Comparatively little is known about the mechanisms underlying recognition of human actions, and at least part of this is due to the fact that tools for the study of human action recognition are scarce. We have been using blended movements (Kovar & Gleicher, 2003) to study the recognition of movement prototypes and their in-between blends. Initial studies into human recognition revealed evidence for categorical responding and rapid transitions of action response as blend parameter varied between actions (Pollick, et al, SFN 05). Related electrophysiological studies of macaque superior temporal sulcus neurons, using three-way movement blends between knocking, lifting and throwing, have revealed that ISOMAP analysis of firing rates appear to preserve the physical structure of the blend space and that some neurons respond equally well to presentation of the motion of only the end-effector as to presentation of the motion of the whole body (Vangeneugden, Pollick & Vogels, SFN06). In this study we examined human judgments of dissimilarity between pairs of movements taken from the same set of movement blends used in the monkey study: 2-second movements involving the 18 evenly spaced three-way blends along with the 3 basis movements of knocking, lifting and throwing. From this set of movements, two display conditions were created; the first involved the whole-body represented as point-lights connected by lines, the second involved the motion of the single point at the end-effector of the moving arm. For both display conditions, participants viewed sequential presentation of all possible pairs of movements of that condition and provided a response of the dissimilarity of each pair. Average dissimilarity matrices were examined with ISOMAP, MDS and cluster analysis. Consistent with the neuronal data, human behavioral responses also appeared largely to preserve the blend structure. Moreover, whole-body results and end-effector results were quite similar in the nature of their low dimensional representations, although cluster analysis indicated that responses to the single point appeared less structured.