

ASHRAE Technical FAQ

ID 50

Question How does thermal comfort affect employee productivity?

Productivity is sometimes hard to measure and to determine the reason for changes. However, the relationship with air quality (including thermal comfort) has been studied and results published.

You may benefit from performing a keyword search at the ASHRAE website (www.ashrae.org/bookstore) to locate ASHRAE publications relevant the subject you are interested in. This searches all technical papers and proceedings from ASHRAE Meetings and Conferences, magazine articles, handbook chapters, standards, and other literature published by or available through ASHRAE. The following are related to thermal comfort and productivity:

Answer

- [Modeling of Subjective Responses to Indoor Air Quality and Thermal Conditions in Office Buildings](#) (HVAC&R Research, vol. 14, no. 6, November 2008)
- [Self-Assessed Productivity and the Office Environment](#) (ASHRAE Transactions Vol. 113, Part 1 #DA-07-066)
- [Indoor Temperature, Productivity, and Fatigue in Office Tasks](#) (HVAC&R Research, Vol. 13, no. 4, July 2007, pp. 623-633)
- [The Importance of Human Productivity to Air-Conditioning Control in Office Environments](#) (HVAC&R Research, Vol. 13, no. 1, p. 3-21)
- [Some Quantitative Relations between Indoor Environmental Quality and Work Performance or Health](#) (HVAC&R Research, Vol. 12, No. 4, October 2006)
- [Relating Human Productivity and Annoyance to Indoor Noise Criteria Systems: A Low Frequency Analysis](#) (ASHRAE Transactions Vol. 111, Part 1 #OR-05-6-4)
- [A Model to Estimate the Cost-Effectiveness of Improving Office Work through Indoor Environmental Control](#) (ASHRAE Transactions Vol. 111, Part 2 #DE-05-10-1)
- [Control of Temperature for Health and Productivity in Offices](#) (ASHRAE Transactions Vol. 111, Part 2 #DE-05-10-3)
- [Improving Profits By Reducing Rework](#) (ASHRAE Journal, vol. 45, no. 11, p. 62-63)
- [IEQ and the Impact on Building Occupants](#) (ASHRAE Journal, vol. 44, no. 4, p. 50-52)

[How IEQ Affects Health, Productivity](#) (ASHRAE Journal, vol. 44, no. 5, p. 56-58)

- [An Assessment of the Influence of the Indoor Environment on the Productivity of Occupants in Offices.](#) (1998 IAQ Conference "Design, Construction and Operation of Healthy Buildings" Proceedings)
- [Health and Productivity Benefits of Improved Indoor Air Quality](#) (ASHRAE Transactions Vol.104, Part 1#4161)
- [Relationships Between the Indoor Environment and Productivity: A Literature Review](#) (ASHRAE Transactions Vol.104, Part 1 #4161)
- [Comfort and control in the workplace](#) (ASHRAE Journal, vol. 39, no. 9, p. 50-56)
- [A Human Factors Approach to Performance and Productivity](#) (ASHRAE Transactions Vol. 100, Part 2 #OR-94-08-1)
- [Environmentally Responsive Workstations and Office Worker Productivity](#) (ASHRAE Transactions Vol. 100, Part 2 #OR-94-08-3)
- [Productivity in the U.S. A Question of Capacity or Motivation?](#) (ASHRAE Transactions Vol. 100, Part 2 #OR-94-13-4)
- [The Impact of the Building Indoor Environment on Occupant Productivity](#), Part I, Recent Studies. (ASHRAE Transactions Vol. 100, Part 2 #OR-94-8-2)
- [Relationship Between Measures of Thermal Environment and Measures of Worker Productivity](#) (ASHARE RP-207, Final Report)

[ASHRAE Standard 55-2013](#) - Thermal Environmental Conditions for Human Occupancy. This standard specifies conditions or comfort zones where 80% of sedentary or slightly active persons find the environment thermally acceptable.

[ASHRAE Thermal Comfort Tool CD](#) provides a user-friendly interface for calculating thermal comfort parameters and making thermal comfort predictions using several thermal comfort models.

The standard and the other publications may be purchased and downloaded on-line at our website, www.ashrae.org or by calling 1-800-527-4723 in the USA and Canada or 1-404-636-8400 worldwide.

Topic References thermal comfort, employee productivity

	Cognizant ASHRAE Committees	Refer to Organization
1	TC 2.1	
2		
3		
4		
5		