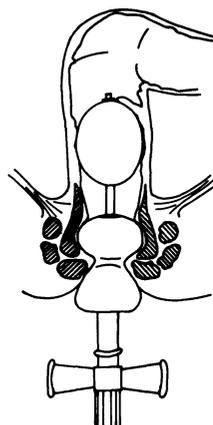


PART IV

ANAL CANAL AND RECTUM

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The study of the anal canal and rectum provides many opportunities for psychophysiologicalists to make both scientific and clinical contributions. It is an area which is readily accessible to noninvasive measurement techniques, and what we know of it so far suggests that behavioral concepts such as stimulus control, motivation, and operant and classical conditioning are essential to an understanding of its physiology. Smooth muscle, striated muscle, and visceral afferent sensation all participate in an elegant physiological function which coordinates a homeostatic process to the demands of the social environment.

Fecal incontinence, moreover, is a common and serious clinical problem. Defined as defecation in socially inappropriate situations at least once a month after the age of 4 years (Parker & Whitehead, 1982), fecal incontinence occurs in about 0.1% of the population (Milne, 1976). It is unequally distributed, occurring primarily in children and in persons over 65. There are, however, many young and middle-aged adults with fecal incontinence secondary to abdominal surgery, connective tissue disease, diabetes, ulcerative colitis, and disorders of the spinal cord. For example, at least 40% of children born with meningomyelocele are fecally incontinent (Lorber, 1971).

Fecal incontinence involves few medical risks, but it is a tremendous social handicap. In a study which compared fecal incontinence to urinary incontinence in adults with meningomyelocele, Evans, Hickman, and Carter (1974) found that only 31% of fecally incontinent adults had ever worked compared to 78% of those with urinary incontinence, and none of the fecally incontinent group had married compared to 21% of those with urinary incontinence. Incontinence is a nearly insurmountable obstacle to keeping a child in school (Welbourn, 1975), and it is the second most common cause for institutionalizing an elderly person (ranking above mental incompetence). Fortunately, biofeedback and other be-

haviorally based treatment procedures have made it possible to reestablish continence in many of these patients. In this section, Engel discusses the diagnosis and treatment of incontinence (Chapter 15) and stresses the importance of a behavioral and a psychophysiological analysis. In Chapter 16, Whitehead and Schuster describe the psychophysiological assessment techniques in current use and summarize the biofeedback training procedures which are based on these assessment techniques.

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