

WHAT DO YOU THINK?

EARLY BIRDS, CLIMATE AND CULTURE

Is this cross-cultural study of morningness correlational or experimental? Why might people from warmer regions display greater morningness? What factors other than climate might explain these results? Think about it, then see p. 278.

WHAT DO YOU THINK?

HYPNOSIS AND AMAZING FEATS

In the case of the human-plank and in the allergy experiment, what additional evidence do you need to determine whether these amazing feats and responses really are caused by hypnosis? How could you gather this evidence? Think about it, then see p. 278.

WHAT DO YOU THINK?

EARLY BIRDS, CLIMATE, AND CULTURE (p. 236)

As a critical thinker, it is important to keep in mind that correlation does not establish causation. This is a correlational study, not an experiment. The major variables (climate of country, students' degree of morningness) were not manipulated; they were only measured. The association between climate and morningness suggests the possibility of a causal relation, but we must consider other possible explanations.

First, why might climate affect morningness? The researchers (who were from India, Spain, Wales and the USA) hypothesized that to avoid performing daily activities during the hottest part of the day, people who live in warmer climates adapt to a pattern of rising early in the morning, a finding consistent with a prior study that revealed strong tendencies towards morningness among Brazilians (Benedito-Silva et al., 1989).

Second, as the authors note, these results could be due to factors other than climate. The Netherlands, England and the USA share a northern-European heritage, and perhaps some aspect of this common background predisposes people towards less morningness. Yet, say the authors, India's cultural traditions are distinct from those of Spain and Colombia, so it is difficult to apply the 'common cultural heritage' argument to explain the greater morningness found among students from these countries. If not cultural heritage, perhaps the greater industrialization and use of air-conditioned environments in the Netherlands, England and the USA to avoid summer heat reduce the necessity for residents to adapt circadian cycles to local climatic conditions. Strip away the air-conditioning from homes, workplaces, food markets, shopping centres, and cars, buses and trains, and it would be interesting to see whether people would gradually shift towards greater morningness in hot weather. Aware of the limitations of the study, the authors suggest that climate may be just one of several factors that contribute to cross-cultural differences in morningness.

HYPNOSIS AND AMAZING FEATS (p. 273)

No matter what the claim, as critical thinkers, it is always important to think about the concept of control groups. Thus, you should keep this question in mind: what would have happened anyway, even without this special treatment or intervention, or condition? Applied to hypnosis, the key question is whether people can exhibit these same amazing feats when they are not hypnotized. When a stage hypnotist gets someone to perform the human plank, the audience indeed attributes this feat to the hypnotic trance. What the audience does not know is that an average man suspended in this manner can support 300 pounds on his chest with little discomfort and no need of a hypnotic trance. Indeed, Figure 6.34 shows The Amazing Kreskin, a professional performer and self-proclaimed 'mentalist', standing on someone who is not hypnotized.

As for the allergy experiment, the findings are impressive, but we must ask whether allergic people might show the same reactions if they were not hypnotized. For this reason, the researchers properly designed their experiment to measure the responses of eight non-hypnotized control participants (Ikemi and Nakagawa, 1962). When blindfolded and exposed to a toxic leaf but misled to believe that it was harmless, seven out of the eight non-hypnotized people did not show an allergic response. Conversely, when their arm was rubbed with a harmless leaf but they were falsely told it was toxic, all eight had an allergic reaction. In short, the non-hypnotized people responded the same way as the hypnotized subjects.

Other research shows that under hypnosis, vision in near-sighted people can be improved, warts can be cured and stomach acidity can be increased. However, well-controlled studies show that non-hypnotized subjects can exhibit these same responses (Spanos and Chaves, 1988). As we have already seen when discussing placebo effects and other mind-body interactions, people's beliefs and expectations can produce real physiological effects.