Supplementary Materials for

Quantifying Information Flow During Emergencies

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> **Figure S1**
> **Figure R1**
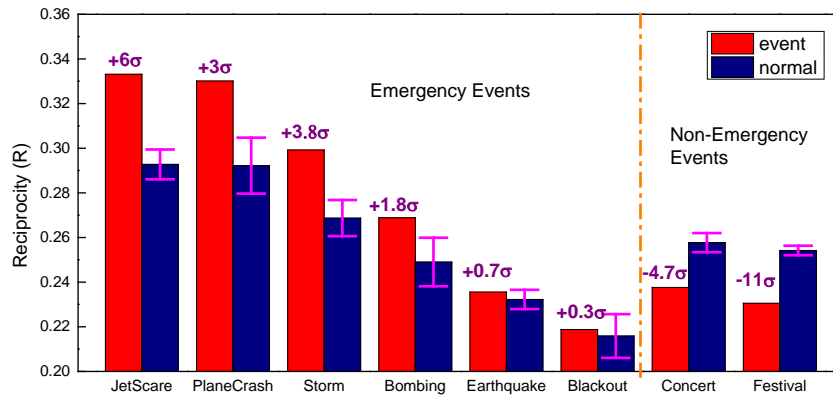> **Table R1**

Fiture S1

Figure-S1

Fig. S1. Additional reciprocity for more events.

Deeper insight of the synchronous spikes

Here the synchronicity between the two observed spikes in G_1 and G_0 is in qualitative terms, indicating the two peaks are visually proximate. Indeed, in order to calculate the communication volumes, we have to aggregate the data over a certain time window. In our manuscript, to be consistent with previous work, we used a ten-minute time interval. In doing so, it results in a measurement uncertainty of 10 minutes. We repeated Fig. 1 at a finer granularity by using five minutes as time interval. As shown in Fig. R1, we find the spikes remain synchronous visually. Yet further analysis reveals that the two peaks are not at the same moment any more (Table R1).
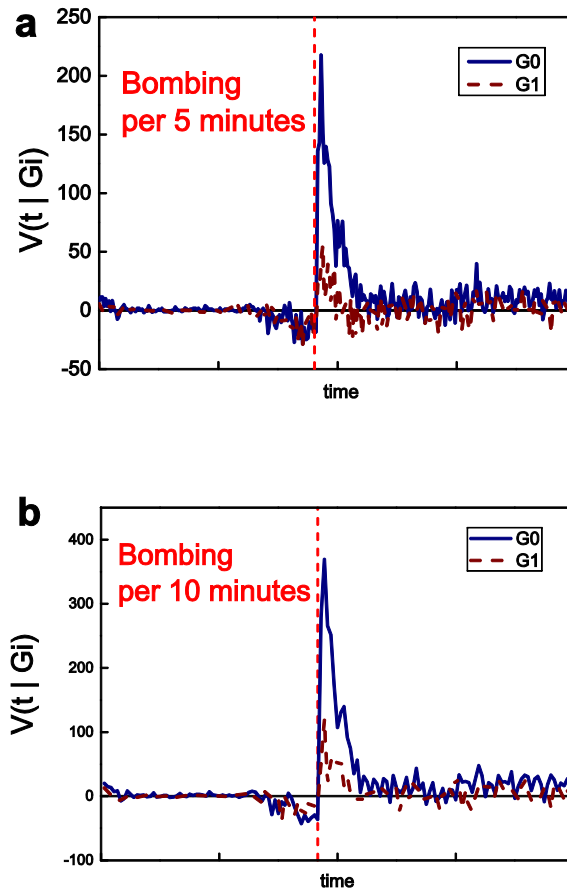

Figure R1. The temporal behavior of the call volume change under different minutes interval for Bombing.

Table R1 The peak time of call volume change for time intervals.

Time Interval	Peak Time	
	$\Delta V(t \mid G_0)$	$\Delta V(t \mid G_1)$
5 minutes	11:15	11:20
10 minutes	11:20	11:20