



# e-quilibrium

- *“electronic briefs on behavior and health”*

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## Embodiment

When we were children, my siblings and I were told to “sit up straight” or “stand up straight” by my parents if they noticed that we were slumping or slouching. I’m not sure what purpose they had for this admonition, other than a straight upward posture looking better to observers, or that perhaps they believed that slouching would be bad for our backs,

Of course, one’s mood affects posture. But does posture have any effect on psychological state? We do know that facial expression can affect mood. Smiling tends to promote more positive moods. Even holding a pencil in one’s teeth (forcing a smile) can increase current feelings of happiness. Using Botox to paralyze some specific facial muscles has been shown to diminish the experience of certain positive emotions. Furthermore, it has been demonstrated that positive or negative facial expression can affect ease of recall of positive or negative memories, respectively. But does posture affect mood?

When instructed to “sit up tall with your back straight, head up, eyes closed,” research participants were more readily able to generate positive thoughts than when instructed to “sit in a slumped position, head down, eyes closed.” In this study, measures of facial muscle activity corresponded to upright or slumped position, consistent with the positive and negative thoughts reported by the participants.

Directing individuals to be in an expansive posture (limbs occupying a lot of space) versus a constricted posture (limbs inward and close to or touching the body) has been associated with greater feelings of confidence and power.

Similarly, having individuals sit or stand in high power poses results in higher levels of testosterone. Additionally, persons placed in high-power poses have been found to be more likely to take risks in gambling exercises.

Other investigators have looked at how posture affects stress and anxiety. When anticipating a stressful experience (a mental arithmetic task in which participants were told to verbally subtract 13 and then add 5 from a starting number as quickly and correctly as possible), more anxiety was experienced in the standing position than when lying down. Correspondingly, heart rate was higher in the standing than in the supine position.

Overall, studies have generally found that posture does affect one's psychological experience, at least in the moment. Perhaps effecting momentary changes in mood could affect health behavior. The hypothesis would be that since people tend to have more self-control in positive moods, improving current mood and confidence through postural changes could potentially result in more motivation to exercise, or more willpower to resist comfort food. This might be particularly important for persons prone to negative emotions, or persons who struggle with motivation to practice healthy behaviors. To my knowledge, these hypotheses have not been studied.

I doubt that my parents told me to sit up straight because they wanted me to be happier, or experience more confidence or power. However, it looks like being aware of and adjusting one's posture is one way to affect psychological state, at least in the moment.

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