

**Predicting health behaviors across Belgium and France  
during the first wave of COVID-19 pandemic**

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### Abstract

The objective of the current research was to investigate how a series of psychological factors may underlie two COVID-19 health behaviors, and how a contextual factor (country of residence) could shape their influence. Cross-sectional results from the first pandemic wave ( $N_{\text{Belgium}} = 4878$ ,  $N_{\text{France}} = 1071$ ) showed that handwashing and social contact limitation are predicted by a unique set of psychological variables that holds across Belgium and France, despite their distinct lockdown-policies strictness. In practice, policy-makers could leverage on these unique predictors and fine-tune their strategies accordingly to promote adherence to each measure while generalizing it across similar nations.

*Keywords:* COVID-19, pandemic, health behavior, handwashing, social contact, policy-making, theory of planned behavior, emotions, social norms

## **Predicting health behaviors across Belgium and France during the first wave of COVID-19 pandemic**

Since the beginning of 2020, the world has been faced with a pandemic caused by the COVID-19 outbreak, with a toll of more than 5 million deaths (as of 07 February 2021; Worldometers, 2021) and psychological sequelae such as depression and anxiety (Rajkumar, 2020). To overcome the spread of the virus, the World Health Organization (WHO, 2021) prompted countries to implement a series of health guidelines, notably handwashing and the social contacts limitation. However, their enforcement has been challenging, especially at the beginning of the pandemic. It is therefore crucial not only to identify the factors that may foster or hamper their application, but also how they could vary across different contexts. In this light, the current research aimed to investigate some of these psychological factors and examine if their influence on health behaviors could be shaped by a key contextual factor, namely country of residence.

Although both preventive measures are highly effective against the spread of COVID-19, they are in fact quite different in terms of their application. Handwashing is simple to enact, engrained in the social norms, and a substantial proportion of the population already practice it daily. Conversely, and because of humans' social nature, social contacts limitation is an avoidant behavior that requires a consciously-driven and effortful change from everyday life that can even be detrimental to mental health (Hagger et al., 2020).

These two health behaviors also differ in terms of their underlying predictors. Of particular interest, Bigot et al.'s (2021) findings within the Belgian context revealed that both health behaviors increased with higher intentions and more positive attitudes (outcome efficacy), but only handwashing was enhanced by the ability to have control over it, whereas the social

contact limitation increased with the subjective norms (the perception that others value the behavior) (see the Theory of Planned Behavior - TPB; Ajzen, 1991). At an emotional level, feeling attentive/determined or frightened/anxious boosted the former, whereas feeling enthusiastic/happy curtailed the latter. In sum, many psychological and socio-demographic variables allow to independently predict the compliance with health-related measures.

Contextual variables can also influence health behaviors. For instance, so-called “tight” cultures or countries (e.g., China) which have stricter norms and punishment for deviance tend to best cope with the spread of the virus than “loose” ones (e.g., Italy) (Gelfand et al., 2021). Moreover, the influence of behavioral health predictors can also be shaped by the context. Indeed, the norms-intention relationship was stronger for tighter than looser countries, whereas it was the opposite for the attitudes-behavior and control-behavior relations (Fischer and Karl, 2020).

It becomes thus interesting to contrast health behaviors and their predictors between two neighbors’ countries, namely France and Belgium, that share similarities but also differences in terms of how they handled the outbreak. At the time of data collection (March- April 19, 2020), both countries were facing the first wave of the pandemic. Although they share similar cultural and political backgrounds (e.g., in terms of the Hofstede’s cultural dimensions<sup>1</sup>) and adhered to the WHO prevention guidelines, the two differed in terms of what we could refer to as tight vs. loose management of the pandemic (Gelfand et al., 2021). Indeed, France’s lockdown measures were more stringent<sup>2</sup>, e.g., longer curfews and travel times bans, and harsher fines. Despite these

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<sup>1</sup> See <https://www.hofstede-insights.com/country-comparison/belgium,france/>

<sup>2</sup> The Government Response Stringency Index (0 to 100, 100 = strictest) was, on average, 77 for Belgium and 88 for France during the data collection period (<https://ourworldindata.org/grapher/covid-stringency-index>; see also Hale et al., 2021). This index encompasses nine response indicators including school closures, workplace closures, and travel bans.

variations, Wollast et al. (2021) showed by means of Structural Equations Modeling that the two countries were aligned in terms of how the TPB components related to both behaviors. Notwithstanding the importance of these findings, their results exclusively focused on TPB predictors, a limitation that we addressed in the present research.

A crucial question thus remains whether countries that share similar cultural backgrounds yet distinct political lockdown policies (tight vs. loose) differ or converge on a more comprehensive array of health behaviors predictors. Considering this dearth, the present research offers two main contributions. First, it builds and expands on Bigot et al.'s (2021) work by investigating how a series of psychological factors may underlie the health behaviors and may generalize to another country (France). The factors include emotional, cognitive, and socio-demographic predictors that were initially chosen by these authors based on the most used and relevant models of behavioral change (e.g., Ajzen, 1991), including the ones assessing psychobehavioral responses during other health crises (e.g., Bish & Michie, 2010). Second, it assesses how a key contextual factor, country of residence<sup>3</sup>, could shape their effect. To the best of our knowledge, no research has compared such a large array of preventive health predictors between two states that differ in terms of their lockdown policies strictness while sharing similar cultures.

## Method

### Participants

This study is part of a broad international research program about COVID-19. Specifically, this research builds on data from Bigot et al. (2021) which focused on Belgian residents and expands the previous dataset by incorporating a new sample of participants residing in France.

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<sup>3</sup> For the ease of the reader, we often refer to “country” instead of “country of residence” in the results section.

The current cross-sectional sample, recruited through convenience sampling, comprised 4878 participants from which 3807 (78%) resided in Belgium and 1071 (22%) in France, which demonstrated similar characteristics. The mean age in the Belgian subsample was 42.25 ( $SD = 16.85$ ), 74% were women, 75% had at least completed secondary, and 73% did not work/study in the (para)medical field. The mean age in the French subsample was 37.03 ( $SD = 13.91$ ), 76% were women, 81% had at least completed secondary, and 70% did not work/study in the (para)medical field.

### **Measures**

The scales and sub-dimensions presented hereafter were almost identical to Bigot et al.'s (2021) research (please refer to the article for more information about the measures).

#### *Health Behaviors*

Using single items, participants indicated to what extent they limited their social contacts on a scale from 1 (completely disagree) to 5 (completely agree), and how often they washed their hands on a scale from 1 (never) to 5 (more than 15 times a day).

#### *Intentions, attitudes, social norms, and perceived control*

The four components of the TPB were assessed with one item each on a scale from (1 = totally disagree) to 5 (totally agree), for each of the two health behaviors. The items were the following (with the X indicating the target behavior, i.e., handwashing or social contact limitation): “I am ready to do X” (intentions), “I believe that doing X will limit spreading of the coronavirus” (attitudes), and “My relatives expect from me to do X” for social norms, and “For me, doing X is easy” (perceived control).

## 87 *Emotions*

88           Current emotional states were assessed based on the French Positive and Negative Affect  
 89 Scale – State version (Gaudreau et al., 2006). Bigot et al. (2021) grouped these states into four  
 90 categories based on an exploratory factor analysis: Attentive/determined ( $\alpha_{\text{Belgium}} = .75$ ,  $\alpha_{\text{France}} =$   
 91  $.74$ ), enthusiastic/happy ( $\alpha_{\text{Belgium}} = .67$ ,  $\alpha_{\text{France}} = .65$ ), angry/agitated ( $\alpha_{\text{Belgium}} = .77$ ,  $\alpha_{\text{France}} = .77$ ),  
 92 fearful/anxious ( $\alpha_{\text{Belgium}} = .77$ ,  $\alpha_{\text{France}} = .76$ ).

## 93 *Health anxiety*

94           Five items were selected from the Whiteley Index (Pilowsky, 1967) to assess how  
 95 anxious people are about their health ( $\alpha_{\text{Belgium}} = .69$ ,  $\alpha_{\text{France}} = .72$ ). An item sample is “I am  
 96 worried about my health”.

## 97 *Impulsivity*

98           This personality trait was based on the items from the French version of the UPPS  
 99 impulsive behavior scale (Van der Linden et al., 2006; Whiteside et al., 2005). Premeditation  
 100 ( $\alpha_{\text{Belgium}} = .65$ ,  $\alpha_{T2} = .64$ ) and urgency ( $\alpha_{\text{Belgium}} = .74$ ,  $\alpha_{\text{France}} = .77$ ) were built on two items each,  
 101 whereas sensation seeking, and perseverance were based on single items.

## 102 *Social connection*

103           This construct was divided in three dimensions from various scales (e.g., Davis, 1983;  
 104 Hughes et al., 2004), namely social relationships ( $\alpha_{\text{Belgium}} = .59$ ,  $\alpha_{\text{France}} = .51$ ), empathy, ( $\alpha_{\text{Belgium}}$   
 105  $= .73$ ,  $\alpha_{\text{France}} = .68$ ), and loneliness ( $\alpha_{\text{Belgium}} = .83$ ,  $\alpha_{\text{France}} = .83$ ). The social relationships  
 106 dimension was excluded from the current analyses because of its low reliability score<sup>4</sup>.

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<sup>4</sup> Only scales and dimensions with  $\alpha$ s > .60 were included in this study.

### *Interoception*

This scale was based on the Three-domains Interoceptive Sensations Questionnaire (Vlemincx et al., 2020). Both the cardio-respiratory activation ( $\alpha_{\text{Belgium}} = .80$ ,  $\alpha_{\text{France}} = .80$ ) and deactivation ( $\alpha_{\text{Belgium}} = .82$ ,  $\alpha_{\text{France}} = .83$ ) dimensions had good levels of reliability.

### *Demographic information*

Participants provided their age, gender, level of education, country of residence, and whether their work/studies were related to the (para)medical field.

### **Procedure**

Data collection took place from 18<sup>th</sup> of March to the 19<sup>th</sup> of April 2020 (during the first pandemic wave in Belgium and France. Participants were contacted through universities mailing list, social platforms, or news outlets and were asked to fill an online survey. All participants provided consent. This research was approved by the ethics committee from the Research Institute for Psychological Sciences at Université catholique de Louvain (Project 2021-13).

### **Statistical Analyses and Data Sharing**

The handwashing and social contact limitation outcome variables were dichotomized to indicate whether the behavior was applied or not<sup>5</sup>. Multiple logistic regression models were used to assess the impact of the predictors on the behaviors. The data and R scripts for the analyses are publicly available on OSF:

[https://osf.io/gm68w/?view\\_only=c86e2cc2fc7440f4872e9f0b45657467](https://osf.io/gm68w/?view_only=c86e2cc2fc7440f4872e9f0b45657467)

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<sup>5</sup>As in Bigot et al. (2021), for a response to qualify as applied behavior (versus not), participants had to report washing their hands more than six times a day for the handwashing behavior, and (totally) agreeing to limiting their social contact for the social contact limitation behavior. The handwashing threshold was based on the guidelines from sanitary institutions (e.g., CDC, 2021; WHO, 2021), that advise people to wash their hands at the very least before and after eating and after using the bathroom.

## Results

Regarding handwashing, 74.14% of participants residing in France and 70.92% in Belgium reported washing their hands on a regular basis. The difference between the two was significant [ $\chi^2(1, 4876) = 4.25, p = .039$ ]. As for social contact limitation, no differences were observed across countries, with 91.69% of participants residing in France and 92.51% in Belgium reported limiting their social contact [ $\chi^2(1, 4876) = 0.80, p = .371$ ].

Table 1 presents the multiple logistic regressions of the study predictors and their interaction with participant's residency on the two health behaviors. On the one hand, and as shown in the first part of Table 1, main effects indicate that demographic variables such as being a woman (vs. a men), being older (vs. younger), being part of the (para)medical field (vs. not) significantly increased the likelihood of handwashing. Likewise, some components of the TPB, i.e., intentions, perceived control, and emotional states of feeling attentive/determined or frightened/anxious contributed to higher chances of performing the health behavior. A similar contribution was observed for the perseverance sub-dimension of the impulsivity construct. On the other hand, sensation seeking, and loneliness had a detrimental effect on handwashing. As shown in the second part of Table 1, an interaction effect revealed that premeditation significantly increased handwashing in France ( $OR = 1.32, p = .016$ ), whereas it had no significant impact in Belgium ( $OR = 0.96, p = .555$ ). In other words, the impact of the predictors on handwashing does not significantly differ between France and Belgium, except for premeditation.

Regarding social contacts limitation, main effects indicate that higher education level, intentions, and attitudes significantly increased the likelihood of this behavior. Similarly, feeling angry/agitated, and higher levels of activation (i.e., the sub-dimension of interoception) increased

the probability of social contact limitation, whereas being older and feeling enthusiastic/happy had the opposite effect. Interaction effects shown in the second part of Table 1 show that the activation sub-dimension of interoception significantly increased social contact limitation in France ( $OR = 1.70, p = .006$ ), whereas it had no significant consequences in Belgium ( $OR = 0.93, p = .456$ ). This pattern was mirrored for feeling angry/agitated (France:  $OR = 1.76, p < .001$ ; Belgium:  $OR = 0.88, p = .204$ ). Finally, although there was a significant feeling frightened/anxious  $\times$  residency interaction effect, none of the simple effects reached significance (France:  $OR = 0.71, p = .086$ ; Belgium:  $OR = 1.20, p = .116$ ). Otherwise stated, the effect of the predictors on social contact limitation was globally the same across the two countries, except for the activation sub-dimension of interoception, and for feeling angry/agitated.

[Table 1 here]

## Discussion

The identification of underlying psychological and contextual factors that may foster or hinder preventive health behaviors is vital to manage the pandemic (Van Bavel et al., 2020). The present work examined how a series of psychological factors may underlie application of health behaviors and how they could be shaped by the context, namely across France and Belgium.

A first finding indicates that during the first lockdown, handwashing, and even more so social contacts limitation, were highly followed by participants from both nations, possibly because the former was encouraged whereas the latter was mandatory. Additionally, the fear and risk perception of being infected may have boosted their motivation to stick to the measures (Schmitz et al., 2021). Interestingly, self-reported compliance with these measures barely differed across the two countries, despite the more stringent restrictions deployed in France, suggesting

that the tightening of policies may have a limited impact on rule-abidance (Fischer and Karl, 2020).

Secondly, results show that the discrepancy between the general pattern of predictors underlying the health behaviors identified by Bigot et al. (2021) is minimal between the two nations and could thus potentially be generalized across other similar countries (as in Wollast et al., 2021) that may or not vary in their degree of lockdown-policies strictness. For instance, our findings may apply to other European countries with similar cultural backgrounds (e.g., in terms of Hofstede's cultural dimensions) and political systems (i.e., democracy), irrespectively of whether they had a strict (e.g., Italy) or soft/no lockdown (e.g., Sweden).

Remarkably, there were no differences on the sociodemographics, the TPB and social connection predictors across countries. The only few exceptions being that premeditation increased handwashing, and that active interoception and feeling angry/agitated enhanced social contact limitation in France but had no significant effect in Belgium. Evidence suggests that appealing to negative emotions leads people to adjust their behavior when presented with an accessible solution (Witte and Allen, 2000). It may thus be that, in France, health guidelines related to social contact limitation more clearly appeared to participants as a solution to cope with this threatening situation and their emotions. Moreover, excessive negative emotions conveyed by the French media or authorities may have led to paralyzing inaction (Schimmenti et al., 2020). Both these rationales remain highly speculative and further research is needed on the matter. If this is the case, clearly explaining the need to follow the measures in government communication and moderating the threat level could strengthen the adaptative impact of emotions on behavioral change.

Finally, and in accordance with Bigot et al. (2021), a distinct set of predictors is associated with each behavior which can be accounted by their specific nature (see the authors' article for an in-depth discussion). Particularly, and across the two nations, education, attitudes, feeling enthusiastic/happy, and active interoception were uniquely associated with social contact limitation. Conversely, practicing in the (para)medical field, control over the behavior, feeling attentive/determined or frightened/anxious, sensation seeking, perseverance, and loneliness were exclusively linked to handwashing. In practice, policy-makers could take advantage of these unique predictors and fine-tune their strategies accordingly to promote adherence. For instance, communication campaigns could boost positive attitudes toward social contact limitation by disseminating information that highlights the efficacy of this health behavior to stop the spread of the virus. Likewise, handwashing might be bolstered by easing the application of the behavior and thus increasing the perceived behavioral control. An effective way to do so is via nudging techniques, e.g., providing resources that facilitate the behavior such as soap or hand sanitizer at the entrance of public spaces.

A limitation is that the sample is not representative of either the Belgian or French population and the correlational design of the present research prevents us from making inferences of causality. Future studies should seek to further generalize our findings by relying on representative and longitudinal samples (see for example Wollast et al., 2022).

In conclusion, our findings reveal high levels of adherence to the preventive measures across both European countries. Furthermore, the predictive pattern that underlies these health behaviors hold for both countries, despite contrasted lockdown strictness.

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The authors declare that there is no conflict of interest.

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## Tables

**Table 1**

*Multiple logistic regression analyses associated with the application of Handwashing and Social Contact Limitation*

|                            | Handwashing |                     |              |                 | Social Contact Limitation |                     |              |                 |
|----------------------------|-------------|---------------------|--------------|-----------------|---------------------------|---------------------|--------------|-----------------|
|                            | OR          | (95% CI)            | Wald         | p               | OR                        | (95% CI)            | Wald         | p               |
| Main effects               |             |                     |              |                 |                           |                     |              |                 |
| Socio-demographics         |             |                     |              |                 |                           |                     |              |                 |
| Residency                  | 1.02        | (0.08, 11.90)       | 0.00         | .986            | 0.04                      | (0.00, 1.27)        | 3.27         | .071            |
| Sex                        | <b>1.42</b> | <b>(1.13, 1.77)</b> | <b>9.16</b>  | <b>.002</b>     | 1.35                      | (0.97, 1.86)        | 3.29         | .070            |
| Age                        | <b>1.02</b> | <b>(1.01, 1.03)</b> | <b>24.01</b> | <b>&lt;.001</b> | <b>0.98</b>               | <b>(0.97, 0.99)</b> | <b>9.33</b>  | <b>.002</b>     |
| Education level            | 1.00        | (0.80, 1.24)        | 0.00         | .988            | <b>1.90</b>               | <b>(1.41, 2.55)</b> | <b>17.95</b> | <b>&lt;.001</b> |
| (Para)medical field        | <b>1.34</b> | <b>(1.11, 1.64)</b> | <b>8.75</b>  | <b>.003</b>     | 1.13                      | (0.82, 1.57)        | 0.55         | .460            |
| Theory of Planned Behavior |             |                     |              |                 |                           |                     |              |                 |
| Intentions                 | <b>1.75</b> | <b>(1.50, 2.05)</b> | <b>49.63</b> | <b>&lt;.001</b> | <b>1.23</b>               | <b>(1.07, 1.41)</b> | <b>9.05</b>  | <b>.003</b>     |
| Attitudes                  | 1.10        | (0.98, 1.23)        | 2.82         | .093            | <b>1.50</b>               | <b>(1.28, 1.77)</b> | <b>24.48</b> | <b>&lt;.001</b> |
| Social norms               | 1.09        | (1.00, 1.19)        | 3.86         | .050            | 1.12                      | (0.96, 1.29)        | 2.24         | .134            |
| Perceived control          | <b>1.56</b> | <b>(1.41, 1.74)</b> | <b>68.59</b> | <b>&lt;.001</b> | 0.95                      | (0.85, 1.07)        | 0.61         | .433            |
| Emotions                   |             |                     |              |                 |                           |                     |              |                 |
| Attentive/Determined       | <b>1.30</b> | <b>(1.13, 1.50)</b> | <b>12.95</b> | <b>&lt;.001</b> | 1.12                      | (0.89, 1.39)        | 0.91         | .340            |
| Enthusiastic/Happy         | 0.99        | (0.87, 1.14)        | 0.01         | .929            | <b>0.74</b>               | <b>(0.60, 0.90)</b> | <b>8.87</b>  | <b>.003</b>     |
| Angry/Agitated             | 1.07        | (0.95, 1.22)        | 1.25         | .263            | <b>1.25</b>               | <b>(1.03, 1.52)</b> | <b>4.88</b>  | <b>.027</b>     |
| Frightened/Anxious         | <b>1.20</b> | <b>(1.04, 1.39)</b> | <b>6.16</b>  | <b>.013</b>     | 0.92                      | (0.73, 1.15)        | 0.51         | .474            |
| Physiological aspects      |             |                     |              |                 |                           |                     |              |                 |
| Health anxiety             | 1.12        | (0.99, 1.27)        | 3.12         | .077            | 0.94                      | (0.77, 1.15)        | 0.34         | .558            |
| Intero-active              | 0.97        | (0.83, 1.13)        | 0.16         | .692            | <b>1.26</b>               | <b>(1.01, 1.55)</b> | <b>4.33</b>  | <b>.038</b>     |
| Intero-relax               | 0.98        | (0.87, 1.11)        | 0.07         | .786            | 1.12                      | (0.92, 1.35)        | 1.29         | .256            |
| Impulsivity                |             |                     |              |                 |                           |                     |              |                 |
| Premeditation              | 1.13        | (0.99, 1.28)        | 3.44         | .064            | 1.19                      | (0.97, 1.45)        | 2.81         | .094            |
| Urgency                    | 1.02        | (0.93, 1.11)        | 0.11         | .739            | 0.90                      | (0.78, 1.04)        | 2.14         | .144            |
| Sensation seeking          | <b>0.90</b> | <b>(0.83, 0.98)</b> | <b>5.72</b>  | <b>.017</b>     | 1.03                      | (0.90, 1.18)        | 0.16         | .694            |
| Perseverance               | <b>1.11</b> | <b>(1.02, 1.22)</b> | <b>5.24</b>  | <b>.022</b>     | 1.03                      | (0.89, 1.19)        | 0.15         | .702            |
| Social connection          |             |                     |              |                 |                           |                     |              |                 |
| Empathy                    | 0.97        | (0.84, 1.12)        | 0.16         | .692            | 0.95                      | (0.75, 1.19)        | 0.22         | .638            |
| Loneliness                 | <b>0.89</b> | <b>(0.82, 0.97)</b> | <b>7.75</b>  | <b>.005</b>     | 1.01                      | (0.88, 1.16)        | 0.03         | .865            |

**Table 1 (continued)**

|                                           | Handwashing |                     |             |             | Social Contact Limitation |                     |              |                 |
|-------------------------------------------|-------------|---------------------|-------------|-------------|---------------------------|---------------------|--------------|-----------------|
|                                           | OR          | (95% CI)            | Wald        | p           | OR                        | (95% CI)            | Wald         | p               |
| Interactions effects                      |             |                     |             |             |                           |                     |              |                 |
| Socio-demographics                        |             |                     |             |             |                           |                     |              |                 |
| Sex × Residency                           | 0.86        | (0.54, 1.34)        | 0.46        | .499        | 1.09                      | (0.56, 2.07)        | 0.07         | .790            |
| Age × Residency                           | 1.01        | (1.00, 1.03)        | 2.68        | .102        | 1.02                      | (1.00, 1.04)        | 3.48         | .062            |
| Education level × Residency               | 0.85        | (0.55, 1.31)        | 0.53        | .467        | 1.65                      | (0.91, 2.98)        | 2.77         | .096            |
| (Para)medical field × Residency           | 0.97        | (0.66, 1.44)        | 0.02        | .884        | 1.32                      | (0.70, 2.55)        | 0.74         | .391            |
| Theory of Planned Behavior                |             |                     |             |             |                           |                     |              |                 |
| Intentions × Residency                    | 0.98        | (0.72, 1.35)        | 0.01        | .919        | 1.17                      | (0.89, 1.53)        | 1.21         | .272            |
| Attitudes × Residency                     | 0.94        | (0.75, 1.17)        | 0.30        | .583        | 1.27                      | (0.91, 1.75)        | 2.05         | .152            |
| Social norms × Residency                  | 1.01        | (0.85, 1.19)        | 0.01        | .934        | 0.82                      | (0.61, 1.09)        | 1.80         | .180            |
| Perceived control × Residency             | 1.05        | (0.85, 1.30)        | 0.20        | .656        | 0.83                      | (0.66, 1.05)        | 2.52         | .113            |
| Emotions                                  |             |                     |             |             |                           |                     |              |                 |
| Attentive/Determined × Residency          | 1.07        | (0.81, 1.42)        | 0.22        | .641        | 0.94                      | (0.60, 1.47)        | 0.06         | .801            |
| Enthusiastic/Happy × Residency            | 1.07        | (0.82, 1.39)        | 0.22        | .636        | 0.97                      | (0.65, 1.44)        | 0.03         | .869            |
| Angry/Agitated × Residency                | 0.90        | (0.70, 1.16)        | 0.64        | .424        | <b>1.99</b>               | <b>(1.35, 2.95)</b> | <b>11.92</b> | <b>&lt;.001</b> |
| Frightened/Anxious × Residency            | 1.05        | (0.78, 1.41)        | 0.10        | .746        | <b>0.59</b>               | <b>(0.37, 0.93)</b> | <b>5.16</b>  | <b>.023</b>     |
| Physiological aspects                     |             |                     |             |             |                           |                     |              |                 |
| Health anxiety × Residency                | 1.04        | (0.81, 1.34)        | 0.08        | .777        | 1.19                      | (0.80, 1.76)        | 0.72         | .397            |
| Intero-active × Residency                 | 0.81        | (0.60, 1.09)        | 2.01        | .157        | <b>1.84</b>               | <b>(1.20, 2.82)</b> | <b>7.75</b>  | <b>.005</b>     |
| Intero-relax × Residency                  | 0.98        | (0.76, 1.26)        | 0.03        | .869        | 1.07                      | (0.73, 1.56)        | 0.12         | .726            |
| Impulsivity                               |             |                     |             |             |                           |                     |              |                 |
| Premeditation × Residency                 | <b>1.37</b> | <b>(1.06, 1.77)</b> | <b>5.80</b> | <b>.016</b> | 1.26                      | (0.85, 1.88)        | 1.32         | .250            |
| Urgency × Residency                       | 1.10        | (0.92, 1.32)        | 1.07        | .300        | 0.77                      | (0.58, 1.02)        | 3.29         | .069            |
| Sensation seeking × Residency             | 0.97        | (0.81, 1.15)        | 0.15        | .698        | 1.06                      | (0.81, 1.40)        | 0.18         | .673            |
| Perseverance × Residency                  | 1.16        | (0.97, 1.39)        | 2.51        | .113        | 0.76                      | (0.56, 1.02)        | 3.38         | .066            |
| Social connection                         |             |                     |             |             |                           |                     |              |                 |
| Empathy × Residency                       | 0.78        | (0.58, 1.05)        | 2.63        | .105        | 0.80                      | (0.50, 1.28)        | 0.83         | .363            |
| Loneliness × Residency                    | 0.87        | (0.73, 1.03)        | 2.73        | .098        | 0.93                      | (0.71, 1.23)        | 0.24         | .624            |
| <i>Model's Nagelkerke's R<sup>2</sup></i> |             | <b>.24***</b>       |             |             | <b>.14***</b>             |                     |              |                 |

Note: Binary variables were coded as follow: Handwashing (Not applied = 0, Applied = 1); Social contact limitation (Not applied = 0, Applied = 1); Residency (Belgium = -1/2, France = +1/2); Sex (Male = -1/2, Female = +1/2); Education level (At least primary = -1/2, At least secondary = +1/2); (Para)medical field (No = -1/2, Yes = +1/2). OR = Odds-ratios; 95%CI = 95% confidence interval of the OR. Significant effects ( $p < .05$ ) are in bold.