

The Difficulties in Emotion Regulation Scale (DERS)

Factor Structure and Consistency of a French Translation

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Abstract. Successful emotion regulation is a key aspect of efficient social functioning and personal well-being. Difficulties in emotion regulation lead to relationship impairments and are presumed to be involved in the onset and maintenance of some psychopathological disorders as well as inappropriate behaviors. Gratz and Roemer (2004) developed the Difficulties in Emotion Regulation Scale (DERS), a comprehensive instrument measuring emotion regulation problems that encompasses several dimensions on which difficulties can occur. The aim of the present work was to develop a French translation of this scale and to provide an initial validation of this instrument. The French version was created using translation and backtranslation procedures and was tested on 455 healthy students. Congruence between the original and the translated scales was .98 (Tucker's phi) and internal consistency of the translation reached .92 (Cronbach's α). Moreover, test-retest scores were highly correlated. Altogether, the initial validation of the French version of the DERS (DERS-F) offers satisfactory results and permits the use of this instrument to map difficulties in emotion regulation in both clinical and research contexts.

Keywords: emotion regulation, DERS, factor analysis, French translation, emotion regulation difficulties

Emotion regulation is defined as the set of processes involved in coping with relatively strong emotional episodes

(Kopp, 1989). More specifically, emotion regulation refers to the processes that initiate, maintain, and/or modulate feelings and emotion-related physiological activities (Eisenberg & Spinrad, 2004). These processes are used to influence the kinds of emotions that are felt as well as how and when they are expressed (Gross, 1998). Emotion regulation intervenes when the current emotion impedes individuals' goal achievement and is accomplished through forcing the emotional system into another configuration (Hoeksma, Oosterlaan, & Schipper, 2004).

Functional emotion regulation permits the individual to successfully interact in various domains of his/her social life, at work, as well as in more intimate relationships (Gross & Munoz, 1995). In order to achieve appropriate emotion regulation, one must be able to understand, accept, and modulate emotions, as well as to adapt one's behavior in response to various kinds of situations. Deficits in these abilities result in difficulties to achieve successful emotion regulation (Gratz & Roemer, 2004). Several articles have discussed the long-term consequences of difficulties in emotion regulation (see Davidson, Putnam, & Larson, 2000; Denollet, Nykliček, & Vingerhoets, 2008; Philippot, Baeyens, Douilliez, & Francart, 2004). In addition to social difficulties due to poor emotional management, emotion regulation failure may also be present in numerous psycho-

pathological disorders (Gross, 2002; Gross & Levenson, 1997), including depression (Gross & Munoz, 1995).

Instruments that assess emotion regulation difficulties are useful for measuring the extent of the regulation impairments in patients and for identifying potential therapy goals. In turn, research evaluating emotion regulation competences in healthy participants (while investigating the development of emotional processes) can help us to better understand the respective effects of emotion and emotion regulation on outcomes such as expressivity or subjective feeling.

Gratz and Roemer (2004) developed an instrument to specifically identify difficulties in emotion regulation: the Difficulties in Emotion Regulation Scale (DERS). This instrument aims to assess emotion regulation difficulties in a comprehensive manner. Indeed, the authors deplored the fact that previous studies on emotion regulation difficulties considered emotion regulation from a single point of view, often emphasizing only one facet of the construct (e.g., either control of experience, control of expression, or modulation of experience). Thus, the DERS items were chosen to simultaneously evaluate difficulties in four domains of emotion regulation: (1) awareness and understanding of emotion, (2) acceptance of emotion, (3) ability to adopt goal-directed behaviors, and (4) ability to access efficient

regulation strategies. A key feature of this scale is that it groups a variety of elements known to be involved in emotion regulation into a single instrument.

Practitioners as well as researchers studying emotional processes find useful to be able to comprehensively address the broad concept of emotion regulation difficulties with a single instrument. It would thus be beneficial to distribute the DERS broadly, including in non-English-speaking countries. Given the lack of such an instrument in the French language, the aim of the present research was to develop and examine the structure and consistency of a French version of the DERS, named the DERS-F. Here, we introduce the DERS-F and the results of its initial validation in healthy adults.

Method

Participants

A sample of 455 students (423 women, 32 men) filled out the questionnaire to allow us to examine the factor structure and the consistency of the scale. Their mean age was 24.2 years ($SD = 6.1$). 75% (341) of the participants were French native speakers, 5% (24) spoke Spanish, 5% (22) Italian, 4% (17) German, and 11% (51) had some other native language. All participants were enrolled in a university program taught in French and either received course credit (psychology students) or were paid for their participation.

To explore the test-retest reliability of the scale, 41 psychology students (36 women, 5 men) completed the DERS-F twice, with a nine-week interval between tests. Their mean age was 23.1 years ($SD = 5.8$). More than 80% of these participants were French native speakers and all of them were enrolled in a university program taught in French. These participants received course credit for their participation.

Original Instrument

The final version of the DERS in English contains 36 items that estimate the severity of the deficits in the four emotion-regulation domains mentioned above. All items are scored on a five-point Likert scale from 1 = *almost never* to 5 = *almost always*, which indicates the frequency of the behavior described in each item.

The DERS has been validated by its authors. From the results of 357 participants, principal axis factor extraction and Promax rotation triggered a six-factor structure that accounted for 55.68% of the total variance. The instrument thus assesses six underlying dimensions, named (1) nonacceptance of emotional response, (2) difficulties in adopting goal-directed behaviors, (3) difficulties in controlling impulsive behaviors, (4) lack of emotional awareness, (5) limited access to emotion regulation strategies, and (6) lack of

emotional identification or clarity. Most but not all factor pairs correlated with one another ($r = .08$ to $r = .63$). Internal consistency (Cronbach's α) was relatively high (.93). Each factor of the scale had an internal consistency over .80. A test-retest reliability analysis (using intraclass correlation coefficients) with 21 participants and a 4- to 8-week interval between tests revealed a strong reproducibility of the scores ($\rho = .88$ for the total scale score).

Translated Instrument

First, the 36 items of the English version of the DERS were translated into French. Translation was mainly performed by the first author, with the help of other Geneva Emotion Research Group members on selected items. The culture and language particularities of the targeted population were extensively taken into account during translation (see Hambleton, 2001; and Hambleton & Patsula, 1999) to ensure the best fit to a French-speaking population. The first translated version was then backtranslated in accordance with the recommendation by Massoubre and collaborators (Massoubre, Lang, Jaeger, Jullien, & Pellet, 2002). Four psychology students were recruited to backtranslate the scale: three women and one man, with a mean age of 27 years ($SD = 9.7$). They all had extensive knowledge of the English language (they all began to learn English before age 4 and followed at least 1 year of school in an English-speaking country). A comparison of the items led to the immediate acceptance of 21 translated items as at least three of the four backtranslators exactly reproduced the original English items. Eleven item translations were corrected due to details that were found to be missing in the English backtranslation, and the Geneva Research Group members discussed the remaining four items to find more appropriate translations. A final translation of the 36-item scale was then retained for testing. The final items with the associated theoretical factors are presented in Table 1.

Table 1
Tested items of the DERS-F with the corresponding expected factor classification

Item	Expected factor
1) Je comprends bien mes sentiments	6
2) Je fais attention à ce que je ressens	4
3) Les expériences émotionnelles me submergent et sont incontrôlables	3
4) Je n'ai aucune idée concernant comment je me sens	6
5) J'ai des difficultés à donner un sens à mes sentiments	6
6) Je fais attention à mes sentiments	4
7) Je sais exactement comment je me sens	6
8) Je prends garde à ce que je ressens	4
9) Je suis déconcerté(e) par ce que je ressens	6

Table 1 (continued)

Item	Expected factor
10) Quand je suis contrarié(e), je prends en compte cette émotion	4
11) Quand je suis contrarié(e), le fait de ressentir une telle émotion me met en colère contre moi-même	1
12) Quand je suis contrarié(e), je suis embarrassé(e) de ressentir une telle émotion	1
13) Quand je suis contrarié(e), j'ai de la difficulté à terminer un travail	2
14) Quand je suis contrarié(e), je deviens incontrôlable	3
15) Quand je suis contrarié(e), je crois que je vais rester comme ça très longtemps	5
16) Quand je suis contrarié(e), je crois que je vais bientôt me sentir très déprimé(e)	5
17) Quand je suis contrarié(e), je crois que mes sentiments sont valables et importants	4
18) Quand je suis contrarié(e), j'ai des difficultés à me concentrer sur d'autres choses	2
19) Quand je suis contrarié(e), je me sens incontrôlable	3
20) Quand je suis contrarié(e), je peux continuer à faire des choses	2
21) Quand je suis contrarié(e), j'ai honte de ressentir une telle émotion	1
22) Quand je suis contrarié(e), je sais que je peux trouver un moyen pour enfin aller mieux	5
23) Quand je suis contrarié(e), je me sens désarmé(e)	1
24) Quand je suis contrarié(e), je sens que je peux garder le contrôle de mes comportements	3
25) Quand je suis contrarié(e), je me sens coupable de ressentir une telle émotion	1
26) Quand je suis contrarié(e), j'ai des difficultés à me concentrer	2
27) Quand je suis contrarié(e), j'ai des difficultés à contrôler mon comportement	3
28) Quand je suis contrarié(e), je crois qu'il n'y a rien que je puisse faire pour me sentir mieux	5
29) Quand je suis contrarié(e), je m'en veux de ressentir une telle émotion	1
30) Quand je suis contrarié(e), je me sens vraiment mal	5
31) Quand je suis contrarié(e), je pense que me complaire dans ces contrariétés est la seule chose à faire	5
32) Quand je suis contrarié(e), je perds le contrôle de mes comportements	3
33) Quand je suis contrarié(e), j'ai des difficultés à penser à autre chose	2
34) Quand je suis contrarié(e), je prends le temps de découvrir ce que je ressens vraiment	4
35) Quand je suis contrarié(e), cela prend du temps avant que je ne me sente mieux	5
36) Quand je suis contrarié(e), mes émotions prennent le dessus	5

Note. Factors: 1: Nonacceptance of emotional response, 2: Difficulties in adopting goal-directed behaviors, 3: Difficulties in controlling impulsive behaviors, 4: Lack of emotional awareness, 5: Limited access to emotion regulation strategies, and 6: Lack of emotional identification or clarity.

Procedure

Participants completed the DERS-F as well as other questionnaires measuring several aspects of their personality, emotional life, and anxiety state. The presentation order of the questionnaires was randomized. Testing took place during the participant selection of another study. Participants provided informed consent prior to the session. All participants were informed about the confidential nature of the data. Participants were tested in groups of 8 to 20 participants in a seminar room. They were instructed to complete the questionnaires individually; they were assured of the absence of good or bad answers and were told that they should not spend too much time on each item. The specific instruction for the DERS-F was a French version of the following: "The DERS-F is a scale assessing your attention to your emotions in everyday life and to what extent you use such information. For each item, tick to what degree it corresponds to you." The session lasted about 1 h. The students were then debriefed, either just after the session or in a separate session a few weeks after testing.

Statistical Analyses

For comparison purposes, statistical analyses were based on the initial validation procedure (English version) described by Gratz and Roemer (2004). Exploratory factor analysis was performed, as well as exploration of the internal consistency of the scale and the six predicted subscales. Finally, an analysis of the test-retest procedure was performed.

Results

Exploratory Analysis

A first exploratory factor analysis (principal axis factoring with Promax rotation) gave a solution of seven factors according to the scree-test criterion (Cattell, 1966) and a confirmation by line fit to remaining eigenvalues ($R^2 > .90$, see Nelson, 2005). This solution explained 64.5% of the total variance. Each item was categorized into the factor for which the absolute value of the rotated loading was maximal. One factor was strictly identical to the original solution: "2) Difficulties in adopting goal-directed behaviors." Five factors were very similar to the original solution, with only one or two items which were not in the expected factor: "1) Nonacceptance of emotional response" (only Item 23 missing); "3) Difficulties in controlling impulsive behaviors" (only Item 3 missing); "4) Lack of emotional awareness" (Items 17 and 34 missing); "5) Limited access to emotion regulation strategies" (Item 22 missing and additional Item 23 included); and "6) Lack of emotional identification or clarity" (additional Item 3 included). Three items (17, 22, and 34) were assigned to Factor 7.

Table 2
Loadings of the rotated solution for the six-factor structure of the 36 items of the DERS-F

Item no in French version	Strate- gies	Goals	Factors			
			Nonac- ceptance	Impulse	Aware- ness	Clarity
Congruent						
Item 28	.89	-.13	.05	.05	.06	-.04
Item 22	.76	.17	-.10	-.12	.38	-.23
Item 35	.68	.12	-.02	-.15	-.07	.11
Item 15	.67	-.06	-.05	.15	-.05	.10
Item 31	.64	-.19	-.02	.18	.10	.05
Item 16	.63	-.03	.00	.04	-.08	.18
Item 30	.61	.09	.17	-.07	-.13	.07
Item 36	.35	.32	.09	.16	-.09	-.10
Item 18	-.03	.90	-.04	-.01	-.06	.07
Item 20	-.07	.86	-.03	.05	.17	-.21
Item 26	-.02	.85	.01	.01	-.04	.08
Item 13	-.13	.81	.02	.05	-.14	.17
Item 33	.21	.74	.05	-.06	-.01	-.04
Item 29	.01	-.01	.85	.05	.04	-.01
Item 21	-.03	.00	.85	.04	.03	-.01
Item 25	.07	.01	.85	.03	-.01	-.05
Item 12	.01	-.02	.81	-.06	-.03	.08
Item 11	.00	.04	.65	.09	.00	.09
Item 32	-.06	-.05	.05	.85	.01	.05
Item 27	.01	.03	.05	.84	-.03	-.04
Item 14	.07	-.05	.03	.83	-.02	.02
Item 19	.08	.02	.04	.83	.01	-.05
Item 24	.02	.18	-.04	.67	.19	-.30
Item 6	-.20	-.02	.05	.12	.74	.25
Item 2	-.09	-.05	-.05	.13	.73	.26
Item 8	.02	.05	-.02	-.06	.72	.19
Item 34	.23	-.03	-.11	.07	.70	-.09
Item 10	.05	-.05	.00	.00	.66	-.05
Item 17	.02	.00	.33	-.23	.54	-.16
Item 4	-.05	-.05	.17	-.08	.10	.76
Item 5	.19	-.03	-.05	-.09	.11	.73
Item 1	.10	.06	-.07	.02	.34	.56
Item 7	-.06	.15	-.04	-.03	.46	.51
Item 9	.34	-.02	-.01	-.03	-.22	.46
Incongruent						
Item 3	.27	.11	-.08	.24	-.19	.23
Item 23	.44	.05	.16	.04	.02	.18

Note. For each item, maximal factor loadings are in **bold**. Congruent items are items that load maximally on the expected factor, incongruent items are items that load maximally on a different factor than the one gathering the other items belonging to the same subscale. Strategies = Factor "Limited access to emotion regulation strategies," Goals = Factor "Difficulties in adopting goal-directed behaviors," Nonacceptance = Factor "Nonacceptance of emotional response," Impulse = Factor "Difficulties in controlling impulsive behaviors," Awareness = Factor "Lack of emotional awareness," and Clarity = Factor "Lack of emotional identification or clarity."

Exploration of a Six-Factor Structure

Another exploratory factor analysis with the same extraction/rotation parameters was performed. This time, however, the number of factors was set to six (i.e., the number of factors chosen by the authors of the DERS). This solution explained 61.2% of the total variance. As in the first analysis, each item was assigned to the factor for which the absolute value of the rotated loading was highest. A matrix of the loadings resulting from this analysis is presented in Table 2.

Only two items (3 and 23) did not load maximally on the same factor the other items presumed to belong to the same subscale. Item 3's loading on the expected factor was however very close to the highest loading observed (.24 and .27, respectively). Separate extractions performed for each theoretical factor led to the correct assignment of the two problematic items to their own original factor (no separation into multiple factors), although presenting generally less affiliation with them (factor loadings: Item 3: .59, mean loading of the other items on the factor: .82; and Item 23: .57, mean loading of the other items on the factor: .83). Correlations between subscales were then calculated and are presented in Table 3. For this analysis, scores on each factor were computed by taking into account the original categorization of items.

Table 3
Correlations between scores on the six presumed factors ($N = 455$)

Factor	Nonac- ceptance	Goals	Im- pulse	Aware- ness	Strate- gies	Clarity
Nonacceptance	–					
Goals	.45**	–				
Impulse	.56**	.54**	–			
Awareness	-.03	-.09	-.01	–		
Strategies	.61**	.66**	.67**	-.02	–	
Clarity	.38**	.34**	.40**	.30**	.47**	–

Note. Nonacceptance = Factor "Nonacceptance of emotional response," Goals = Factor "Difficulties in adopting goal-directed behaviors," Impulse = Factor "Difficulties in controlling impulsive behaviors," Awareness = Factor "Lack of emotional awareness," Strategies = Factor "Limited access to emotion regulation strategies," and Clarity = Factor "Lack of emotional identification or clarity." ** $p < .01$.

Overall, the French version was 94% compatible with the original scale. To better estimate the congruence between the original version and its translation, Tucker's phi congruence index was computed for each factor (Tucker, 1951; Zumbo, Sireci, & Hambleton, 2003). With a mean index of .98 for the scale, ranging between .96 and .99, the two versions are highly congruent. Details concerning factor congruency are reported in Table 4.

Internal Consistency

Cronbach's α of the overall scale was .92. Deletion of the two problematic items (see above) did not increase this

Table 4
Tucker's phi (congruence index) of original and translated item loadings on each of the six retained factors

Factor	Tucker's phi (congruence index)
1) Nonacceptance of emotional response	.97
2) Difficulties in adopting goal-directed behaviors	.99
3) Difficulties in controlling impulsive behaviors	.96
4) Lack of emotional awareness	.99
5) Limited access to emotion regulation strategies	.96
6) Lack of emotional identification or clarity	.98
Average	.98

Table 5
Cronbach's alpha for the six subscales of the DERS-F (N = 455)

Factor	Cronbach's alpha
1) Nonacceptance of emotional response	.87
2) Difficulties in adopting goal-directed behaviors	.90
3) Difficulties in controlling impulsive behaviors	.87
4) Lack of emotional awareness	.80
5) Limited access to emotion regulation strategies	.87
6) Lack of emotional identification or clarity	.74
Average	.84

value. Table 5 presents the Cronbach's alpha for the six theoretical factors.

Corrected item-total correlations (CITC) for each item ranged from $r = .14$ to $r = .68$ ($p < .001$) for 34 items of the scale, including the two items that did not maximally load on their presumed factor (3 and 23). Items 10 and 17 were not significantly correlated with the total score ($r = .03$ and $r = 0$, respectively). Table 6 presents, for each theoretical factor, the means (and ranges) of inter-item and corrected item-subscale total correlations.

Test-Retest Reliability

The intra-class correlation between the two overall scores obtained with a 9-week interval was $\rho = .88$ ($p < .01$). In-

tra-class correlations between scores on each of the factors were $\rho = .74$ for Factor 1 ("Nonacceptance of emotional response"); $\rho = .76$ for Factor 2 ("Difficulties in adopting goal-directed behaviors"); $\rho = .83$ for Factor 3 ("Difficulties in controlling impulsive behaviors"); $\rho = .67$ for Factor 4 ("Lack of emotional awareness"); $\rho = .90$ for Factor 5 ("Limited access to emotion regulation strategies"); and $\rho = .79$ for Factor 6 ("Lack of emotional identification or clarity"). All coefficients were significant at $p < .01$.

Discussion

The aim of the present work was to create a valid French translation of the DERS (the DERS-F). The initial instrument was translated and backtranslated for adjustment of some items. The structure and reliability analyses were performed with a large sample of students ($N = 455$), with very satisfying results.

As does the original instrument, the DERS-F results in a structure explained by six or seven underlying dimensions. All predicted factors are globally reproduced and both scales are highly congruent as revealed by the Tucker's phi, highlighting the strong similarity of the two versions. The explained variance obtained with the second factor analysis (with the number of factors set to six) is nearly 6% higher than the percentage obtained by the solution for the original English version (61.2% here vs. 55.7% for the English version). As for the original English version, the factors of the French version correlated fairly well with one another. Cronbach's alpha for both the French and the English versions were rather high overall ($\alpha = .92$ and $.93$, respectively). The subscales also had satisfactory consistency, with Cronbach's alpha varying around .84 (as compared to the variation around .85 for the original scale). Test-retest reliability of the full scale was found to be fairly high and identical to what was found by Gratz and Roemer (2004). The different subscale scores were also reproducible over a period of time of nine weeks (with ρ values over .67), indicating highly significant agreement between the two session scores.

However, four items of the new scale require cautious use: 3, 23, 10, and 17. Items 3 and 23 did not maximally

Table 6
Means (ranges) of inter-item and corrected item-subscale total correlations for the six subscales of the DERS-F (N = 455)

Factor	Correlations			
	Inter-item		Corrected item-subscale total	
1) Nonacceptance of emotional response	.54	(.35-.77)	.68	(.46-.80)
2) Difficulties in adopting goal-directed behaviors	.64	(.50-.78)	.75	(.59-.84)
3) Difficulties in controlling impulsive behaviors	.53	(.33-.82)	.68	(.47-.79)
4) Lack of emotional awareness	.40	(.21-.73)	.56	(.32-.70)
5) Limited access to emotion regulation strategies	.45	(.28-.60)	.62	(.45-.76)
6) Lack of emotional identification or clarity	.37	(.12-.54)	.51	(.34-.60)

load with their presumed factor in the second factor analysis, but were not different enough from it to require elimination (i.e., no separation into two different factors when all the items of the theoretical factors were analyzed separately). Moreover, these items were significantly and highly correlated with the corrected DERS-F total score, and with each of the items of their respective theoretical factor. Additionally, Item 3's second highest loading (which was very close to its highest) was the one linking it to its presumed factor. Thus, the results of these two items cannot strongly bias the overall score of difficulties in emotion regulation. Items 10 and 17 ("When I am upset, I acknowledge my emotions" and "When I am upset, I believe that my feelings are valid and important") were correctly assigned in the second factor analysis and had high and significant correlations with the other items on Factor 4 ("Lack of emotional awareness"). However, neither item showed a significant correlation with the overall score of the DERS-F. These items thus require cautious use as they may not be directly related to emotion regulation difficulties, although they certainly measure some aspects of the lack of emotional awareness. This explanation seems to be confirmed also by the divergence observed between this factor and the general construct evaluated by both the DERS and DERS-F. Indeed, correlations among the six factors of the scale show that Factor 4 ("Lack of emotional awareness") is the only factor with weaker or nonsignificant correlations with the other five factors of the scale. This last result was also found for the original English version and therefore does not seem to be the consequence of a mistranslation of these items. Two questions arise from these observations. Methodologically, one can question whether the use of reversed items for all items of a subscale (as is the case for Factor 4) does not profoundly modify the way of responding. Indeed, the measure of "lack of emotional awareness" is predominantly an index of the ease with which participants deal with emotions rather than the difficulty (which is mainly measured by the other subscales). Theoretically, one can question whether emotional awareness is part of the emotion regulation concept and if a lack of this ability reliably leads to difficulties in modifying, maintaining, or suppressing emotional expression or experience. The designers of the DERS mainly relied on the work done by Thompson and Calkins (1996) in their decision to include lack of emotional awareness as a factor of the scale. A major concern of this direct application is that Thompson and Calkins investigated emotion regulation in children. The lack of emotional awareness was identified in this latter work as problematic for identifying emotion and, therefore, for regulating its expression or its experience. However, this impairment may have less impact on adults than on children, and adults may circumvent a lack of emotional awareness by using different strategies that still permit successful emotion regulation. Thus, although it seems reasonable to think that a lack of emotional awareness may somehow have an impact on the emotion regulation process (Hoeksma et al., 2004; Novick-Kline,

Turk, Mennin, Hoyt, & Gallagher, 2005), more studies are required to define the role of emotional awareness in regulation and to understand why a lack of awareness is not systematically associated with difficulties in emotion regulation. We leave it up to the researchers using the DERS or the DERS-F to decide whether to analyze the Factor 4 items separately.

This first validation of the DERS-F was performed on healthy adults belonging to the student community. Further investigations should be carried out to assess the DERS-F in other samples (e.g., of people with other occupations, or of other age groups). An investigation of score distribution of psychopathological patients and an analysis of the predictive validity of the DERS-F with other instruments would also improve our understanding of the DERS-F. Nonetheless, we believe that the successful analyses presented in this paper offer the opportunity to reliably use the French version of the DERS, which can benefit both practitioners and researchers.

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The DERS-F is downloadable from the Swiss Center for Affective Sciences website (<http://www.affective-sciences.org/researchmaterial>, number 10 in the list) and can also be requested directly from the first author (elise.danglauser@gmail.com).

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