



## WP1 – Final Item Selection for DIMI, 9-11 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_young
Estoy en línea porque si no, siento que me estoy perdiendo algo	I am online because otherwise I feel like I am missing out on something	autonomy_c2_young
Tengo la sensación de que controla mi vida	I have the feeling that it is controlling my life	autonomy_c3_young

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

*Reverse coded items:* autonomy\_c1\_young, autonomy\_c2\_young, autonomy\_c3\_young

### **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_young
Hago las cosas que me gustan	I do the things that I like	autonomy_w2_young
Yo decido lo que hago	I decide what I do	autonomy_w3_young

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

### **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)*

<b>Spanish</b>	<b>English</b>	<b>Variable name</b>
Sé cómo cambiar la configuración de privacidad (por ejemplo, desactivar las cookies)	I know how to change the privacy settings (for example, turn off cookies)	literacy_1_young
Sé cómo cambiar la configuración de privacidad en las redes sociales (por ejemplo, quién puede ver cosas sobre mí en Instagram, Snapchat o TikTok)	I know how to change the privacy settings in social media (for example, who can see things about me on Instagram, Snapchat or TikTok)	literacy_2_young
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_young

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

### **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)*

<b>Spanish</b>	<b>English</b>	<b>Variable name</b>
Aprendo cosas nuevas	I learn new things	growth_1_young
Aprendo cosas útiles	I learn something useful	growth_2_young
Aprendo nuevas habilidades	I learn new skills	growth_3_young

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



## **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)*

<b>Spanish</b>	<b>English</b>	<b>Variable name</b>
Tengo mucho cuidado	I am very careful	risk_1_young
Me importa mucho mi propia seguridad	my own safety is very important to me	risk_2_young
Me aseguro de tener cuidado	I make sure to be careful	risk_3_young

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

## **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)*

<b>Spanish</b>	<b>English</b>	<b>Variable name</b>
y me molesto o me enfado en línea, tardo mucho tiempo en sentirme mejor	and I become annoyed or upset online, it takes me a long time to feel better	emotion_n1_young
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_young
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_young



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

Reverse coded items: emotion\_n1\_young, emotion\_n2\_young, emotion\_n3\_young

### **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)***

<b>Spanish</b>	<b>English</b>	<b>Variable name</b>
y alguien dice algo malo de mí en Internet o en un mensaje de texto, reacciono inmediatamente sin pensar en las consecuencias	and somebody says something bad about me online or in a text, I immediately react without thinking about the consequences	emotion_a1_young
y un mensaje me enfada, reacciono demasiado rápido y luego me arrepiento de la forma en que respondí	and a message makes me angry, I react too quickly and then later regret the way I responded	emotion_a2_young
y alguien me insulta, intento vengarme	and somebody insults me, I try to get back at them	emotion_a3_young

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

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_young
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_young
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_young
y tengo problemas con otros en Internet, pido ayuda	and I have problems with others on the internet, I get help	support_4_young

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

### **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
y no estoy de acuerdo con alguien, intento no decir nada malo	and I disagree with someone, I try not to say anything mean	respect_1_young
pienso en cómo se sienten los demás	I think about the feelings of other people	respect_2_young
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_young
respeto las opiniones y los conocimientos de los demás	I respect the opinions and knowledge of others	respect_4_young

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



## **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..."*

*"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)*

<b>Spanish</b>	<b>English</b>	<b>Variable name</b>
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_young
uso Internet para apoyar temas como la protección del medio ambiente o para concienciar a otras personas sobre el cambio climático	I use the internet to support things like environmental protection or to make other people aware of climate change	citizenship_2_young
lo uso para defender cosas que realmente importan en el mundo	I use it to support things that are really important in this world	citizenship_3_young

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

## **SPSS Syntax for the Digital Maturity Score**

#computing scale scores

```
COMPUTE AutonomyChoice_score_young  
=MEAN.2(autonomy_c1r_young,autonomy_c2r_young,autonomy_c3r_young).  
EXECUTE.
```

```
COMPUTE AutonomyWithin_score_young  
=MEAN.2(autonomy_w1_young,autonomy_w2_young,autonomy_w3_young).  
EXECUTE.
```

```
COMPUTE Literacy_score_young  
=MEAN.2(literacy_1_young,literacy_2_young,literacy_3_young).  
EXECUTE.
```

```
COMPUTE Growth_score_young  
=MEAN.2(growth_1_young,growth_2_young,growth_3_young).
```

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EXECUTE.

COMPUTE Risk\_score\_young =MEAN.2(risk\_1\_young,risk\_2\_young,risk\_3\_young).  
EXECUTE.

COMPUTE EmoNeg\_score\_young  
=MEAN.2(emotion\_n1r\_young,emotion\_n2r\_young,emotion\_n3r\_young).  
EXECUTE.

COMPUTE EmoAgg\_score\_young  
=MEAN.2(emotion\_a1r\_young,emotion\_a2r\_young,emotion\_a3r\_young).  
EXECUTE.

COMPUTE Support\_score\_young  
=MEAN.3(support\_1\_young,support\_2\_young,support\_3\_young,support\_4\_young).  
EXECUTE.

COMPUTE  
Respect\_score=MEAN.3(respect\_1\_young,respect\_2\_young,respect\_3\_young,resp  
ect\_4\_young).  
EXECUTE.

COMPUTE Citizenship\_score\_young  
=MEAN.2(citizenship\_1\_young,citizenship\_2\_young,citizenship\_3\_young).  
EXECUTE.

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

COMPUTE Literacy\_Pweighted\_young =10.17 \* Literacy\_score\_young.  
EXECUTE.

COMPUTE Growth\_Pweighted\_young =10.43 \* Growth\_score\_young.  
EXECUTE.

COMPUTE AutonomyC\_Pweighted\_young =9.91 \* AutonomyChoice\_score\_young.  
EXECUTE.

COMPUTE AutonomyW\_Pweighted\_young =9.39 \* AutonomyWithin\_score\_young.  
EXECUTE.

COMPUTE EmotionN\_Pweighted\_young =10.30 \* EmoNeg\_score\_young.  
EXECUTE.





```
COMPUTE EmotionA_Pweighted_young =9.91 * EmoAgg_score_young.  
EXECUTE.
```

```
COMPUTE Risk_Pweighted_young =11.73 * Risk_score_young.  
EXECUTE.
```

```
COMPUTE Citizenship_Pweighted_young =8.47 * Citizenship_score_young.  
EXECUTE.
```

```
COMPUTE Respect_Pweighted_young =10.30 * Respect_score_young.  
EXECUTE.
```

```
COMPUTE Support_Pweighted_young =9.39 * Support_score_young.  
EXECUTE.
```

#creating composite measure by adding the weighted dimension scores

```
COMPUTE DigMat_Pcomposite_young =(Literacy_Pweighted_young +  
Growth_Pweighted_young + AutonomyC_Pweighted_young +  
AutonomyW_Pweighted_young + EmotionN_Pweighted_young +  
EmotionA_Pweighted_young + Risk_Pweighted_young +  
Citizenship_Pweighted_young +  
Respect_Pweighted_young + Support_Pweighted_young).  
EXECUTE.
```

