

\_Supplemental Table 1. Spearman correlations of the selected RAR variables with clinical outcomes in the winter among SAD participants

|                      | Hamilton Rating Scale<br>for Depression |       |         | Global Seasonality<br>Scale |             |             | Chalder Fatigue Scale |              |              |
|----------------------|-----------------------------------------|-------|---------|-----------------------------|-------------|-------------|-----------------------|--------------|--------------|
|                      | n                                       | r     | p-value | n                           | r           | p-value     | n                     | r            | p-value      |
| Change in IV         | 19                                      | -0.13 | 0.59    | 19                          | -0.44       | 0.06        | <b>18</b>             | <b>-0.60</b> | <b>0.009</b> |
| Winter IV            | 35                                      | 0.22  | 0.21    | 35                          | 0.16        | 0.35        | 34                    | 0.04         | 0.80         |
| Winter down-mesor    | 35                                      | 0.06  | 0.75    | <b>35</b>                   | <b>0.42</b> | <b>0.01</b> | 34                    | -0.22        | 0.22         |
| Change in down-mesor | 19                                      | 0.11  | 0.63    | 19                          | -0.14       | 0.57        | 18                    | -0.33        | 0.17         |
| Winter alpha         | 35                                      | -0.30 | 0.08    | 35                          | -0.09       | 0.61        | 34                    | -0.12        | 0.49         |

Supplemental Table 2. Spearman correlations of the selected RAR variables with clinical outcomes in the winter among control participants

|                      | Hamilton Rating Scale for<br>Depression |       |         | Global Seasonality<br>Scale |              |             | Chalder Fatigue Scale |              |              |
|----------------------|-----------------------------------------|-------|---------|-----------------------------|--------------|-------------|-----------------------|--------------|--------------|
|                      | n                                       | r     | p-value | n                           | r            | p-value     | n                     | r            | p-value      |
| Change in IV         | 26                                      | -0.09 | 0.66    | 26                          | 0.03         | 0.87        | 23                    | -0.04        | 0.87         |
| Winter IV            | 49                                      | 0.01  | 0.96    | 49                          | 0.04         | 0.81        | 46                    | -0.12        | 0.44         |
| Winter down-mesor    | 49                                      | -0.16 | 0.27    | <b>49</b>                   | <b>-0.31</b> | <b>0.03</b> | <b>46</b>             | <b>-0.46</b> | <b>0.001</b> |
| Change in down-mesor | 26                                      | 0.01  | 0.97    | 26                          | -0.27        | 0.18        | 23                    | 0.12         | 0.57         |
| Winter alpha         | 49                                      | -0.04 | 0.78    | 49                          | 0.25         | 0.08        | 46                    | 0.15         | 0.33         |