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Person identification from biological motion: Effects of structural and kinematic cues.

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Human observers are able to identify a person based on his or her gait. However, little is known about the underlying mechanisms and the kind of information used to accomplish such a task. In this study, participants learned to discriminate seven male walkers shown as point-light displays from frontal, half-profile, or profile view. The displays were gradually normalized with respect to size, shape, and walking frequency, and identification performance was measured. All observers quickly learned to discriminate the walkers, but there was an overall advantage in favor of the frontal view. No effect of size normalization was found, but performance deteriorated when shape or walking frequency was normalized. Presenting the walkers from novel viewpoints resulted in a further decrease in performance. However, even after applying all normalization steps and rotating the walker by 90º, recognition performance was still nearly three times higher than chance level.