ical worsening (Valins et al., 1971; Storms & Nisbett, 1970). Similiarly, if patients' expectations about treatment are highly discrepant with the initial perceptions, they may prematurely drop out of treatment (Rickels & Anderson, 1967).

A second factor that influences the strength of an internal standard is the previous experience of the patient with the disease or therapy. Patients highly familiar with a therapy or a disease are apt to have more realistic expectations and, therefore, better standards of comparison. Rickels, Lipman, & Raab (1966) reviewed data indicating that a longer duration of illness and history of taking medication were both negatively correlated with placebo reaction. Data from studies utilizing the same patients in multiple treatments support the conclusion that once having experienced a satisfactory response, patients develop and employ this frame of reference to evaluate subsequent treatments (Adam, Adamson, Brezinova, & Oswald, 1976; Haertzen, 1969; Galanter, Stillman, Wyatt, Vaughn, Weingartner, & Numberg, 1974; Rickels, Lipman, & Raab, 1966). Accurate expectations, supplied by giving greater detail about the physical sensations one will experience can reduce the distress of painful stimuli (Johnson, 1973).

Hope

Expectations combined with desire are the essential ingredients of hope. Frank (1961) has argued persuasively for the importance of hope in psychotherapy and placebo effects. Hope is viewed as an integration of physiological arousal with certain cognitions. The cognitive component of hope involves envisioning a favorable change in one's life situation, usually in relation to one's actions or an anticipated environmental event.

Anticipations about therapy begin before the individual labels himself or herself a patient and are reformulated at the initial and subsequent stages of therapy (Goldstein, 1962). Hope is an essential element in the motivation of goals (Stotland, 1969). Frank (1963) views hope as directly related to the reduction of anxiety, depression, and other symptoms.

The importance of faith is reflected in the fact that one of the major, best-educated religious groups in the United States denies the rational efficacy of any treatment or medicine, and attributes all therapeutic benefits to faith. Faith, frequently denoted by terms such as trust, confidence, and the strength of a belief, might augment the influence of expectations on the placebo effect.

Evaluation Effects

A third process that influences placebo effects is derived from attempts to evaluate the placebo response. Patients may modify subjective reports or change their behavior because of the knowledge that they are being monitored. A more subtle mechanism occurs when patients are asked to report an emotion or attitude, and they rely on salient cues to "label" their response. Bodily states or behavioral responses may be interpreted in the context of the measurement situation. Misattribution is another process that influences placebo responses. The knowledge that therapy has been rendered constiutes a major environmental cue to both the patient and the therapist. A change in a patient's status may be misattributed to the therapy when it is actually caused by some other situational factor.

Response Artifacts

The assessment of therapeutic effects can distort the data (Webb, Campbell, Schwartz, & Sechrest, 1966; Nelson, Lipinski, & Black, 1975; Roberts & Renzaglia, 1965). Since there is so much variance in tests used to estimate the placebo effect (Shapiro et al., 1973), the reliability and validity of placebo effect measures is generally unknown. What investigators call placebo effects may actually be patients' response bias.

Response bias may be caused by inherent design problems of self-rating scales. In filling out questionnaires, patients may lie, fake, or tend to present themselves in a favorable light (Dahlstrom & Welsh, 1960). They may be thoughtless, overly generous, or tend to consistantly give themselves the benefit of the doubt (Jones & Sigall, 1971). They may consistently rate all aspects of a stimulus "good or "bad" without proper discrimination (O'Neal & Mills, 1969). They may generally tend to give socially desirable responses (Marlowe & Crowne, 1964; Edwards, 1957). Apprehension by patients about being evaluated can prompt a biased response (Rosenberg, 1969) or response bias can be stimulated by a desire to please or impress therapists (Tedeschi, Schlenker, & Bonoma, 1970).