**Instructions on how to work with the data:**

The data of each of the two experiments are arranged in mat files. There is a mat file for each participant, which contains all the information that is recorded throughout the experiment. Loading the mat file in MATLAB will result in a cell of structs (according to the number of trials in the experiment), each of which contains the data from a single trial.

**Experiment 1:**

Each struct contains:

1. A matrix with the standard force field data, containing: the time, position (), velocity (), load force (), grip force (), the instructed tactors’ movement (the commands we sent to the motor that controls the tactors) and the recorded movements of the tactors (what we read from the motor).
2. The same matrix with the comparison force field data.
3. The comparison stiffness level.
4. The standard stiffness level.
5. The tactor displacement gain
6. The participant’s response of which force field had a higher level of stiffness (‘comp’ for comparison and ‘ref’ for standard).

**Experiment 2:**

Each struct (one per trial) in the mat file contains all the fields included in the structs in Experiment 1, as well as an additional four vectors:

1. The indices of the grip force peaks during the interaction with the standard force field.
2. The indices of the position peaks during the interaction with the standard force field.
3. The indices of the grip force peaks during the interaction with the comparison force field.
4. The indices of the position peaks during the interaction with the comparison force field.

We used the MATLAB function *findpeaks* to identify the grip force and position peaks, and then manually corrected them by visual examination. The resulting indices of the peak grip force and peak position (which correspond to the load force peaks) are presented in the struct fields 7-10.

**Supplementary File:**

1. **Quantifying the reactive control of grip force to artificial stretch stimulation**

* **Reactive Experiment 1:** the data from Experiment 1 (the analyses of the predictive component of the grip force are described in the main text, and the analyses of the reactive component are described in the Supplementary File).
* **Reactive Experiment 2:** mat files containingthe grip force trajectories of all the participants, arranged according to the skin-stretch gain and the different levels of target grip force.
* **Control Experiment 1:** mat files containingthe grip force trajectories normalized by the peak load force and arranged according to the skin-stretch gain**.**
* **Control Experiment 2:** mat files containingthe grip force trajectories arranged according to the skin-stretch gain.

1. **The mapping between the actual grip force and the downscaled measurement of the grip force:** text files of all the participants with the recorded grip force from each of the two force sensors - the embedded (column 13) and the external force (column 20) sensors.

**In order to run the codes of each of the analyses in MATLAB, the related data must be put in the same directories as the` codes of the same analysis.**