

may improve exercise adherence. Outcome expectations, social influences, and perceptions of control are closely related to the intentions and goals of a person. Indeed, these broad categories are interrelated. Outcome expectations are typically lower when participants do not value the outcomes of regular exercise. Also, when one's self-efficacy is low, the likelihood of valued outcomes also decreases. Conversely, when social influences are supportive of exercise, then perceptions of control increase. All of these factors interact within the broader ecological milieu. Laws and policies related to ensuring safe biking, opportunities for children to walk to school, and traffic calming all contribute to exercise adherence, sometimes acting through outcome expectations, social influences, and perceptions of control and other times directly impacting an individual's opportunities for exercise.

*Paul A. Estabrooks and Erin M. Smith*

*See also* Control Theory; Enjoyment; Expectancy-Value Theory; Health Promotion; Satisfaction; Self-Efficacy

#### Further Readings

- Anderson, E. S., Wojcik, J. R., Winett, R. A., & Williams, D. M. (2006). Social-cognitive determinants of physical activity: The influence of social support, self-efficacy, outcome expectations, and self-regulation among participants in a church-based health promotion study. *Health Psychology, 25*(4), 510–520.
- Carron, A. V., Hausenblas, H. A., & Mack, D. (1996). Social influence and exercise: A meta-analysis. *Journal of Sport & Exercise Psychology, 18*(1), 1–16.
- Dishman, R. K. (1994). *Advances in exercise adherence*. Champaign, IL: Human Kinetics.
- Hagger, M. S., Chatzisarantis, N. L. D., & Biddle, S. J. H. (2002). A meta-analytic review of the theories of reasoned action and planned behavior in physical activity: Predictive validity and the contribution of additional variables. *Journal of Sport & Exercise Psychology, 24*(1), 3–32.

reflection. It is an inherent and necessary ingredient of emotions and moods; it is what gives these states affective *color*. However, affect is not only present during emotions and moods. Rather, it is always accessible to conscious awareness, although its experiential nature and intensity constantly fluctuate in response to internal and external stimuli.

Emotions and moods are considerably more complex and multifaceted constructs than affect. For example, the emotion of anxiety includes, besides unpleasant affect, a redirection of attentional and cognitive resources, attribution to the eliciting stimulus (a remark by a supervisor alluding to possible layoffs); a cognitive appraisal of threat (to one's life, social status, or self-image); a pattern of physiological changes (activation of the autonomic nervous system and the main neuroendocrine stress axes); observable changes in behavior (nervousness; altered voice modulation, facial expressions, muscular tics; exaggerated mannerisms); characteristic cognitions (distractability, thoughts of failure and negative consequences); and coping efforts (a search for solutions or sources of support). Similarly, moods also include multiple components besides affect. Although this may not always be immediately apparent, moods like emotions are also *about something*. They follow an eliciting stimulus, although the stimulus might have occurred long before the mood. They also require a cognitive appraisal, although what is appraised might be something as unspecific as one's life overall or one's place in the universe. In contrast, affect is not about something—it is not directed at anything; it is noncognitive, and it does not require an antecedent cognitive appraisal.

Examples of affect include pleasure, displeasure, energy or vigor, tiredness or fatigue, tension or distress, and calmness or relaxation. It is important to recognize that these affective states may occur by themselves or embedded as essential ingredients within emotions or moods. For example, when one is injured, the displeasure of pain is an affective reaction. It occurs instantaneously and automatically, without any need for cognitive recognition, evaluation, and interpretation. When one feels exhausted, drained of energy after a strenuous run on a hot and humid day, the sense of exhaustion is an affective state that stems directly from the physiological condition of the body, without any need for cognitive mediation. Similarly, the feelings of energy, invigoration, and

## AFFECT

Affect, also referred to as *core affect*, is the basic substrate of consciousness, its most elementary constituent. It is the constant readout of human feeling. Affect has a distinctive experiential quality that does not consist of nor require cognition or

revitalization that a physically fit individual may experience after a great workout are also affective states.

On the other hand, the fear that a patient in cardiac rehabilitation feels during the first exercise session after a heart attack is an emotion; it includes affect at its core (fear is unpleasant) but it is more than that. There are memories of the heart attack, a fixation on the somatic sensations elicited by exercise in search for anything suspicious, an appraisal of threat due to the severity and the unpredictability of the situation, an accentuation of the physiological stress response to exercise, and avoidance tendencies. Likewise, the pride experienced by a formerly sedentary individual after being able to walk continuously for 30 minutes is also an emotion; there is again affect at the core (pride is pleasant), but there are several additional components. These include, for example, a cognitive appraisal of achievement (one has succeeded in attaining an important and challenging personal milestone) and characteristic behavioral manifestations (smiles, happy vocal expressions, arms raised in celebration). Put differently, when one says “I feel great that I was able to finish my first marathon,” the “I feel great” part is a reference to affect. The “that I was able to finish . . .” part is a reference to a cognitive appraisal that qualifies this state as an emotion.

### Conceptualization and Measurement of Affect

As an object of scientific study, affect has been approached from two perspectives. Some investigators have considered each affective state as a separate entity, independent of all others. Examples of this *distinct-states* or *discrete-states* approach are questionnaires that assess various assortments of states (tension, fatigue, vigor, energy, revitalization). Such questionnaires are developed on the basis of factor analyses followed by orthogonal rotations, based on the assumption that the resultant factors are statistically independent of one another.

A different perspective considers affective states as systematically interrelated; some states are similar to others, some are unrelated, and some are antithetical. So, since the early twentieth century, investigators have been searching for a core set of dimensions that could explain these differences and similarities among affective states. Although various such dimensional models have been

proposed, the first two dimensions are usually the same. The first dimension, and the one that accounts for a larger portion of the variance, is pleasure-versus-displeasure (also termed *affective valence* or *hedonic tone*). The second dimension is low-versus-high perceived activation (also termed *arousal*). These two dimensions are bipolar and orthogonal to each other. So, when used in combination, they can be thought of as a Cartesian coordinate system in which one can place the various affective states, depending on the degree of pleasure or displeasure and perceived activation they entail. For example, there are states that combine pleasure and high activation (energy, vigor), displeasure and high activation (tension, distress), pleasure and low activation (calmness, relaxation), and displeasure and low activation (tiredness, boredom). In psychology, this two-dimensional model of affect is known as the *affect circumplex*. Alternatively, researchers have also used a version of this coordinate system rotated by 45°. In that case, the dimensions extend from pleasant high activation (termed high *positive activation*) to unpleasant low activation (termed low *positive activation*) and from unpleasant high activation (termed high *negative activation*) to pleasant low activation (termed low *negative activation*).

Regardless of which rotational variant is used, these dimensional models of affect can serve as encompassing maps of affective space. By gathering information about each respondent's position on only two dimensions, investigators can get a meaningful representation of the respondent's affective state and, with repeated assessments, track the individual's movement in response to experimental manipulations, including sport- and exercise-related stimuli.

*Panteleimon Ekkekakis*

*See also* Affective Disorders; Affective Responses to Exercise; Emotional Reactivity; Emotional Responses; Energy, Effects of Exercise on; Hedonic Theory

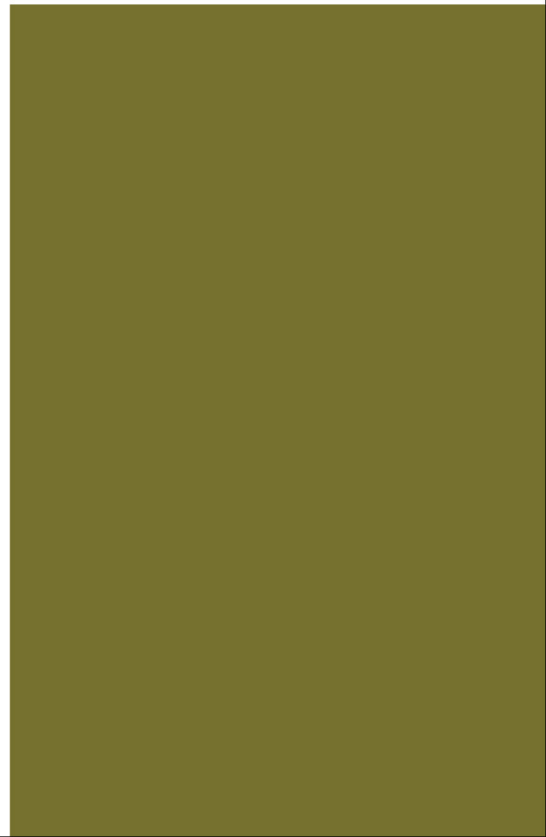
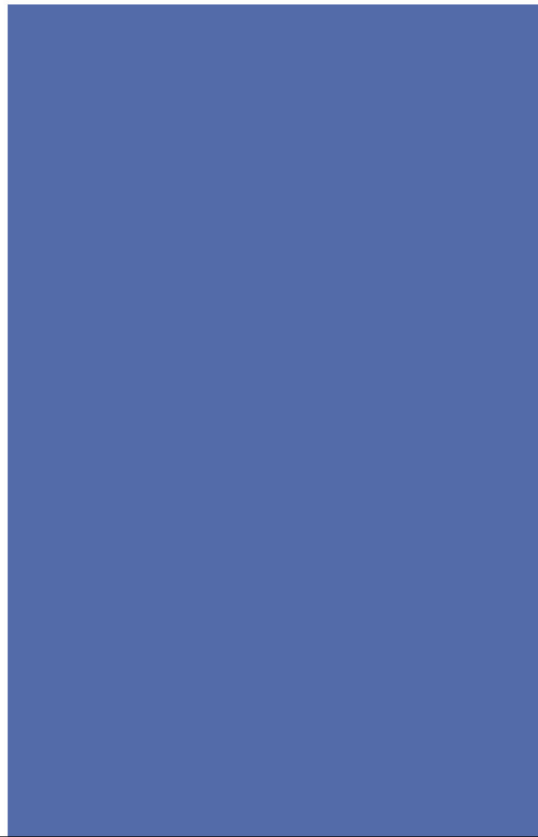
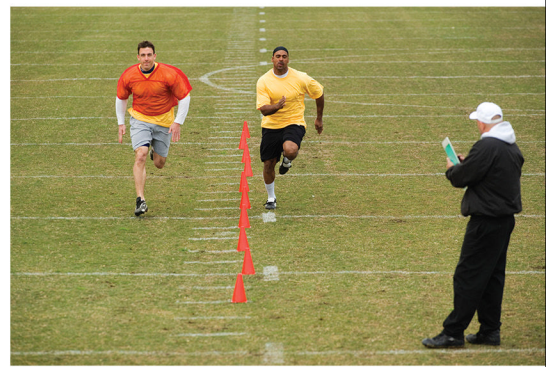
### Further Readings

- Ekkekakis, P. (2013). *The measurement of affect, mood, and emotion: A guide for health-behavioral research*. New York: Cambridge University Press.
- Larsen, R. J., & Diener, E. (1992). Promises and problems with the circumplex model of emotion. In M. S. Clark (Ed.), *Review of personality and social*

**Robert C. Eklund | Gershon Tenenbaum**

Editors

Encyclopedia of  
**Sport** and  
**Exercise**  
**Psychology**



ENCYCLOPEDIA OF  
**Sport** and  
**Exercise**  
**Psychology**



Los Angeles | London | New Delhi  
Singapore | Washington DC

FOR INFORMATION:

SAGE Publications, Inc.  
2455 Teller Road  
Thousand Oaks, California 91320  
E-mail: order@sagepub.com

SAGE Publications Ltd.  
1 Oliver's Yard  
55 City Road  
London, EC1Y 1SP  
United Kingdom

SAGE Publications India Pvt. Ltd.  
B 1/1 Mohan Cooperative Industrial Area  
Mathura Road, New Delhi 110 044  
India

SAGE Publications Asia-Pacific Pte. Ltd.  
3 Church Street  
#10-04 Samsung Hub  
Singapore 049483

---

Acquisitions Editor: Jim Brace-Thompson  
Developmental Editor: Sanford J. Robinson  
Reference Systems Manager: Leticia M. Gutierrez  
Reference Systems Coordinators: Anna Villasenor,  
Laura Notton  
Production Editor: Tracy Buyan  
Copy Editors: Diane DiMura, Megan Markanich  
Typesetter: Hurix Systems (P) Ltd.  
Proofreaders: Sally Jaskold, Kate Peterson  
Indexer: Sheila Bodell  
Cover Designer: Candice Harman  
Marketing Manager: Carmel Schrire

Copyright © 2014 by SAGE Publications, Inc.

---

All rights reserved. No part of this book may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without permission in writing from the publisher.

Printed in the United States of America.

*Library of Congress Cataloging-in-Publication Data*

Encyclopedia of sport and exercise psychology / edited by Robert C. Eklund, Gershon Tenenbaum.

pages cm  
Includes bibliographical references and index.

ISBN 978-1-4522-0383-6 (hardcover)

1. Sports—Psychological aspects—Encyclopedias.
2. Exercise—Psychological aspects—Encyclopedias. I. Eklund, Robert C. (Robert Charles), 1958– II. Tenenbaum, Gershon.

GV706.4.E5 2014  
796.03—dc23

2013021776

14 15 16 17 18 10 9 8 7 6 5 4 3 2 1

DISCLAIMER: All information contained in the *Encyclopedia of Sport and Exercise Psychology* is intended only for informational and educational purposes. The information is not intended to diagnose medical problems, prescribe remedies for illness, or treat disease. We recommend that you always seek the advice of a health care professional with respect to any medical condition, illness, or disease.