



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.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

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.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

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



Spanish	English	Variable name
Me conecto porque siento que tengo que estar en línea todo el tiempo	I am online because I feel like I have to be online all the time	autonomy_c1
Me conecto porque si no, siento que me pierdo algo	I am online because otherwise I feel like I am missing out on something	autonomy_c2
Tengo la sensación de que controla mi vida	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.

Piensa **con qué frecuencia te ocurren esas cosas** mientras usas un **dispositivo móvil** como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

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.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

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

Spanish	English	Variable name
Elijo el contenido que quiero ver	I choose the content I want to see	autonomy_w1
Hago las cosas que me gustan	I do the things that I like	autonomy_w2
Yo decido lo que hago	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.

Dinos hasta qué punto las siguientes afirmaciones son ciertas para ti cuando piensas en cómo utilizas Internet y dispositivos móviles como teléfonos móviles, tabletas, iPad u ordenadores portátiles. Piensa en **lo cierto que sería esto de ti** si tuvieras que hacerlo ahora, por tu cuenta.

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.

Nada cierto en mi caso (1) - Poco cierto en mi caso (2) - Ni cierto ni falso en mi caso (3) - Bastante cierto en mi caso (4) - Muy cierto en mi caso (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)

Spanish	English	Variable name
Sé cómo cambiar la configuración de privacidad (por ejemplo, desactivar las cookies)	I know how to change the privacy settings (for example, deactivate cookies)	literacy_1
Sé cómo cambiar la configuración de privacidad de las redes sociales (por ejemplo, Instagram, Snapchat o TikTok)	I know how to adjust the privacy settings of social media sites (for example, Instagram, Snapchat, TikTok)	literacy_2
Sé cómo almacenar fotos, documentos u otros archivos en la nube (por ejemplo, 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.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

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.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

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

Spanish	English	Variable name
Aprendo cosas nuevas	I learn new things	growth_1
Aprendo cosas útiles	I learn something useful	growth_2
Aprendo nuevas habilidades	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.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

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.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

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

Spanish	English	Variable name
Tengo mucho cuidado	I am very careful	risk_1
Me importa mucho mi propia seguridad	my own safety is very important to me	risk_2
Me aseguro de tener cuidado	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.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

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.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

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

Spanish	English	Variable name
y me molesto o me enfado en línea, tardó mucho tiempo en sentirme mejor	and I become annoyed or upset online, it takes me a long time to feel better	emotion_n1
y me enfado o me molesto en línea, estoy de mal humor durante mucho tiempo	and I become annoyed or upset online, I stay in a bad mood for a long time	emotion_n2
y me enfado o molesto en línea, sólo hay unas pocas cosas que pueden hacerme sentir mejor	and I become annoyed or upset online, there are only few things that can make me feel better	emotion_n3



$\alpha = .84$, $CR = .85$, $AVE = .65$ ($N=558$)

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.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

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.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

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

Spanish	English	Variable name
y alguien me critica en línea o en un mensaje de texto, reacciono inmediatamente sin pensar en las consecuencias	and somebody criticizes me online or in a text, I immediately react without considering the consequences	emotion_a1
y un mensaje me enfada, reacciono demasiado rápido y luego me arrepiento de la forma en que he respondido	and a message makes me angry, I react too quickly and then later regret the way I responded	emotion_a2
y alguien me insulta, intento vengarme	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.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

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.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."



Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)
 Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
pido ayuda a los demás cuando tengo un problema	I ask others for help when I have a problem	support_1
y no sé qué hacer, pido ayuda a los demás	and I don't know what to do, I ask others for help	support_2
y se presenta un problema técnico, pido ayuda a los demás (por ejemplo, a un(a) amigo/a, padre, hermano/a)	and there is a technical problem, I ask others for help (for example, a friend, parent, sibling)	support_3
y tengo problemas con los demás en Internet, pido ayuda	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.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

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.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)
 Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
cuido mis palabras cuando no estoy de acuerdo con alguien, para que lo que diga no suene malintencionado	I watch my language when I disagree with someone, so that what I say doesn't come across as mean	respect_1
me preocupo por lo que sienten los demás	I care about the feelings of others	respect_2
antes de publicar o enviar fotos de otras personas, me aseguro de que esas fotos no sean insultantes para ellos y que no les vayan a meter en problemas	I make sure that pictures I post or send of other people will not insult them or get them into trouble	respect_3
respeto las opiniones y los conocimientos de los demás	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.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

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.

"Cuando uso un dispositivo móvil..."

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Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

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

Spanish	English	Variable name
lo uso para mejorar la vida en mi barrio, mi ciudad o en el mundo	I use it to improve life in my neighborhood, town or world	citizenship_1
uso Internet para apoyar campañas sobre temas como la protección del medio ambiente o para concienciar sobre el cambio climático	I use the internet to support campaigns for issues like environmental protection or to spread awareness for climate change	citizenship_2
lo uso para defender cosas que realmente importan en el mundo	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.
```

