

The Mysticism Scale (M Scale): The Influence of Stace

James was the source for the range of experiences, both numinous and mystical, selected for the REEM. One criticism of the REEM is that although it does contain both numinous and mystical experiences according to the criteria discussed earlier, it is not particularly theory-driven. However, this is not the case with the Mysticism Scale (M Scale). It was developed by Hood²⁰² as a specific operationalization of Stace's²⁰³ phenomenological work, in which he identified both introvertive and extrovertive mysticism and their common core. It is currently the most widely used empirical measure of mysticism.²⁰⁴

Prior to the development of the M Scale, Stace's criteria of mysticism had influenced assessments in psychedelic research seeking to document the ontological validity of experiences elicited under drugs. Stace's criteria were developed under the assumption of causal indifference. Examples used by Stace were accepted as mystical, whether elicited under drug conditions or not.²⁰⁵ Research Box 7.3 presents a summary of, and recent follow-up data from, what is perhaps the most famous study in the psychology of religion—Pahnke's Good Friday experiment.

Pahnke's original study and Doblin's long-term follow-up are important in demonstrating the effect of set and setting on drug-facilitated mystical experiences, using Stace's explicit criteria. The general discussion of drugs and religious experience in Chapter 6 obviously applies to this experiment. Yet, in terms of this chapter, Pahnke was the first investigator to attempt explicitly to operationalize Stace's criteria of mysticism. His original questionnaire has been variously modified through the years, with many additional nonmystical items added. However, basic items relating to Stace's core criteria of mystical experience have remained virtually unchanged.²⁰⁶ The most recent expanded versions of Pahnke's questionnaire include items relevant to peak experiences, which we have discussed in Chapter 6. It is clear that the concept of "peak experience" has been broadened to include a wide variety of experiences, only some of which are mystical in Stace's sense of the term. The M Scale is explicitly designed to measure Stace's criteria of mysticism, distinct from a wide range of other experiences, including peak experiences.

Given that the M Scale is based upon Stace's demarcation of the phenomenological properties of mysticism, it is also of necessity driven by some of Stace's theoretical concerns. Most central is the fact that Stace has become the central figure in the debate between what we call the "common-core theorists" and the "diversity theorists." Common-core theorists assume that people can differentiate experience from interpretation, such that different interpretations may be applied to otherwise identical experiences. This theory is often characterized by its opponents as if it claims that there is an absolute, unmediated experience. In fact, Stace²⁰⁷ and other common-core theorists simply distinguish between degrees of interpretation, arguing that at some level different descriptions can mask quite similar (if not identical) experiences.

Diversity theorists—led by Katz, who edited an entire volume in response to Stace's work²⁰⁸—argue that no unmediated experience is possible, and that in the extreme, language is not simply used to interpret experience but in fact constitutes experience. Proudfoot is among the contemporary theorists (heavily influenced by psychology) who argue for the role of language in the constitution of, not simply the interpretation of, experience.²⁰⁹ Although we cannot engage this rich conceptual literature here, let us note that three fundamental assumptions implicit in Stace's work should be emphasized. First, the mystical experience is itself a universal experience that is essentially identical in phenomenological terms, despite

**Research Box 7.3. Drugs and Mysticism: Pahnke's "Good Friday" Experiment
(Pahnke, 1966; Doblin, 1991)**

In the psychology of religion's most famous and controversial study, Pahnke, as part of his doctoral dissertation, administered the drug psilocybin or a placebo in a double-blind study of 20 volunteers, all graduate students at Andover-Newton Theological Seminary. The subjects met to hear a broadcast of a Good Friday service after they had been given either psilocybin (experimental group) or nicotinic acid (placebo group). Participants met in groups of four, each consisting of two experimental subjects and two controls matched for compatibility. Each group had two leaders assigned, one of whom had been given psilocybin. Immediately after the service and then 6 months later, participants were administered a questionnaire, part of which consisted of Stace's specific common-core criteria of mysticism.

Nearly a quarter of a century later, from November 1986 to October 1989, Doblin contacted the original participants in the experiment. By either phone or personal contact, he was able to interview nine of the control participants and seven of the experimental participants from the original study. In addition, he was able to administer Pahnke's questionnaire to them. Thus, we have the responses on Stace's criteria of mysticism immediately after the service, then 6 months later, and finally nearly 25 years later. Assigning each score as the percentage of the possible maximum for that criteria, according to Pahnke's original procedure, yields the following results.

Stace category	Original Pahnke study				Doblin follow-up study (nearly 25 years later)	
	Immediate		6 months later		Exptls. (n = 7)	Controls (n = 9)
	Exptls. (n = 10)	Controls (n = 10)	Exptls. (n = 10)	Controls (n = 10)		
1. Unity:						
a. Internal	70%	8%	60%	5%	77%	5%
b. External	38%	2%	39%	1%	51%	6%
2. Transcendence of space/time	84%	6%	78%	7%	73%	9%
3. Positive affect	57%	23%	54%	23%	56%	21%
4. Sacredness	53%	28%	58%	25%	68%	29%
5. Noetic quality	63%	18%	71%	18%	82%	24%
6. Paradoxicality	61%	13%	34%	3%	48%	4%
7. Ineffability	66%	18%	77%	15%	71%	3%
8. Transience	79%	8%	76%	9%	75%	9%

Note. Our table has been constructed to allow direct comparison between Doblin's percentages and Pahnke's. Terms have been altered to correspond more closely to M Scale terminology where relevant. Some of Pahnke's criteria were not Stace's (e.g., transience), and some of Stace's criteria were not employed by Pahnke (e.g., inner subjectivity). Exptls., experimental participants.

wide variations in ideological interpretation of the experience (the common-core assumption). Second, the core categories of mystical experience are not all definitionally essential to any particular mystical experience, since there are always borderline cases, based upon fulfillment of only some of the criteria. Third, the introvertive and extrovertive forms of mysticism are most conceptually distinct: The former is an experience of unity devoid of content (pure consciousness), and the latter is an experience of unity in diversity, one with content. The psychometric properties of the M Scale should reflect these assumptions, and insofar as they do are adequate operationalizations of Stace's criteria. Of course, they also reflect in measurement terms what diversity theorists criticize conceptually in Stace's work. The issue for now is what light empirical research can shed on mysticism and its interpretation.

Psychometric Properties. The M Scale consists of 32 items (16 positively worded and 16 negatively worded items), covering all but one of the original common-core criteria of mysticism proposed by Stace.²¹⁰ Hood's original work indicated that the M Scale contains two factors.²¹¹ For our purposes, it is important to note that Factor I consists of items assessing an experience of unity (introvertive or extrovertive), while Factor II consists of items referring both to religious and knowledge claims. This is compatible with Stace's claim that a common experience (mystical experience of unity) may be variously interpreted. A factor analysis of the M Scale by Caird supports the original two-factor solution to the M Scale.²¹² Reinert and Stifler also support a two-factor solution, but suggest the possibility that religious items and knowledge items emerge as separate factors.²¹³ This splits the interpretative factor into religious and other modes of interpretation, which would not be inconsistent with Stace's theory. This would allow for an even greater range of interpretation of experience—a claim to knowledge that can be either religiously or nonreligiously based. However, the factor-analytic studies cited above are far from definitive; notably, they suffer from inadequate subject-to-items ratios. Overall, however, they are consistent in demonstrating two stable factors—one an experience factor associated with minimal interpretation, the other an interpretative factor that is probably heavily religiously influenced.

More recently, Hood and his colleagues have proposed a three-factor solution to the M Scale, based upon more adequate sample size.²¹⁴ This three-factor solution fits Stace's phenomenology of mysticism quite nicely, in that both introvertive and extrovertive mysticism emerge as separate factors, along with an interpretative factor. This version of the M Scale is presented in Table 7.11. Because the three-factor solution to the M Scale is clearly the most adequate overall measure of mysticism in terms of Stace's theory, and because it permits the separate measurement of each type of mysticism as well as an interpretative factor, it is preferred for future research. However, the research to date has used the two-factor solution initially reported by Hood, in which introvertive and extrovertive mysticism are not independently measured, forming as they do part of the minimal phenomenological Factor I. Thus, the majority of studies of mysticism to date using two-factor solutions do not separately identify differential predictions for introvertive and extrovertive mysticism, but rather merge these two as a single factor expressing experiences of unity.

Relation to Other Measures of Mystical Experience. The initial publication of the M Scale related it to several other measures. The M Scale might be anticipated to correlate with the REEM, since the latter contains a mixture of items relating to numinous and mystical experiences. However, given the overall religious language explicit or implicit in the REEM, it was anticipated that the interpretative factor would correlate more strongly with the REEM

TABLE 7.11. Three-Factor Structure of the Mysticism Scale (M Scale)

<u>Factor I: Extrovertive Mysticism (12 items; alpha = .76)</u>	
6.	I have never had an experience in which I felt myself to be absorbed as one with all things.
8.	I have never had an experience in which I felt as if all things were alive.
10.	I have never had an experience in which all things seemed to be aware.
12.	I have had an experience in which I realized the oneness of myself with all things.
15.	I have never had an experience in which time and space were nonexistent.
19.	I have had an experience in which I felt everything in the world to be part of the same whole.
24.	I have never had an experience in which my own self seemed to merge into something greater.
27.	I have never had an experience in which time, space, and distance were meaningless.
28.	I have never had an experience in which I became aware of a unity to all things.
29.	I have had an experience in which all things seemed to be conscious.
30.	I have never had an experience in which all things seemed to be unified into a single whole.
31.	I have had an experience in which I felt nothing is ever really dead.
 <u>Factor II: Religious Interpretation (12 items; alpha = .76)</u>	
5.	I have experienced profound joy
7.	I have never experienced a perfectly peaceful state.
9.	I have never had an experience which seemed holy to me.
13.	I have had an experience in which a new view of reality was revealed to me.
14.	I have never experienced anything to be divine.
16.	I have never experienced anything that I could call ultimate reality.
17.	I have had an experience in which ultimate reality was revealed to me.
18.	I have had experience in which I felt that all was perfection at the time.
20.	I have had an experience which I knew to be sacred.
22.	I have had an experience which left me with a feeling of awe.
25.	I have never had an experience which left me with a feeling of wonder.
26.	I have never had an experience in which deeper aspects of reality were revealed to me.
 <u>Factor III: Introvertive Mysticism (8 items; alpha = .69)</u>	
1.	I have had an experience which was both timeless and spaceless.
2.	I have never had an experience which was incapable of being expressed in words.
3.	I have had an experience in which something greater than myself seemed to absorb me.
4.	I have had an experience in which everything seemed to disappear from my mind until I was conscious only of a void.
11.	I have had an experience in which I had no sense of time or space.
21.	I have never had an experience which I was unable to express adequately through language.
23.	I have had an experience that is impossible to communicate.
32.	I have had an experience that cannot be expressed in words.

Note. Negatively worded items are reverse-scored. Items are numbered to correspond to the original two-factor solution reported in Hood (1975) and to allow easy comparison to Caird (1988) and Reinert and Stifler (1993). From Hood, Morris, and Watson (1993, p. 1177). Copyright 1993 by *Psychological Reports*. Reprinted by permission.

than would the phenomenological factor. This was the case in a sample of 52 students enrolled at a Protestant religious college in the South: Factor I correlated .34 with the REEM, whereas Factor II correlated .56 with the REEM. It was also found in another sample of 83 college students that Factor I correlated (−.75) more strongly with a measure of ego permissiveness than did Factor II (−.43).²¹⁵ Insofar as Taft's ego permissiveness measure²¹⁶ is related to openness to a wide range of anomalous experiences, including ecstatic emotions, intrinsic arousal, and peak experiences, it is not surprising that Factor I correlated more strongly with this measure than Factor II. The differential correlation of Factors I and II in the two studies is congruent with Stace's theory that experience can be separated from interpretation in varying degrees. Factor I correlates more strongly with measures of experience mini-

mally interpreted, and Factor II with measures of experience more extensively interpreted in religious language.

In Hood's original report, the M Scale factors correlated with a measure of intrinsic religion in roughly the same magnitude in a sample of 65 fundamentalist college students enrolled in a religious college in the South ($I = .68$, $II = .58$), supporting research as noted above between the REEM and intrinsic religion.²¹⁷ Furthermore, if in light of the assumption that intrinsic persons are likely to be frequent church attendees, Hood's finding that both frequent attendees and nonattendees had similar high scores on Factor I of the M Scale, but that only frequent church attendees had high Factor II scores,²¹⁸ makes sense in terms of Stace's distinction between experience and interpretation. Both frequent attendees and nonattendees reported mystical experiences in terms of their minimal phenomenological properties of an experience of union, but frequent church attendees were likely to interpret these experiences in religious terms. Nonattendees did not use traditional religious language to describe their experiences.

Holm prepared a Swedish translation of the M Scale and administered it to a sample of 122 Swedish informants.²¹⁹ Unlike the REEM, the M Scale could be meaningfully translated into Swedish and could be studied similarly to the way it was investigated in North America. Holm not only confirmed a two-factor solution closely paralleling Hood's initial mysticism and interpretation factors, but also found that in correlating the M Scale with ratings of a person's most significant personal experiences, Factor I correlated best with experiences reported by individuals without a Christian profile, whereas Factor II best related to more traditional Christian experiences. The revised Swedish version of the REEM, using Nordic accounts of intense experiences appropriate to a Finnish-Swedish culture, also showed patterns similar to those found in Hood's research with the REEM in the United States. In Holm's words:

We also discovered one factor which could be called a general mysticism factor and another where the experience was interpreted on a religious/Christian basis. The "religious interpretation factor" had strong correspondences with religious quality in the interviews and with the background variables of prayer frequency, bible study, church attendance and attitude towards Christianity. This factor thus covered experiences with an expressly Christian profile. It showed high correlations with the intrinsic scale, with the expressively Christian narratives on the REEM and with the religious quality on the interviews. Thus, overall, in a Finnish-Swedish culture the M Scale and REEM functioned very closely to how they function in American culture.²²⁰

Interestingly, Holm also noted that the distinction between a general mysticism factor (or impersonal mysticism) and a religious factor (or personal mysticism) has parallels with early research on mysticism in Sweden by Soderblom, who identified these as "infinity mysticism" and "personality mysticism," respectively.²²¹ This also parallels our earlier discussion of the distinction between impersonal and personal aspects of mystical experience, as noted by several investigators.

Relation to Measures of Other Personality Factors. Although the relationship between the religious factor of the M Scale and the more explicitly religiously worded REEM items is reasonable, the question of more general personality factors related to mysticism is of interest. M Scale scores have been correlated with standardized personality measures in two studies. In one, Hood found that most scales of the Minnesota Multiphasic Personality Inven-

tory (MMPI), a widely used measure to assess pathology, failed to correlate with the M Scale.²²² Furthermore, differential patterns of significant correlations between Factors I and II were compatible with a nonpathological interpretation of mysticism. For instance, Factor II (But not factor I) correlated significantly with the Lie (L) scale of the MMPI. This scale presumably measures the tendency to lie or present oneself in a favorable social light. However, insofar as Factor II represents a traditional religious stance, Hood suggested that high L scores for Factor II may represent the fact that the traditionally religious are less likely to engage in deviant social behaviors as measured by the L scale.²²³ Factor I did significantly correlate with two scales on the MMPI concerned with bodily processes (Hypochondria) and intense experiential states (Hysteria), which, in nonpathological terms, are likely to be compatible with mystical experience.²²⁴

Possible relationships between mysticism and absorption or hypnosis, discussed above in connection with the REEM as a measure of religious experience, are consistent with the work of Spanos and Moretti.²²⁵ They directly correlated the M Scale with the Tellegen and Atkinson Absorption scale and with three measures of hypnosis: the Carleton University Responsiveness to Suggestion Scale, which yields both an objective and a subjective score (CURSS-O and CURSS-S);²²⁶ the Field Hypnotic Depth scale;²²⁷ and the widely used Stanford Hypnotic Suggestibility Scale, Form C (SHSS:C).²²⁸ Overall, the M Scale correlated .53 with the Absorption scale, .37 with the Hypnotic Depth scale, .40 with the SHSS:C, and .36 with both the CURSS:O and CURSS:S in an all-female sample of university students. When mysticism was used as the criterion variable, regression analyses using the four hypnosis measures, absorption, and two other variables (neuroticism and psychosomatic symptoms) indicated that Absorption was the single best predictor, accounting for 29% of the variance, with Hypnotic Depth second best, adding an additional 5%. None of the other hypnotic scales, or the neuroticism or psychosomatic symptom scales, added predictive power.²²⁹ Spanos and Moritti concluded that while mystical experience can occur among the distraught and troubled, it is as frequent among the psychologically untroubled. However, mysticism per se is unrelated to psychopathology.

Using a measure of positive functioning, designed to measure "common-sense" personality characteristics of the healthy person,²³⁰ further supports the normality of those who report mystical experiences. Hood and his colleagues²³¹ administered the Jackson Personality Inventory (JPI)²³² to a sample of 118 college students. Factor I scores on the M Scale correlated significantly with 6 of the 15 JPI scales, suggesting a pattern of consistency with a general openness to experience, including tolerance, breadth of interest, innovation, and willingness to take risks. Not insignificantly, Factor I was also associated with a tendency to be critical of tradition and related negatively to value orthodoxy, whereas Factor II revealed the reverse pattern (i.e., value orthodoxy and a tendency to accept tradition). Factor II also correlated negatively with risk taking.²³³ Thus, consistent with much of the research noted above with the REEM and the M Scale, persons who report mystical experiences can be represented as open to experiences outside those accepted within various religious traditions. Again, one interpretation of this type of data is that conventionally religious persons have mystical experiences interpreted within their traditions and hence meaningful as confirming religious experiences, whereas less traditionally religious persons have mystical experiences they are unwilling to interpret within traditional frameworks and hence do not see them as confirming or verifying beliefs within an established tradition.

Two studies not directly employing the M Scale are relevant to this issue. Hood and Morris took virtually all items used in the empirical assessment of mysticism and factor-

analyzed them into scales, all with adequate reliability.²³⁴ These were then administered to a sample of respondents who rated the items for their applicability to defining mysticism as they understood it, and then rated them for whether or not they ever had experienced that item. Respondents did not differ on knowledge about mysticism, whether or not they personally identified themselves as having had a mystical experience. However, persons who denied having had such an experience did not mark items they knew to define mysticism as experiences they themselves had had, whereas those affirming mystical experience did. Thus, persons equally knowledgeable about mystical experiences differ on whether or not they mark an item as a function of having a mystical experience. This suggests that persons can know what mysticism is and yet not experience it.

In an additional analysis of these data by Morris and Hood, all those who indicated no religious identity (“nones,” $n = 40$) were compared to a randomly selected sample ($n = 40$) of those who identified themselves as Baptists.²³⁵ Persons were asked to indicate whether they had ever had a mystical experience. Using two factors developed to identify unity and religious interpretation (paralleling Stace’s distinctions and those found in the M Scale), Morris and Hood found that both “nones” and Baptists who reported mystical experiences used religious language to describe them, although Baptists scored higher on the use of religious language. Consistent with the larger study, the results suggest that individuals can distinguish between knowledge about mysticism and whether or not they have had a mystical experience. However, if they have had one, religious language is used to describe it—even by the “nones.” These results are consistent with survey research discussed above, in which Vernon found that religious “nones” nevertheless reported religious experiences. It may be that for many, the language of religion is the only language available to express these profound experiences.

In light of the research described above, it is worth noting that Troeltsch’s church–sect theory, extensively discussed in Chapter 9, was initially a church–sect–mysticism theory in which he postulated two mysticisms.²³⁶ One was simply the affirmation within religious traditions of a spiritual accessibility to the holy as defined by tradition. The other was a radical individualistic form of mysticism assuming no traditional support or mediation, since an individual experiencing this form has direct access to the transcendent. Garrett has tried to reintroduce these two mysticisms into contemporary discussions of church–sect theory, but with little success.²³⁷ This is unfortunate, since Troeltsch’s two mysticisms nicely fit the empirical data on the reporting of mystical experience, based upon Stace’s distinction between experience and its interpretation.

Mystical experiences within traditions are both interpreted and partly structured by an awareness of an experience meaningfully described within the beliefs of a tradition. They are the direct validation of what we have referred to above as “foundation realities.” The term “direct” does not mean absolutely unmediated; rather, it means that the tradition structures and provides a language framework within which experiences can be fully existentially encountered. As Katz²³⁸ and the diversity theorists have rightly insisted, Jews have Jewish mystical experiences and Buddhists have mystical experiences common to Buddhism. Indeed, most mystics have historically struggled to maintain themselves within established traditions—that is, to use the language and concepts of a given tradition to clarify and confirm their experiences.²³⁹ However, others experience mysticism outside established traditions and hence fail to find the language of established traditions meaningful. Such experiences are no less mystical and probably most correspond to what Factor I of the M Scale measures: the minimal phenomenological properties of a sense of union. For these mystics, the experience

does not confirm an established tradition, except insofar as direct access to the transcendent outside of tradition has itself become a mysticism of radical individuality.²⁴⁰ Such persons are unlikely to use the established language of a tradition to describe their experience, and may be seeking alternative frameworks to understand their experience or may merely be satisfied with a nonlinguistic recognition of the experience. This is consistent with Rosegrant's finding that mystical experiences may be reported but may not be perceived as meaningful.²⁴¹ It also reflects that the claim to ineffability can be a tactic to refuse to describe experiences, such that they become confirming of the reality claims of any established tradition. Obviously, the demand that experiences be described entails the use of language. Thus, not surprisingly, those who have focused upon having persons describe their "ineffable" experiences have found language to be a major factor affecting experience (or, better, experience as described). However, minimalist language, referring to such things as "unity," can produce agreement among persons; this may suggest a common element to experience even if that unity is variously described.

The report of mystical experience is firmly established as a normal phenomenon among healthy individuals, who, if lacking a religious commitment, are unlikely to use traditional religious language to describe the experience, or are likely to use it reluctantly as the only available language to express their experience. That mystical experience is a normal phenomenon reported among healthy individuals does not mean that others cannot also report these experiences. In the only empirical study administering the M Scale to both healthy and normal populations, Stifler and his colleagues administered the M Scale along with other measures to three relevant samples ($n = 30$ each): psychiatric inpatients meeting formal diagnostic criteria for psychotic disorders; senior members of various contemplative/mystical groups; and hospital staff members (as normal controls).²⁴² Using total M Scale scores, Stifler et al. found that psychotics (mean = 141.9, $SD = 10.4$) and contemplatives (mean = 142.8, $SD = 3.7$) could not be distinguished from each other, but that both differed from hospital staff controls (mean = 124.9, $SD = 3.9$).²⁴³ Thus, both psychotics and contemplatives reported mystical experiences more often than normal controls. Although these data are correlational, it is reasonable to assume that mysticism neither causes nor is produced by psychoses. Rather, psychotics, like contemplatives, can have or can report such experiences.

Consistent with this research is the work on temporal lobe epilepsy, commonly assumed to be associated with reports of mystical and other religious experiences. For instance, Persinger has argued that what he terms the "God experience" is an artifact of changes in temporal lobe activity.²⁴⁴ However, in a study of 46 outpatients in the Maudsley Epilepsy Clinic, Sensky found that patients with temporal lobe epilepsy did not have a higher rate of mystical experiences (or general religious experiences), compared to a control population.²⁴⁵ By contrast, a study by Persinger and Makarec found positive correlations between scores of their measure of complex epileptic signs and the report of paranormal and mystical experiences in a sample of 414 university students.²⁴⁶ Although neither of these studies used the M Scale to measure mystical experience, findings overall suggest that even if mystical experience is commonly associated with temporal lobe activity, it is no more common in actual temporal lobe epileptic patients than in control populations with normal temporal lobe activity. Hence, there is no firm empirical basis from which to assume neurophysiological deficiencies in those reporting mystical experiences.

Relation to More Abstract Concepts. Rather than focusing upon particular concrete triggers, Hood has argued that more abstract conceptualization may permit a more empirically

adequate investigation of the conditions and circumstances that trigger mystical experience.²⁴⁷ In particular, theological and philosophical interest in the concept of limits is useful.²⁴⁸ At the conceptual level, the idea of limits entails transcendence; in fact, awareness of limits makes the experience of transcendence possible. Perhaps the sudden contrast that occurs when a limit is suddenly transcended yields a contrast effect similar to a figure-ground reversal, in which what was previously unnoticed is thrown into stark relief. Hood has noted that such sudden contrasts are common in nature settings, particularly those in which stress is involved. Nature as a common trigger of mystical experiences is well documented in survey studies; often such experiences are associated with stress, which is itself sometimes cited as a trigger of mystical experience. In one study described earlier, the set-setting incongruity hypothesis was supported when the REEM was used as a measure. It has also been supported in research using the M Scale.

Hood took advantage of a week-long outdoors program at a private all-male high school.²⁴⁹ During this program, graduating seniors engaged in a variety of outdoor activities varying in degree of stress. Three particularly stressful activities were examined: rock climbing/rappelling (for the first time, for many students); whitewater rafting (down a river rated as difficult); and the experience (described earlier in this chapter) of staying alone in the woods one night with minimal equipment. A nonstressful activity (canoeing a calm river) was selected as a control. Just prior to participating in each activity, participants were administered a measure of subjective anticipatory stress for that activity. Immediately after each activity, the participants took the M Scale to assess mystical experience. The comparisons between set and setting stress for each high-stress activity supported the hypothesis that the interaction between these two types of stress elicits reports of mystical experience. It is important to note that anticipatory stress varied across situations, such that whether or not a particular person anticipated a given situation as stressful was not simply a function of its independently assessed situation stress. Also, in stressful situations, those anticipating low stress scored higher on mysticism than those anticipating high stress. Thus, set and setting stress incongruity elicit reports of mystical experience—not simply stress per se, either anticipatory or situational. Additional support for this hypothesis was found by using the canoe activity as a control; no student anticipated this activity to be stressful. Given the congruity between low anticipated stress and low setting stress, low M Scale scores resulted, as predicted. However, in high-stress activities anticipated as high in stress, M Scale scores were also predicted and obtained. Only the incongruity between setting and anticipatory stress produced high M Scale scores. Furthermore, with only one exception, these results held for both Factor I and Factor II scores; this suggests not only that the minimal phenomenological properties of mysticism are elicited, but also that they are seen as religiously relevant in the broad sense of this term. This replicates the findings discussed above with solo experiences in a nature setting when the REEM was used as a measure. Thus, it would appear that anticipatory and setting stress incongruities can elicit both mystical experiences of unity (M Scale) and more numinous religious experiences (REEM) in nature.

The fact that both nature and prayer settings reliably elicit reports of mystical experience in traditionally religious persons has led some to suggest that prayer should be correlated with the report of mystical experience, particularly if the prayer is contemplative in nature. Hood and his colleagues, using a modified form of the M Scale, documented such a correlation in two separate studies.²⁵⁰ They found that among persons who prayed or meditated regularly, intrinsically religious persons had higher mysticism scores than extrinsics, in terms of both the minimal phenomenological properties of mysticism and its religious in-