iných	I care about the feelings of others	respect_2
a uverejňujem fotky, na ktorých sú iní ľudia, dávam pozor na to, aby nikoho neurážali alebo nikomu nemohli spôsobiť problémy	I make sure that pictures I post or send of other people will not insult them or get them into trouble	respect_3
rešpektujem názory a vedomosti iných ľudí	I respect the opinions and knowledge of others	respect_4

$\alpha = .83$, $CR = .83$, $AVE = .55$ ($N=558$)

Digital Citizenship

Using mobile devices and digital contexts to contribute to society and support important causes.

Prosím zamysli sa nad tým, ako často sa za normálnych okolností stávajú nasledovné veci, keď používaš mobilné zariadenia (mobilný telefón, tablet alebo laptop).

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

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Slovak	English	Variable name
používam ich, aby som zlepšil/a život v mojom okolí, mojom meste alebo vo svete celkovo	I use it to improve life in my neighborhood, town or world	citizenship_1
používam internet, aby som podporil/a kampane ako napr. na ochranu životného prostredia alebo upozorňoval/a na klimatické zmeny	I use the internet to support campaigns for issues like environmental protection or to spread awareness for climate change	citizenship_2
používam ich, aby som sa zasadzoval/a o veci, ktoré sú naozaj dôležité vo svete	I use it to stand up for things that really matter in the world	citizenship_3

$\alpha = .85$, $CR = .85$, $AVE = .66$ ($N=558$)



SPSS Syntax for the Digital Maturity Score

#recode reverse scored items

```
RECODE autonomy_c1 (5=1) (4=2) (3=3) (2=4) (1=5) INTO autonomy_c1r.  
EXECUTE.
```

```
RECODE autonomy_c2 (5=1) (4=2) (3=3) (2=4) (1=5) INTO autonomy_c2r.  
EXECUTE.
```

```
RECODE autonomy_c3 (5=1) (4=2) (3=3) (2=4) (1=5) INTO autonomy_c3r.  
EXECUTE.
```

```
RECODE emotion_n1 (5=1) (4=2) (3=3) (2=4) (1=5) INTO emotion_n1r.  
EXECUTE.
```

```
RECODE emotion_n2 (5=1) (4=2) (3=3) (2=4) (1=5) INTO emotion_n2r.  
EXECUTE.
```

```
RECODE emotion_n3 (5=1) (4=2) (3=3) (2=4) (1=5) INTO emotion_n3r.  
EXECUTE.
```

```
RECODE emotion_a1 (5=1) (4=2) (3=3) (2=4) (1=5) INTO emotion_a1r.  
EXECUTE.
```

```
RECODE emotion_a2 (5=1) (4=2) (3=3) (2=4) (1=5) INTO emotion_a2r.  
EXECUTE.
```

```
RECODE emotion_a3 (5=1) (4=2) (3=3) (2=4) (1=5) INTO emotion_a3r.  
EXECUTE.
```

#computing scale scores

```
COMPUTE  
AutonomyChoice_score=MEAN.2(autonomy_c1r,autonomy_c2r,autonomy_c3r).  
EXECUTE.
```

```
COMPUTE  
AutonomyWithin_score=MEAN.2(autonomy_w1,autonomy_w2,autonomy_w3).  
EXECUTE.
```

```
COMPUTE Literacy_score=MEAN.2(literacy_1,literacy_2,literacy_3).  
EXECUTE.
```

```
COMPUTE Growth_score=MEAN.2(growth_1,growth_2,growth_3).  
EXECUTE.
```




```
COMPUTE Risk_score=MEAN.2(risk_1,risk_2,risk_3).  
EXECUTE.
```

```
COMPUTE EmoNeg_score=MEAN.2(emotion_n1r,emotion_n2r,emotion_n3r).  
EXECUTE.
```

```
COMPUTE EmoAgg_score=MEAN.2(emotion_a1r,emotion_a2r,emotion_a3r).  
EXECUTE.
```

```
COMPUTE Support_score=MEAN.3(support_1,support_2,support_3,support_4).  
EXECUTE.
```

```
COMPUTE Respect_score=MEAN.3(respect_1,respect_2,respect_3,respect_4).  
EXECUTE.
```

```
COMPUTE Citizenship_score=MEAN.2(citizenship_1,citizenship_2,citizenship_3).  
EXECUTE.
```

#Creating weighted dimension scores using the mean scores of expert importance rating (as seen in Rijdsdijk et al., 2007).

```
COMPUTE Literacy_Pweighted=10.17 * Literacy_score.  
EXECUTE.
```

```
COMPUTE Growth_Pweighted=10.43 * Growth_score .  
EXECUTE.
```

```
COMPUTE AutonomyC_Pweighted=9.91 * AutonomyChoice_score.  
EXECUTE.
```

```
COMPUTE AutonomyW_Pweighted=9.39 * AutonomyWithin_score.  
EXECUTE.
```

```
COMPUTE EmotionN_Pweighted=10.30 * EmoNeg_score.  
EXECUTE.
```

```
COMPUTE EmotionA_Pweighted=9.91 * EmoAgg_score.  
EXECUTE.
```

```
COMPUTE Risk_Pweighted=11.73 * Risk_score.  
EXECUTE.
```



```
COMPUTE Citizenship_Pweighted=8.47 * Citizenship_score.  
EXECUTE.
```

```
COMPUTE Respect_Pweighted=10.30 * Respect_score.  
EXECUTE.
```

```
COMPUTE Support_Pweighted=9.39 * Support_score.  
EXECUTE.
```

#creating composite measure by adding the weighted dimension scores

```
COMPUTE DigMat_Pcomposite=(Literacy_Pweighted + Growth_Pweighted +  
AutonomyC_Pweighted +  
    AutonomyW_Pweighted + EmotionN_Pweighted + EmotionA_Pweighted +  
Risk_Pweighted + Citizenship_Pweighted +  
    Respect_Pweighted + Support_Pweighted).  
EXECUTE.
```

