
Abstract

The mitigation of stress by social support is of obvious interest and widely studied. Animal models have been used extensively to elucidate the mechanisms involved. Typically, these examine the effects of social housing versus isolation, imparting resistance to stress before it is applied, or ameliorating its effects post hoc. Few experiments directly compare stress impinging upon an individual alone or in a social milieu. Here we compare the effects of stress on a solitary rat and on pairs of rats in a structured rank order of social propinquity. Rats were placed on a raised platform for 30 min under four conditions manipulating the degree of proximity between the rats: alone on the platform in the test room, on the platform with a cagemate in a cage elsewhere in the room, two rats each on a raised platform 40 cm apart and two rats each on a raised platform 0 cm apart. Immediately after the stress, the rats were tested in an open field. We find that stress is mitigated proportionally: stress was reduced the more salient the other rat’s cues were and the closer the rats were to each other.