

Abstract

This thesis will introduce the specifics of female locomotion, describe the level of morphological sexual dimorphism, and determine their effects on human locomotion. First of all, the thesis focuses on human sexual dimorphism in morphology and compares it with sexual dimorphism in primates. It focuses primarily on body size and proportions, lower limb length, and the pelvis. Additionally, the thesis analyses how sexual dimorphism explains the female costs of locomotion, optimal speed, and the differences in locomotion during pregnancy, infant carrying, and load carrying. Finally, the thesis analyses obstetrical dilemma hypothesis, which posits that the shape of the human female pelvis reflects an evolutionary trade-off between two competing demands, childbirth and bipedal locomotion. In light of new evidence, we concluded that human childbirth may not be limited by bipedalism as posited by the original hypothesis.

Key words: sexual dimorphism, optimal walking speed, cost of transport, pregnancy, obstetrical dilemma, transport