# A Comparative Analysis of the Experience of Synchronicity as a Possible Spontaneous Mystical Experience

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University of Manitoba

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# A COMPARATIVE ANALYSIS OF THE EXPERIENCE OF SYNCHRONICITY AS A POSSIBLE SPONTANEOUS MYSTICAL EXPERIENCE

BY

STEVE HLADKYJ

A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

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Abstract

"Synchronicity" (Jung, 1969b) has typically been discussed as a parapsychological experience. In this study, synchronicity was conceptualized as a mystical experience both (a) phenomenologically, and (b) in terms of its consequences. It was hypothesized that synchronicity would be rated similar to mystical experience (and dissimilar to parapsychological experience) both phenomenologically, and in terms of its consequences. After reading definitions of mystical states, parapsychological states, and synchronicity, subjects completed a modified version of Hood's (1975) Mysticism Scale for each experience, to which had been added four items related to consequences derived from Pahnke (1967). Repeated-measures ANOVAs of the data did not support the hypotheses. Ratings for all three experiences were substantially different. Synchronicity was rated lowest, mystical experience highest, with ratings for parapsychological experience in between. Further, the consistent pattern of the ratings suggests a continuum, with synchronicity and mystical experience occupying the respective "low" and "high" ends of the continuum. The possible nature and significance of this continuum is briefly discussed.

## Acknowledgments

I consider this effort as a point or a moment in a larger project of inquiry that has been going on for a very long time, and consider myself fortunate to have been able to engage in this project. Along the way, many people have played important roles. Of those formally connected with the current effort, I would like to thank my advisor, Dr. Ross Hartsough, and my committee members, Dr. Jim Nickels and Dr. Terrence Day. Each contributed in unique ways to my thinking, and together created a synergism that was greater than the sum of its parts. I would also like acknowledge Dr. Marianne Johnson, who sat on my committee in the formative stages of the work, prior to her re-location to Zurich. Her insights into the subtleties of Jungian psychology proved to be invaluable. Several others should also be mentioned: Dr. Larry Cooley, for his inspiring undergraduate course in the psychology of religion, and Dr. Ron Neimi and Dr. Jim Forest, for the lively informal discussions and friendly debates in the hallways and coffeeshops. Special acknowledgment must also be extended to Dr. Jamie-Lynn Magnusson and Carrie Lionberg, whose unconditional friendship has been a singularly important source of encouragement for me.

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# A Comparative Analysis of the Experience of Synchronicity as a Possible Spontaneous Mystical Experience

## Introduction

### Statement of the research question

"Synchronicity" is the term introduced by Carl Jung (1969b) to refer to the coincidence of causally unrelated events which are felt by the perceiving subject to be meaningfully related by something other than chance. The central question asked in this study is whether or not the experience of synchronicity can be conceptualized as a type of mystical experience rather than as a type of parapsychological experience. Since its formal introduction into the language of western psychology, synchronicity has been typically discussed as either a parapsychological event in itself, or as a possible explanatory basis for other types of parapsychological events (e.g., Braud, 1983; Braude, 1980; Chari, 1977; Eisenbud, 1980; Gooch, 1980; Grattan-Guiness, 1978, 1983; Honegger, 1980; Koestler, 1976; Randall, 1977; Tart, 1981; Vaughan, 1980).

It is conceivable however, to hypothesize that the experience of synchronicity can be regarded as being

more like a mystical experience than a parapsychological experience on the basis that synchronicity bears (a) more of a phenomenological similarity to mystical experiences than to parapsychological experiences, and that (b), the consequences of synchronicity are more like those reported to arise from mystical experiences than those associated with parapsychological experiences.

## C. G. Jung's Concept of Synchronicity

As noted above, Jung (1969b) introduced the term "synchronicity" to refer to the experience a person may sometimes have in which two or more causally unrelated events occur in such a way as to suggest to him or her that the events are meaningfully related or "connected" to each other by something other than chance.

Consider the following fictional example: A university student is searching for a particular out-of-print book that she needs in order to write a book report. The library does not have the book, and she concedes that she will have to choose another for her report. A few days later, she accidentally gets on the wrong bus as she leaves the university, but does not realize her error until the bus has taken her into an

unfamiliar part of the city. Realizing her error, she gets off the bus, and while waiting for the correct bus, realizes that she does not have the exact change to pay the next fare, and that all she has is a five dollar bill. Looking around for a place where she can get change, she sees a second-hand shop. She goes into the shop, and asks for change. While the attendant is counting out the change, the student notices a stack of old books on the floor, and she sees, on the top of the pile, the very book she was looking for a few days earlier. Delighted with her find, she checks the price of the book and finds that after she subtracts the cost of the bus fare, she has exactly enough money left over to purchase the book. She buys the book, and as she rides home on the correct bus, reflecting on the events, she begins to feel that there was something more than blind chance operating in bringing herself and the book together. She might label this "something more" as "fate" or "destiny," and feel that it had, in some mysterious way, intervened on her behalf to provide the book that she needed.

Less dramatic, but perhaps more familiar kinds of synchronicities may occur, for example, when a person thinks of a friend, and then a moment later, receives a

telephone call from the very same friend, or is thinking of a person while walking down the street, and then meets that same person turning the corner a moment later. In these instances, "telepathy" or "precognition" might be labels used by the person to describe the coincidence. In a third example, a person might notice patterns of recurrence between, for example, the series of digits in his or her telephone number, street address, and credit card number, and wonder whether or not the recurrence of the numbers has any special personal meaning or significance beyond that of simple coincidence.

Although none of the individual events in these examples are unusual or "paranormal" in and of themselves, nor can the events be thought to be caused by one and other, their "intersection" in space and time may seem so improbable to the person as to give rise to thoughts or feelings that the coincidence is associated with the action of a mysterious unseen agency, (such as "fate," "karma," or "destiny") rather than due to chance. Thus, as a general statement, the experience of synchronicity can be regarded as the arising-in-consciousness of emotions or cognitions intentioned towards the existence of a non-causal, non-

chance agency, the arising of which is associated with the occurrence of a meaningful coincidence or a linking or patterning of events in the person's experience.

Jung (1969b) variously defined synchronicity as (a) "a coincidence in time of two or more causally unrelated events which have the same or similar meaning" (p. 441), (b) "the meaningful coincidence of two or more events, where something other than the probability of chance is involved" (p. 520), and (c) "the coincidence of a psychic state in the observer with a simultaneous, objective, external event that corresponds to the psychic state or content...where there is no evidence of a causal connection...and where...such a connection is not even conceivable" (p. 526). In these definitions, the subjective dimension (i.e., the perceiving subject who gives meaning to the coincidence) is an important component of Jung's conception of synchronicity.

However, it is important in this preliminary discussion to note that Jung did not exclusively confine his conception of synchronicity to the realm of human subjective experience. His association with physicists Neils Bohr, Wolfgang Pauli, and Albert Einstein led Jung to consider that synchronicity might

be as objectively real as it was psychologically subjective, that is, that synchronicity "might also occur without the participation of the human psyche" (Jung, 1969b, p. 502).

Maintaining that theoretical physics had shown that natural laws are only "relative...statistical truths" (p.421), Jung stated that the principle of causality, upon which natural law is based, is also only "relatively true" (p. 421). The probabilistic nature of causality led Jung to write that "the connection of events may in certain circumstances be other than causal, and requires another principle of explanation" (p. 421). For Jung, chance, as an explanation for events where causality could not be found, was inadequate, and in effect, for some events, no explanation at all. Citing the work of American parapsychologist J. B. Rhine on extrasensory perception (ESP), Jung maintained that in the absence of a causal explanation for ESP, some other explanatory principle was needed, as Rhine's results could not be explained by either probabilistic principles or the accepted laws of physics and causality. Jung thus introduced the term synchronicity for this other necessary principle, proposing it as a "hypothetical factor equal in rank to

causality as a principle of explanation" (p. 435), as Beloff (1977) notes, "standing alongside space, time, causality, [and] energy as a fundamental dimension of objective reality" (p. 575).

For Jung, the conceptual link from theoretical physics and parapsychology to depth psychology came by way of Rhine's (1937, 1977) observation that scores on ESP testing seemed "to be completely at the mercy of the psychological state of the individual" (Rhine, 1977, p. 171) at the time of the experiment. Rhine observed (a) "decline effects," in which subjects who became bored with the experiment started to score lower, but whose scores would increase if their emotional interest in the experiment was restored, and (b) an effect on scores by the subjects' beliefs in ESP, such that the scores of disbelievers tended to negatively deviate from chance, whereas scores from believers tended to reveal a positive deviation from chance. For Rhine, these observations suggested that the "psi function" (i.e., the unknown, but assumed-to--exist mechanism by which ESP operated) was not under volitional control by the subject. This led him to propose that whatever the psi function was, it was mediated by the unconscious (Rhine, 1977).

The functions of affect, rationality, and the unconscious in Rhine's ESP experiments were of particular interest to Jung, and importance for his thinking about synchronicity. For Jung, affective states engendered by the challenge to rational consciousness by the "impossibility" (p.440) of certain situations produced a "narrowing of consciousness and a corresponding strengthening of the unconscious... creating a gradient for the unconscious to flow towards the conscious" (p.446). For Jung (1969b), affect was based "to a large extent on the instincts, whose formal aspect is the archetype" (p. 440). In Jung's view, the archetypes were "responsible for the organization of unconscious psychic processes" (p. 436), analogous to the instincts which shape and organize certain basic forms of behaviour. The archetypes are "located" (for lack of a better term) in what Jung called the collective unconscious, which he described as an autonomous, primordial aspect of the psyche - a "second psychic system of a collective, universal, and impersonal nature which is identical in all individuals" (Jung, 1954/1990, p. 43). Because the archetypes were seen by Jung as being in themselves irrepresentable, they entered consciousness as symbolic

and mythic images, forms, and motifs. Noting that most of the synchronistic phenomena he had observed were "shown to have a direct connection with an archetype" (p.481), (i.e., through either a literal parallelism or the mythico-symbolic meaning of events constituting the coincidence), Jung was drawn to the idea that synchronicity bridged or connected the deepest layers of the primal impersonal collective unconscious with the outer objective reality of the experiencer.

Further, the propositions being advanced by some theoretical physicists concerning the inter-relationship between the observer and the observed (and by extension, consciousness and matter), plus Rhine's observations which suggested that the mind, in some unknown way, could know something about the external material world independent of ordinary sensory channels and the restrictions of time and space led Jung (1969a) to suggest that "the archetypes, therefore have a nature that <u>cannot with certainty be designated as psychic"</u> (i.e., solely subjective and psychological) (p. 230, underlining Jung's). Jung stated that:

> when it comes to explaining psychic phenomena...we are driven to assume that archetypes must have a nonpsychic aspect. Grounds for such a conclusion

> are supplied by the phenomena of synchronicity, which are associated with the activity of unconscious operators (p.231).

For Jung, the collective unconscious came to be seen as an element of psyche that was not merely figuratively autonomous and independent of the person, but actually autonomous and independent, and thus was postulated as the unifying factor between mind and matter. This interpretation is supported by Aziz (1990), who wrote that:

> in the final stages of its theoretical unfoldment, the archetype [was] no longer understood to be a strictly intrapsychic factor, but rather [was] regarded by Jung as constituting a psychophysical continuum of meaning which...is active in nature as a whole" (p. 57-58).

Thus, beginning with the subjective experiences of meaningful coincidence in both his own life and in the lives of his patients, and ending in parapsychology and theoretical physics, Jung's (1969b) concept of synchronicity was an attempt to provide a direct explanatory link between the subjective realm of mind and the objective realm of matter in which the explanation of one was not reduced to the other. For

Jung, this attempt served to "open up a very obscure field which is philosophically of the greatest importance" (p. 420).

However, the importance of the concept of synchronicity for Jung was more than just philosophical. Jung maintained that people in the Western world had placed so much cultural emphasis on the one-sided development of the rational intellect at the expense of the unconscious that they were in danger of arresting their natural developmental processes - of becoming "victims of a one-sided faith in the conscious mind" (Jung, 1931/1962, p. 120) . Writing in the psychological commentary to The Secret of the Golden Flower, a Chinese mystical text, Jung (1931/1962) relates how, through his observations of people who had grown "beyond themselves" (p. 92) he realized that their development:

> never came exclusively either from within or from without. If it arose from outside, it became a deeply subjective experience; if it arose from within, it became an outer event. In no case was it conjured into existence through purpose and conscious willing, but rather seemed to be borne on the stream of time (p. 92).

Jung asked himself what it was that these people did to facilitate their development, and he answered "as far as I could tell they did nothing but let things happen" (p. 93). For Jung, the over-developed Western consciousness was "forever interfering, helping, correcting, and negating, and never leaving the simple growth of the psychic processes in peace" (p. 93).

Jung maintained that in contrast to Western wilfulness, the Oriental (particularly the Chinese Taoist) perspective on change and development recognized and valued the importance of chance and coincidence. In the foreword to the I Ching (a Chinese divinatory text), Jung (1950/1977) noted that the demonstration of the causal laws of nature requires the laboratory with its "incisive restrictions" (p. xxii), but that:

> if we leave things to nature, we see a very different picture: every process is partially or totally interfered with by chance, so much so that under natural circumstances a course of events absolutely conforming to specific laws is almost an exception....theoretical considerations of cause and effect often look pale and dusty in

comparison to the practical results of chance (p.xxii-xxiii).

Referring to the Eastern approach of understanding natural processes, Jung wrote that "what we call coincidence seems to be the chief concern...and what we worship as causality passes almost unnoticed" (p. xxii). Noting that an "incalculable amount of human effort is directed to combating and restricting the nuisance and danger represented by chance" (p. xxii-xxiii), Jung implicitly admonished his readers of the necessity of learning the "art of letting things happen...for us, this actually is an art of which few people know anything" (Jung, 1931/1962, p. 93). Jung thus suggested that both individual and socio-cultural development in the west depended upon redressing the split between consciousness and nature, the latter of which operated very much through acausal processes long recognized and accepted by some Oriental thinkers. Thus, the synchronicity principle was for Jung more than just a matter of philosophical importance, but one with important practical implications for the functional health of individuals and society.

Although the observation that people do have subjectively meaningful experiences of coincidence was

not disputed, to suggest giving synchronicity a reality-status equal to causality was controversial, to say the least. As Storr (1962) notes, Jung came to be regarded by many of his contemporaries as "a crank who...deserted science in favour of some crazy mixture of religion and speculative philosophy" (p.395). It is, however, not my intention in this paper to argue for or against the ontological status of the synchronicity principle. Rather, my intent is to simply consider the extent to which the subjective experience of synchronicity can be conceived of as a kind of mystical or "peak" experience, both phenomenologically, and in terms of the consequences it may have for the experiencer.

Although Jung (1969b) recognized the potential importance of synchronicity in the life of the individual, stating that "as a psychiatrist and psychotherapist I have often come up against the phenomena in question and could convince myself how much these inner experiences meant to my patients" (p. 420), he did not seem to be concerned with constructing a normative typology of either the experience itself or the kinds of importance and meaning that these experiences could have for individuals. According to

Progoff (1973), Jung "became so fascinated by the larger possibility of connecting depth psychology with theoretical physics and with the natural sciences as a whole that he let his attention be drawn away from the human elements that needed to be studied (p. 143).

This criticism is shared by Aziz (1990), who notes that:

> By placing too great an emphasis on peripheral material such as the parapsychological research of J. B. Rhine, Jung's own highly controversial 'Astrological Experiment,' and analogous concepts in modern physics, Jung failed to convey to his reader what he himself understood to be the great significance of the synchronicity concept for his psychological model in general, and by extension of this, for his psychology of religion (p. 2).

With regard to the latter, very briefly, Jung maintained that the human psyche had a natural and authentic religious function (Jung, 1938) which served to bring the conscious ego into a balanced relationship with the unconscious. Out of this union between ego and unconscious, the processes of individuation (i.e., growth towards authentic individuality and wholeness) would be facilitated. For Jung, this process begins

with the activation of the unconscious archetypes (e.g., Jung, 1969b, p.440-441), and he suggested that the core of the religious experience was consciousness's apprehension of the unconscious archetype of the self, which he called "the God within" (Jung, 1938, p. 73). Religions, Jung said, "arise from the natural life of the unconscious psyche and somehow give adequate expression to it" (Jung, 1934/1969c, p. 409). As Aziz (1990) has stressed, however, a consideration of Jung's psychology of religion and religious experience without regard to its relation to the concept of synchronicity leads to the conclusion that Jung placed religious experience firmly within, and as a product of, the human mind. Wulff (1991) has stated that in this earlier intrapsychic conception, Jung viewed religion in much the same way as Freud - that is, as "a delusion that keeps human beings in an infantile state" (p. 432). Wulff adds however, that Jung subsequently revised this view when he came to understand the value that religious experience had for people in facilitating individuation, and according to Aziz (1990), ultimately came to regard "the individuation process as a spiritual journey in its own right" (p. 220). For Aziz, Jung's synchronicity

concept - positing, as it does, the transpersonal (i.e., extrapsychic) nature of the collective unconscious - becomes of central importance to Jung's psychology of religion, for the concept of religious experience "is now taken to refer not merely to an encounter with the compensatory contents of the unconscious, but to a direct encounter with the compensatory patterning of events in nature as a whole, both inwardly and outwardly" (Aziz, 1990, p. 222).

Contemporary perspectives on synchronicity

Despite the importance that Aziz (1990) maintains the concept of synchronicity has for Jungian perspectives on the relationship between religious experience and personality development, discussions of synchronicity and related concepts which postulate the unity of mind and matter have for the most part been confined to either the realm of theoretical physics and the natural sciences (e.g., Bohm, 1983; Capra, 1983; Combs & Holland, 1990; Peat, 1987, 1991; Sheldrake, 1981; Zukav, 1979;), or to the domain of parapsychology (e.g., Braud, 1983; Braude, 1980; Chari, 1977; Curtis, 1990; Eisenbud, 1980; Gooch, 1980; Grattan-Guiness, 1978, 1983; Hines, 1980; Honegger, 1980; Jahoda, 1969;

Koestler, 1976; Mishlove, 1982; Randall, 1977; Tart, 1981; Taylor, 1980; Vaughan, 1980; Zusne & Jones, 1989).

There are however, exceptions to this. In psychology, discussions of synchronicity have been advanced primarily by those operating from within an analytic paradigm. However, these discussions have tended to be impersonal and abstract, drawing substantially on the work of those in the natural sciences (e.g., Frey-Wehrlin, 1976; Gammon, 1973; Keutzer, 1982; Mansfield, 1991; Mansfield & Spiegelman, 1991;). Nonetheless, some accounts have been published in which synchronicity has been discussed in terms of individual human experience (e.g., Bolen, 1979), but these have tended to be limited to isolated and anecdotal accounts and discussions of the tactical utility of synchronicity experiences occurring within a clinical setting (Garfield, 1986; Hopcke, 1990; Keutzer, 1984; Roehlke, 1988; Wharton, 1986), with no evidence of any systematic program of inquiry into the normative phenomenological structure or impact of synchronicity in the lives of non-clinical populations.

In social psychology, the impact of chance and coincidence in the lives of individuals has been

recognized and given some discussion (e.g., Bandura, 1982; Cabral & Salomone, 1990; Levin, 1983; Munn, 1983; Scott & Hatalla, 1990), but with only infrequent, and at best, incidental references to Jung and/or the concept of synchronicity. In this literature coincidences are coincidences, and nothing more, and tend to be seen as events which can either be taken advantage of in the service of one's personal goals and ambitions, or as "problems" that stand in the way of maximizing the control and self-regulation of one's life path.

Given this latter body of literature, it is very important to stress the distinction between synchronicity and coincidence, for the two terms are sometimes confused and/or used interchangeably. In discussing synchronicity, Beloff (1977) states that "it does not mean a chance coincidence which happens to have important consequences or otherwise occasions amusement, amazement, or other appropriate emotion" (p. 574). For Beloff, the crucial and distinguishing characteristic of synchronicity (as opposed to chance or coincidence, no matter how consequential) is to be found in its transpersonal referent. As previously noted, Jung (1969b) stated that most of the instances

of synchronicity he had observed were associated with the archetypal activation of the collective unconscious, which in its final conception, Jung regarded as extrapsychic in nature. For Jung, the distinguishing feature of synchronicity is that it "postulates a meaning which is a priori in relation to human consciousness and apparently exists outside man" (p. 501). Experiences of synchronicity are thus distinguished from coincidences by the transpersonal referent and meaning they have for the experiencer. It is with this understanding that the question of whether or not synchronicity experiences can be conceptualized as mystical rather than parapsychological can be introduced.

## Structural model of mystical experiences

In order to test the hypothesis that synchronistic and mystical experiences bear a similarity with each other, and a dissimilarity with parapsychological experience, the phenomenological structure of mystical experience must be conceptualized in order to provide a basis against which to contrast and compare these three experiences.

The structure of mystical experience has been of ongoing interest to the social sciences (e.g., Bucke, 1902/1956; Deikman, 1990; Grof, 1992; Happold, 1963; Hay, 1987, 1990; Hood, 1975, 1976, 1977; James, 1902/1958; Maslow, 1962, 1987; Nelson, 1989; Pahnke, 1967, 1980; Pahnke & Richards, 1990; Stace, 1960; Wilber, 1979). One of the earliest attempts to provide a typology of mystical experience was given by William James (1902/1958). He summarily listed four essential experiential properties of the mystical experience: (a) ineffability - the difficulty in using words to adequately relate the experience, (b) noetic quality - that is, feelings that what is experienced is true and that the experience is a source of valid knowledge, (c), transiency - that the experience is of only short duration, and (d) passivity - the feeling of being unable to act during the experience, or the feeling of being "grasped and held by a superior power" (p. 293). To this list, Happold (1963) added the consciousness of the unity and oneness between all things, the sense of timelessness in the experience, and the "conviction that the familiar phenomenal ego is not the real I" (p.48).

In terms of psychological utility, the analysis of mystical experience given by philosopher Walter T. Stace (1886-1967) has provided psychology with a demonstrably useful basis for the study of mystical experience (Stace, 1960). Before discussing his analysis, it should be noted that Stace did not restrict the use of the term "mysticism" to religiously interpreted experiences. Rather, Stace conceived of mysticism more broadly, as "concerned with the highest spiritual aspirations of the self" (p. 38).

Based on autobiographical accounts given by mystics (e.g., St. Teresa, St. John, Meister Eckhart, Jan Van Ruysbroeck, Sri Ramakrishna, Abu Yazid, and others), Stace (1960) identified a continuum of mysticism, the extremes of which he called "introvertive" and "extrovertive." Introvertive mystical experience arises from intentional practice and is under volitional control (e.g., meditation, trained contemplation, ritual), whereas extrovertive mystical experience is spontaneous and unintentional.

Although Stace saw that there were differences between these two types of mystical experience that "we need not make much of" (p. 133) owing to the observation that they fell along a continuum of

completeness, he postulated a total of seven possible cross-cultural characteristics of the mystical experience. Five of these characteristics were felt by Stace (1960) to be identical across the continuum, while the remaining two, although appearing different at the two poles of the continuum, were felt by Stace to be differences of degree and not of kind. Listed briefly, Stace's characteristics were given as: (a) the sense of unity between all things in the extrovertive experience, or the equivalent sense of unitary consciousness in the case of introvertive experiences; (b) the sense of presence, life, or consciousness suffused throughout the perceived unity (in the case of extrovertive experiences), or the sense of the unitary consciousness not being bound by space and time (in the case of introvertive experiences); (c) the sense that what is experienced is objective and real; (d) an emotional quality described as a feeling of joy, peace, etc.; (e) feelings that the experience is holy, sacred, or divine; (f) the sense of the experience as paradoxical - that is, as not following the normal laws of logic; and (g) the ineffability of the experience - that is - the feeling that the experience is very difficult to describe in words.

Stace (1960) was careful to note that not all of these characteristics were necessarily present in each of the accounts he analyzed. He stated that:

> the writers did not have in mind...neat and complete lists and catalogues. They wrote from motives quite other than those that animate the intellectual and the scholar...[but that] they set down...what they thought necessary for the case in hand" (p. 79).

Stace's (1960) characterization of mystical experience was thus not intended so much as a set of criteria against which to evaluate any single mystical experience, as it was intended as a more general conceptual and heuristic model.

Although Stace's general model of mystical experience was derived solely on the basis of the qualitative analysis of written accounts, the validity of the model has been given quantitative empirical support in two streams of psychological research - first, in Pahnke's (1967) now pioneering experimental study of drug-induced mystical states, and second, in Hood and associate's earlier correlational studies of mystical experience (Hood, 1975, 1976, 1977; Hood, Hall, Watson & Biderman, 1979), and in more recent

experimental work with sensory deprivation (Hood, Morris, & Watson, 1990). In the former, Pahnke (1967) orally administered psilocybin - a hallucinogenic - to a group of students, and nicotinic acid to a matched control group (note: nicotinic acid causes a tingling sensation in the skin). Both groups then attended a Good Friday church service. As soon after the service as possible, his participants gave written accounts of their experiences, and within a week following the service, each was interviewed and completed a 147-item questionnaire based on Stace's typology. This procedure was repeated six months later. Content analysis of the descriptive accounts was done by independent judges who were blind to the procedures employed in the experiment.

Pahnke (1967) found significantly higher ratings in the psilocybin group than in the control group on all of Stace's characteristics ($p$ values ranging from $< .02$ to $< .001$). Similarly, the content analysis of the descriptions of the experience showed that all of Stace's characterizations except the sense of sacredness were more completely described in the psilocybin group than in the control group. For Pahnke, the lack of differences in the sense of

sacredness may have been due to the demand characteristics of the experimental setting (i.e., a church service). According to Wulff (1990), Pahnke initiated a second series of similar studies in a non-religious setting (i.e., sitting quietly and listening to classical music in a dimly lit room). According to Wulff (1990), the initial trials were producing results similar to the first experiment. Unfortunately however, the study was never completed and published due to Pahnke's death in 1971.

The second source of empirical support for Stace's (1960) model of mystical experience comes from the work of Ralph W. Hood, Jr.. Noting that the psychological study of mystical experience had always been problematic for the social sciences because of the lack of an adequate model, Hood (1975) explicitly credited Stace (1960) with demarcating "the phenomenological characteristics of mystical experience...with such effectiveness that operational categories [could] easily be developed" (p. 30). For Hood (1975), this meant that "mysticism as a human experience [could] be studied much in the same way as any other human experience" (p. 30). Using an initial pool of 108 items reflecting Stace's typology of mystical

experience, Hood (1975) developed the 32-item Mysticism Scale (M-scale), comprised of eight sub-scales which he named (a) "ego quality," referring to the loss of sense of self or absorption of the self into something larger, (b) "unifying quality," that is, the perception of unity among all things, (c) "inner subjective quality," referring to the sense of living presence or consciousness perceived to be associated with the perceived unity, (d) "temporal/spatial quality," referring to the altered meaning or sense of time and/or space in the experience, (e) "noetic quality," referring to the event as being experienced as objectively real and as a valid source of knowledge, (f) "ineffability," referring to the difficulty of expressing the experience in words, (g) "positive emotional affect," such as joy, peacefulness, etc., and (h) "religious quality," referring to the intrinsic sacredness of the experience, including "feelings of mystery, awe, and reverence that may nevertheless be expressed independently of traditional religious language" (p. 32).

These eight sub-scales (see Appendix A) encompass six of the seven dimensions outlined by Stace (1960). Hood (1975) noted that the only dimension excluded from

the final questionnaire was Stace's dimension of paradoxicality, which Hood found to be related more to the extent to which his subjects held to an Aristotelian world-view, rather than to characteristics specific to the experience itself (Hood, 1993, personal communication).

Hood (1975) found two factors in a principal components analysis of his data. Factor I, which accounted for 22.9 percent of the variance, was comprised of "all items related to the experience of unity, temporal and spatial variations, inner subjectivity, and ineffability, as well as three ego loss items and one positive affect item" (p. 33). For Hood (1975), Factor I was conceived of as "an indicator of intense experience, not interpreted religiously ...not necessarily positive...[and] not necessarily interpreted as objective sources of valid knowledge" (p. 34). Factor II accounted for an additional 8.9 percent of the variance, and contained "all religious and noetic items as well as three positive affect items and one ego loss item" (p. 33). For Hood, Factor II was conceived of as "an indicator of a joyful expression of more traditionally defined religious experiences which may or may not be mystical but which

are interpreted to indicate a firm source of objective knowledge" (p. 34). Both factors were found to positively correlate with each other ($r$ = .43, $p$ < .01). Hood suggested that although further work at orthogonally isolating each of Stace's conceptual categories would be desirable, the correlation between these two factors supported Stace's (1960) notion that mystical experiences "are best conceptualized as forming a single continuum with all criteria related via a pattern of family resemblances" (Hood, 1975, p. 34). For Hood, this meant that "some religious experiences may in fact not be mystical and some mystical experiences may in fact not be interpreted as religious" (p. 34). The scale thus identifies "a single core experience of mysticism (Factor I) with a joyful religious interpretation possible (Factor II)" (Hood, 1975, p. 34).

Thirteen years after its introduction by Hood (1975), Dale Caird (1988) undertook a factor analysis of a new set of data to determine the stability of the M-scale across samples (and unintentionally across cultural time, I might add) and found both factors to be, with "minor differences" (p. 125), more or less stable using both orthogonal and oblique rotations.

Using a three factor solution, Caird (1988) found that although Factor I remained stable, Factor II split into two smaller factors, one of which he regarded as the noetic property of the experience (Factor II), and the other the religious interpretation factor (Factor III). Stating that although the three factor solution was a better description of his own data, the two factor structure was similar to that found in Hood's (1975) analysis.

Hood (1975) also gives additional evidence in support of the construct validity of the M-Scale. Significant correlations were found between both factors of the M-Scale and Taft's Ego Permissiveness Scale ($r = -.75$, $p < .01$ for Factor I; $r = -.43$, $p < .01$ for Factor II). Lower scores on the permissiveness scale indicate greater ego permissiveness and openness to experiences of all kinds. For Hood (1975), the willingness of a person to be open to experiences of all kinds would include an openness to mystical experience as well. Hood (1975) also reports that both factors of the M-scale significantly correlate with the hypochondrias (Hy) sub-scale of the MMPI ($r = .38$, $p < .01$ for Factor I; $r = .53$, $p < .01$ for Factor II), and that Factor I correlates with the MMPI hysteria (Hs)

sub-scale ($r$ = .37, $p$ < .05), noting that these results "are congruent with a non-pathological assessment of mystical experience that includes a heightened concern with bodily states (Hy scale) and presumably 'abnormal' intense experiential states (Hs scale)" (p. 40).

The original M-Scale has been successfully used in a number of studies (e.g., Caird, 1987; Cowling, 1985; Hood, 1976, 1977; Hood, Hall, Watson, & Biderman, 1979; Spanos & Moretti, 1988; Smurthwaite & MacDonald, 1987), and a shortened verbally administered version has also been developed for use in research situations where the use of the pencil-and-paper version is not possible, such as isolation tank studies (Hood, Morris, and Watson, 1990). Although not reported in Hood's (1975) original study, the internal reliability of the M-Scale has been found to range between .75 and .90 across studies, even when translated into another language (Hood, 1993, personal communication).

Thus, two programs of research, that is, Pahnke's (1967) experimental study of mysticism, and the body of correlational research using Hood's (1975) M-Scale, have in my view sufficiently established the validity of Stace's (1960) model of mystical experience. As Hood (1975) has provided a means by which to measure

the characteristics of mystical experience, the following discussion of synchronicity, mystical, and parapsychological experiences are discussed in terms of the eight dimensions identified by Hood (1975).

Synchronicity and parapsychological experiences compared to mystical experiences

The central hypothetical conception upon which this study is based is that the experience of synchronicity can be considered more a type of mystical experience than a type of parapsychological experience, both phenomenologically, and in terms of the consequences synchronicity may have for individuals. In this study, the expression "parapsychological experience" will be used to denote experiences of telepathy, clairvoyance, precognition, and psychokinesis. These four experiential events constitute the central subject matter of parapsychology (Broughton, 1991; Frazier, 1988; Murphy, 1954; Rhine, 1955; Tart, 1992; Zusne & Jones, 1989).

Telepathy refers to the direct communication of specific thoughts or feelings from one individual's mind to another's without mediation through of any of the physical senses (e.g., Frazier, 1988; Rhine, 1977;

Taylor, 1980), where those thoughts or feelings could not reasonably be inferred by the percipient from previous knowledge of the person or his or her situation (Broughton, 1991; Tart, 1992). Clairvoyance refers to the specific knowledge or non-sensory perception of unseen and remote objects and/or events (Broughton, 1991; Tart, 1992; Zusne & Jones, 1989) for which, like telepathy, inference can be ruled out as an explanation. Precognition refers to the specific knowledge of events which have not yet taken place and which could not be inferred or predicted on the basis of available knowledge. Lastly, psychokinesis (or mind-over-matter) refers to changes in some aspect of, or object in the physical environment which are associated with mental functioning and "not mediated by the transfer of information or any known physical energies" (Zusne & Jones, 1989, p. 151). In the following discussion, the term parapsychological will be used to refer to these four experiences.

Ego loss and the perception of unity. Two of Hood's (1975) sub-scales, which he called Ego Quality and Unifying Quality, refer respectively to the loss of the sense of self and/or the feeling of consciousness

being absorbed "into something greater than the empirical ego" (p. 31), and the perception of underlying unity and relatedness between all things during the mystical experience. Both of these sub-scales form part of Hood's (1975) core experience factor (Factor I).

In Stace's (1960) model of mystical experience, the "nuclear point, around which all other common characteristics revolve, is the apprehension of a unity taken to be in some way basic to the universe" (p. 67). For the extrovertive (i.e., spontaneous) mystical experience, the perceived multiplicity of objects and events in the world is "transfigured so that the One, or the Unity, shines through them" (p. 61), whereas in the introvertive (i.e., deliberately induced) mystical experience the perception of unity comes "by obliterating from consciousness the entire multiplicity of sensations, images, and thoughts" so that the unity is seen not "through a multiplicity... but as a wholly naked One devoid of any plurality whatever" (p. 62). For Stace, both "culminate in the perception of, and union with, a Unity or One" (p. 62). Jung referred to this underlying unity as the "unus mundus", and described it as "the original, non-differentiated unity

of the world or of Being" (in Storr, 1983, p. 291). In discussing peak experiences, Maslow (1987) wrote that "the whole cosmos is perceived as a unity, and one's place in this whole is simultaneously perceived" (p.78). In a content analysis of three thousand reports of religious experiences of all kinds, collected over a period from 1925 to 1969, Hardy (1979) found experiences of unity to be among the most frequently reported characteristics. Called "unity consciousness" by Wilber (1979), the centrality of the perception of unity in the mystical experience has been empirically supported by Spilka, Hood, & Gorsuch (1985), and experimentally demonstrated by Pahnke (1967).

Regarding the experience of synchronicity, Bolen (1979) wrote that "in the experience of a synchronistic event, instead of feeling ourselves to be separated and isolated entities in a vast world we feel the connection to others and the universe at a deep and meaningful level" (p. 24), adding that the experience "gives us direct knowledge that we are linked to all others and to the universe...synchronistic events are glimpses into this underlying oneness" (p. 96).

In contrast, the immediate perception of an underlying universal unity does not seem to be part of the description in reports of parapsychological experiences. For example, in describing an experience of clairvoyance, Swann (1987) writes that "there were all sorts of impressions whirling through my mind...a jumble of forms, swiftly changing...constantly evolving and reshaping bits and pieces of images" (p. 31). Swann's account continues at some length, but nowhere does he refer to the sensual perception of unity in his experience. In a personal account of a precognition, Fraser (1992) similarly describes a succession of mental images preceding the actual occurrence of the event, but does not describe a perception of unity, either through her own subjective absorption into a greater whole, or through the perception of a background unity. A third case in point is Jung's (1961) own account of his experience of psychokinesis (which he called "catalytic exteriorization"), where during an argument with Freud, Jung felt a burning sensation in his chest which was immediately followed by a loud noise from a nearby bookcase. He predicted it would happen again, and no sooner had made this prediction, than the same loud noise issued from the

bookcase. As in the previous examples, he made no mention of a perception of unity in his immediate experience. Lest it be thought that the above examples are not representative, the current author surveyed a selection of issues of Fate (a popular magazine in part devoted to the publication of first person accounts of parapsychological experience), covering the years 1989 to 1991. From among the large number of first-hand accounts of telepathy, precognition, clairvoyance, and psychokinesis published during this three year period, I could not find a single account in which the writer conveyed the immediate perception of or identity with a universal unity during the experience. Based on these observations, it is suggested that in terms of the experience of unity and/or ego loss, synchronicity and mystical experience are similar, and both unlike parapsychological experience.

Sense of presence. A second characteristic of mystical experience (particularly of the spontaneous, extrovertive kind) described by Stace (1960) is that in which the perceived underlying unity is sensed by the experiencer as itself being alive or possessing

subjectivity, consciousness, or intentionality. Sometimes referred to by the experiencer as a sense of "presence" (Stace, 1960), Hood called this dimension of mystical experience Inner Subjective Quality, and in the M-Scale this dimension of mystical experience is also included as part of the phenomenological factor (Factor I).

In describing the sense of presence in the mystical experience, Bucke (1901/1956) wrote that for the experiencer:

> like a flash, there is presented to his consciousness a clear conception...he sees and knows that the cosmos, which to the self conscious mind seems made up of dead matter, is in fact far otherwise - is in very truth a living presence" (p. 73).

In discussing synchronicity experiences, Inglis (1987) states that the synchronicities that "make the greatest impression - even when they are of minor importance" are the ones "which give the impression that the coincidence is not merely meaningful, but has been <u>laid on for</u> our particular benefit" (p.170, underlining mine). Implicit in the phrase "laid on for" is that whatever "it" is that is perceived as underlying the

synchronicity, "it" is perceived as operating with intentionality and consciousness.

Inglis (1987) refers to this as the "daemonic" element, which is given symbolic form, for example, in the Christian concept of "guardian angels" (or the equivalent concept of "spirit guides" in some non-Christian religions), which intervene on peoples' behalf, either "protecting them or prompting them" (p. 2). In the synchronistic experience, Bolen (1979), for example, related an instance in which the events "brought [the experiencer] an immediate sense of being cared for" (p.97), and in reference to the general case, used the term "divine intervention" (p. 81) to refer to the daemonic element in synchronicity.

Although terms such as divine intervention, guardian angels, and so on, do suggest a religious interpretation, they could also be thought of as convenient linguistic devices used to refer to the sense of living presence in the perceived unity. To resolve this, by avoiding the use of religious terminology and instead using terms such as "alive," "aware," and "conscious" in his questionnaire, Hood (1975) found that the sense of presence or inner subjectivity was part of the phenomenological factor

(Factor I) rather than the interpretive factor (Factor II).

Inasmuch as the sense of presence is involved in parapsychological experience, it does not seem to be typically reported as a central part of the experience. However, the sense of presence is sometimes alluded to in cases of telepathy, "embodied" in the sensing of the presence of a specific person. For example, In Jung's (1961) account of one of his own telepathic experiences he relates being awakened from sleep by a sudden pain in his head and the feeling that someone had entered his room. He checked and found no one there, but the next day learned that a patient of his had committed suicide by shooting himself in the head at the exact moment Jung had been awakened from sleep. What is interesting in this account is that Jung did not recognize the immediate experience as possibly telepathic until the following day - that is - that although he awoke with a sense of presence of a person in his room, he did not immediately interpret his experience as telepathic.

Fraser (1992) described several first-hand accounts of parapsychological experiences. As with Jung, Fraser's experiences often involved the death of

someone known to her, but in none of her experiences does she make any specific mention of a sense of presence at the time of the experience. Additionally, her experiences were not immediately recognized as parapsychological until they were subsequently confirmed by news of the deaths. A review of anecdotal cases from various sources (e.g., Heywood, 1974; Moss, 1974; Ullman, Krippner & Vaughan, 1973) suggests that the sense of presence described by Stace is only minimally involved in parapsychological experiences.

Alterations in the perception of time and/or space. Stace (1960) described the immediate experience of the meaninglessness of time and space as the introvertive counterpart to the extrovertive sense of presence. In the extrovertive mystical experience, although the multiplicity of objects is retained in consciousness, the perception of the world is "transfigured so that the One, or the Unity, shines through them" (p. 61). In introvertive mystical experience the perception of unity comes "by obliterating from consciousness the entire multiplicity of sensations, images, and thoughts" so that the unity is experienced not "through

a multiplicity... but as a wholly naked One devoid of any plurality whatever" (p. 62).

As Stace (1960) noted, space and time are concepts which apply to the ordinarily perceived world of objects, events, and causality. In the extreme form of introvertive mystical experience, where attention is intentionally withdrawn from the external world, and objects no longer exist to the perceiver, the experienced unity is that of pure consciousness itself. In this introverted state, conceptions of time and space themselves become meaningless, as these are conceptions by which discrete external objects and events are defined and measured in relation to one and other.

However, because the introvertive and extrovertive qualities of mystical experience were seen by Stace (1960) to lie on a continuum, Hood (1975) referred to this dimension of the mystical experience as that in which the perceptions of "time and space are <u>modified</u> with the <u>extreme</u> being one of an experience that is both 'timeless' and 'spaceless'" (p. 32, underlining mine).

In considering alterations in the perception of time and space in the experience of synchronicity it

should be noted that synchronicity is a spontaneous experience (i.e., extrovertive, in Stace's terminology) and not under intentional control by the subject, as in introvertive mystical experience. Given the previous discussion, it would not be expected that alterations in the person's perceptions of time and space would be part of the immediate experience of synchronicity.

Yet by definition, synchronicity necessarily violates of the laws of causality, which, as Jung (1969b) maintained, are very much grounded in a linear conception of time and space. What is important to remember, however, is that the complete experiential meaningless of space and time is found, for Stace (1960), only at the extreme introvertive pole of the mystical experience. As Hood has suggested, it is expected that between the extreme poles of introvertive and extrovertive mystical experience there may be a gradation in the perception of time and space, ranging, for example, from mild perceptual distortions in the "flow" of time or the "size" of space, to their complete perceptual negation (i.e., meaninglessness). It follows that if the experience of synchronicity is mystical, it too may present the experiencer with some degree of altered perceptions of time and space.

However, by raising the question concerning "alterations" in the perception of time and space, the question of what the "normal" perception of time and space is must be asked. Physicist David Peat (1987) has suggested that "time does not consist of a single order of succession but of a whole spectrum of orders of which eternity...and succession...are just two particular aspects" (p.228-229). He further states that although "consciousness itself is not bound within any single one of these orders...modern society, however, appear[s] to have become attached to a mechanical, sequential order of time" (p. 229). Peat (1987) elaborates, stating that "the perception of time itself is never a direct sensation. A person is not so much aware of time as of movement, change, and process" (p. 229). Thus, the normal awareness of time is indirect, and occurs through the awareness of linear movement, linear change, and linear process.

However, time may be perceived more directly, and therefore in an altered way, when the <u>linear</u> experience of movement, change, and process is disrupted. Hayward (1984) suggests that in experiences of synchronicity we experience the non-linear dimension of time through the non-linear relatedness of the events constituting the

synchronicity. In this sense then, we could be justified in supposing that the experience of synchronicity does indeed involve an alteration in the person's experience of time (and thus space), even though time and space may not become fully meaningless.

Despite the crucial importance of our conceptions about the nature of time and space for conceptually understanding and theorizing about parapsychological events, phenomenological reports of alterations in the sense of time and space in parapsychological experiences have not (to the author's knowledge) been extensively studied. Krippner (1974) notes, for example, that attention to the general phenomenological experience of telepathy has been all but ignored by parapsychologists. However, in a review article, Dean (1974) reports on a few studies which have sought to analyze accounts of spontaneous parapsychological experiences from the perspective of the experiencer. In particular, Dean notes a large scale study undertaken by Louisa Rhine, who analyzed 3290 spontaneous cases of parapsychological experiences, 1324 of which were precognitive experiences. According to Dean (1974), Rhine produced a classification system involving four characteristics: (a) the experience of

an intuitive thought or idea, (b) the experience of a sensory impression or hallucination of some sort, (c) the incident experienced as a fantasy or daydream, and (d) the degree of realism and detail with which the event was experienced. As described by Dean (1974), Rhine found that precognitive experiences were experienced as less intuitive, less sensory or hallucinatory, less fantasy-like, but more realistically than other types of parapsychological experience. In itself this is an interesting finding in that among all four types of parapsychological experience discussed in this paper (i.e., telepathy, precognition, clairvoyance, and psychokinesis), precognition is the type of parapsychological experience that most defies our normal conception of time. This observation aside, what is most significant here is that in Rhine's analysis of over 3000 cases, she did not deduce a category which can be thought of as equivalent to Stace's (1967) or Hood's (1975) spatial/temporal dimension of mystical experience.

Ineffability. The difficulty in using language to describe the experience is consensually reported as

a characteristic of mystical experience (e.g., Happold, 1963; James, 1902/1958; Johnson, 1988; Stace, 1960). Identified by Hood (1975) as a component of the phenomenological dimension, James (1902/1958) maintained that ineffability was the "handiest hallmark" (p. 292) of the mystical experience, noting that the person, when asked to describe the experience "immediately says that it defies expression, that no adequate report of its contents can be given in words" (p. 293). In discussing synchronicity, Bolen (1979) equivalently states that words cannot faithfully describe the experience, and that "to fully appreciate what a synchronistic event is, one may need to personally experience an uncanny coincidence" (p. 17).

Despite this claimed ineffability, numerous descriptions of mystical experience exist (e.g., Bucke, 1901/1956; Hay, 1987, 1990; James, 1902/1958; Stace, 1960; Whiteman, 1961), as do accounts of synchronicity (e.g., Bolen, 1979; Hopcke, 1990; Jung, 1961, 1969b; Keutzer, 1984; Vaughan, 1979; Wharton, 1986), and parapsychological experience (e.g., Fraser, 1992; Garrett, 1941/1968; Gooch, 1978; Heywood, 1974; Moss, 1974; Taylor, 1980; Ullman, Krippner, & Vaughan, 1973).

In considering ineffability as a dimension of mystical, synchronistic, and parapsychological experiences, it is important to distinguish between the communication of the experiences themselves and the communication of the meaning and understanding the experiencer may have of the experience. Although the situation and events (e.g., time of day, setting, what happened, etc.) in a synchronicity or mystical experience are, in and of themselves, as easily describable as the events in parapsychological experiences, or any other experience for that matter, the ineffability of these experiences may be more related to the person's feeling that it is the meaning of the experience that is ineffable.

For Stace (1960), the ineffable character of mystical experience was problematic. In an attempt to explain the claimed ineffability of mystical experience, Stace (1960) maintained that the development of language was a product of our normal day-to-day state of consciousness, which is a consciousness of a world of plurality - a world of distinct and concrete entities, objects, and processes that, although existing in relationship with one and other, retain a separateness in time and space.

Language, and just as importantly for Stace, the logic underlying our ability to conceptualize and communicate, thus developed in concert with this familiar experience of the world to reflect the normal state of consciousness.

In mystical and synchronistic experiences, on the other hand, in which the core experiential characteristic of both is the perception of an underlying unity between all things, events, and processes, the logic of normal plurality consciousness is challenged. Stace pointed out that descriptions of mystical experiences were always memories, given after the fact by people who had returned to a normal state of consciousness. Writing of the mystic, Stace (1960) suggested that:

> He is not a being who lives solely in the paradoxical world of the One. He lives mostly in the space-time world, which is the territory of the laws of logic. He feels their coerciveness in the same way as other men. When he returns from the world of the One, he wishes to communicate in words what he remembers of his experience. The words come from his mouth, but he is astonished

> and perplexed to find himself talking in contradictions (p.305).

For Stace, the ineffability of mystical experience was thus not simply a problem of finding appropriate metaphors with which to describe the experience. Rather, he proposed that the ineffability was grounded in the frustration, dissatisfaction, and even the simple embarrassment felt by the mystic in not being able to conceptualize and articulate the sensibility of an experience in a present state of consciousness that was <u>remembered</u> as having made perfect sense in a prior state. For Stace (1960) then, the problem of ineffability was not simply a problem related to the availability of appropriate metaphors, but moreover a problem associated with the state-specific differences in thinking itself.

This view of the ineffability of mystical experiences is shared by others (e.g., Deikman, 1990; Pahnke & Richards, 1990; Tart, 1992). For example, of some mystical experiences, Deikman (1990) writes that the person:

> has a revelation of the significance and interrelationships of many dimensions of life...simultaneously and 'understands' the

> totality of existence...ordinary language is structured to follow the logical development of one idea at a time and it might be quite inadequate to express an experience encompassing a large number of concepts simultaneously" (p. 53-54).

Tart (1992) maintains that a different and discrete state-of-consciousness may be operating in mystical experiences, adding that any conceptualizations formed by an individual in this state of consciousness may not be easily transferrable to another state. Pahnke & Richards (1990) have likened the experience of shifting states of consciousness to that of a "caveman who [is] momentarily transported into the bustling center of Manhattan and then returned to his cave" (p. 488). Although the caveman might be able to describe the events of his experience to others metaphorically (e.g., buildings as mountains, doors as cave entrances, cars as giant turtles, airplanes as birds, etc.), he would not very likely be able to articulate the tacit understanding of the totality or structural coherence which we call "city."

The experience of meaningful simultaneous interrelationships encompassed by a perceived totality,

given as characteristic of mystical experience by Deikman, could as well be used, in my view, to characterize the experience of synchronicity. If the assumption is accepted that the momentary state of consciousness in the mystical experience is similar to the state of consciousness during the synchronistic experience, it follows that reports of synchronicity will be ineffable to the extent that the person will find difficulty in expressing any gestalt-like meanings or insights gained in experience, even though they may be able to narratively describe the events of the synchronicity. To the extent that this assumption can be taken as a reasonable one, synchronicity can be conceived of as sharing a characteristic quality of ineffability with mysticism.

Although I agree with Stace that the question of ineffability is more than just a problem concerning the availability of appropriate metaphors, in considering the extent to which parapsychological experiences may be ineffable compared to experiences of mysticism and synchronicity, I think that an appreciation of the "types" of metaphors used conceive of these events may still be useful. For example, assume that synchronistic experiences are characteristically

mystical, in the sense that in the experience arises the perception of an underlying universal unity that includes the individual. It is conceivable that the metaphors used to describe the synchronistic experience would be attempts, in various ways, to express the perception of a spontaneous unfolding or crystallization of simultaneous interrelationships of events leading to, and contained within, a unified structure of understanding within which the self is embedded.

As the previous sentence, and likely the several hundred preceding it reveal, language itself is metaphorical (Lakoff & Johnson, 1980; Siegelman, 1990). My own attempt, for example, to describe the character of a hypothetical synchronicity metaphor itself uses metaphoric terms: "sudden unfolding," "crystallization," "structure," "contained within," and "embedded." Taken together they connote a process by which something which either already exists and is revealed ("unfolding"), or potentially exists and is created ("crystallization"). The thing which is created is perceived as having an order ("structure"), which implies that at some stage there was either no order, or at least a different kind of order.

Furthermore, this appearing structure supports, encloses, or surrounds some sort of understanding ("contained within"). Lastly, the self is identified as an integral part of this structure ("embedded"). In general then, I would expect that metaphors for the synchronistic experience would reflect the following conceptions: (a) the coming into being and/or consciousness of (b) a structure of meaning (c) with which the self is identified.

In contrast, I propose that metaphors for the understanding a person has of parapsychological experiences would be fundamentally different. For example, the experience of telepathy might be symbolized through the use of language reflecting a "transmission" metaphor - the conception of something (a thought or a feeling) moving through space from one location (person) to another location (another person). In psychokinesis, a similar "transmission" metaphor might be used - one of energy (mind or consciousness) moving through space from one point (person) to effect change in another point at a different location (the object effected). In precognition, the notion of information moving backward through time and space and/or of the mind moving forward through time and

space to the information invokes a similar metaphor. In clairvoyance, information in the form of images move through space to the receiver. In each of these examples, the essence of the metaphor is that of the movement of information or energy from one time and/or place to another time and/or place.

Some parapsychologists, as much as they may draw attention to the inadequacy of the conventional causal (i.e., linear time/space) model of the universe in explaining parapsychological events, nonetheless seem unwilling to abandon or revise it. For example, after failing on all counts to find any kind of human-made "radio waves" responsible for the "transmission" of information in telepathy (which was originally called "mental radio"), attention has now turned towards extra low frequency (ELF) waves as the possible "carrier" of ESP information (e.g., Becker, 1992). In a review article, Chari (1977) provides a survey of the different theoretical approaches that have been taken to scientifically explain parapsychological events. Included among these are electromagnetic theories, bioenergetic theories, field theories, information processing theories, and so on. What is revealing, and of particular relevance to this discussion, is that

Clari (1977) states that many of the theories fail in that they "by-pass the whole problem of ESP information transmission over space and time" (p. 807). In her discussion of telepathy, Fraser (1992), for example, makes use of the term "transmission," whereas Tart (1992) talks about "senders" and "receivers" in laboratory ESP experiments. These examples from the literature clearly suggest that the transmission metaphor stands as a principal conception of the nature of parapsychological events. What I think is important in the current study with respect to ineffability is that there are conceivable differences in the metaphors that people may use to describe or explain their understanding of synchronicity and mystical experience relative to the metaphors that may be used to describe their understanding of parapsychological events. Having transmission metaphors more readily available and culturally familiar, I would expect parapsychological experiences to be judged as less ineffable than mystical or synchronistic experiences.

Noetic quality. Another characteristic of mystical experience identified by Stace (1960) is the conviction felt by the experiencer of the objective

reality of the experience - "that the experience is immediately interpreted...as having objective reference and not [as] being a mere inner and subjective state...objectivity is not...an opinion but an experienced certainty" (p. 68). William James (1902/1958) referred to this characteristic of mystical experience as its "noetic quality" and wrote that:

> it is as if there were in the human consciousness a sense of reality, a feeling of objective presence, a perception of what we may call a 'something there,' more deep and more general than any of the special and particular senses by which the current psychology supposes existent realities to be originally revealed" (p. 61).

As previously mentioned, Jung (1969b) came to regard the collective unconscious as objectively real (i.e., extrapsychic), stating that "synchronicity postulates a meaning which is a priori in relation to human consciousness and apparently exists outside man" (p. 501), and thus, by extension, is more than a subjective production, while Keutzer (1989) has used the term "certitude" in reference to the noetic quality of the synchronicity experience.

The noetic sense, however, does not appear to be unique to either mystical or synchronistic experiences. Parapsychological experiences are also characterized by the conviction that the experiences are real (e.g., Heywood, 1974; Milton, 1992). Inglis (1987), for example, notes in particular that precognition experiences are frequently characterized by the "sudden feeling of absolute certainty that something is going to happen" (p. 115). This observation accords well with Rhine's study of parapsychological experiences (described in Dean, 1974), in which he found that more than 70 % of these experiences have a strong convictional component, often leading the experiencer to make substantial changes to his or her own behaviour (most typically to avoid a negative outcome associated with experiences of precognition). Thus, the noetic conviction can be present as part of all three types of experience. It should be noted however that for Hood (1975), the sensed reality of the mystical experience was found to be part of the interpretive factor (Factor II), and not the phenomenological factor (Factor I).

Positive affect. Also identified by Hood (1975) to be part of the interpretive factor (Factor II) of

mystical experience, is that the experience results in powerful positive emotions (Stace, 1960) - typically of joy, exuberance, happiness, bliss or tranquillity. Positive affect has also been mentioned in connection with experiences of synchronicity. Bolen (1979), for example, relates an account of synchronicity in which her client felt "a tremendous joy, the most peaceful state in [his] life" (p. 97), while Keutzer (1989) has referred to the "spontaneous emotional response of awe, wonder, or warmth" (p. 161) typically associated with the experience of synchronicity.

Although accounts of the emotional quality associated with parapsychological experiences have ranged from mild amusement to terror (e.g., Heywood, 1974; Milton, 1992), and have included joy and elation, accounts of the emotional quality associated with the experience of synchronicity have been typically described as positive (e.g., Bolen, 1979). However, in a recent unpublished study (Hladkyj & Nickels, 1992) we observed that less than half (41.9 %) of the study participants indicated positive emotions to be associated with their own experiences of synchronicity. Interestingly, 13.3 percent reported negative emotions,

whereas the largest proportion (44.8 %) reported that their experiences had been emotionally ambiguous.

Although Stace (1960) maintains that the emotional dimension of mystical experience is characterized by descriptors such as joy, peacefulness, etc., Otto (1923/1950) states that fear is the pivotal emotional quality of the mystical experience. Otto takes care, however, to specify his use of the term "fear," which is "to denote a quite specific kind of emotional response, wholly distinct from being afraid" (p. 13). For Otto, the emotional tone of the experience is more accurately described as a type of awe or dread, a "standing aghast....[which] first begins to stir in the feeling of 'something uncanny', 'eerie', or 'weird'" (p. 14). The notion of "standing aghast" suggests a kind of "paralysis" or a temporary suspension of reaction, analogous, for example, to the reaction that a deer has as it stares into the headlights of an on-coming car. James (1902/1958) used the term "passivity" to refer to this element of mystical experience, stating that "the mystic feels...as if he were grasped and held by a superior power" (p. 293).

Hood (1975) however found that the affective dimension of mystical experience was part of the

interpretive factor (Factor II) and not part of the immediate phenomenological experience (Factor I). Even though both factors were correlated, Hood (1975) stated that positive affect was a possibility and not a certainty in mystical experience.

Therefore, on the basis of (a) the lack of consensus in the literature concerning the normal emotional reaction to mystical experience, (b) evidence from a recent study (Hladkyj & Nickels, 1992) which shows positive emotion to be reported in less than half the cases of synchronicity, and (c) the observation by Hood (1975) that positive affect need not always occur in mystical experience, and that it belongs to the interpretation of the experience rather than the experience itself, the equating of synchronicity and mystical experience in terms of emotional quality is not warranted.

Religious quality. The final dimension of mystical experience described by Stace (1960) and verified by Hood (1975) is that related to the "the intrinsic sacredness of the experience...that may nevertheless be expressed independently of traditional religious language" (p. 32). Described as the

experience of the "numinous" by Otto (1923/1950), the experiencer feels that what has been apprehended is sacred, holy, or divine (Stace 1960), or otherwise directed towards the "unnamed Something" for which "there is no religion in which it does not live as the real innermost core" (Otto, 1923/1950, p. 6). For Stace (1960) however, the religious character of mystical experience was seen as belonging more to the interpretation of the experience than to the immediate experience itself. Stace (1960) writes:

> the interpretation will largely depend on the cultural environment and the prior beliefs of the individual mystic. Since the apprehension... brings a sense of spiritual exaltation, of bliss or beatitude...the unity is commonly interpreted by religious persons as "divine"....they take it for granted that this is simply a statement of experience...and are unaware that they have imported an element of interpretation into it (p. 66).

As noted previously, the distinction between the experiential and interpretational dimensions of mystical experience made by Stace (1960) has been empirically verified by Hood (1975) who wrote that

"some religious experiences may in fact not be mystical, and some mystical experiences may not in fact be interpreted as religious" (p. 34).

With respect to synchronicity, although Jung (1969b) did not explicitly discuss the religious (i.e., numinous) character of synchronicity experiences per se, he wrote extensively on the numinosity associated with the coming into consciousness of the archetypes of the collective unconscious, and elsewhere noted that "the greatest number of spontaneous synchronistic phenomena...can easily be shown to have a direct connection with an archetype" (p. 481). According to Progoff (1973), the synchronistic coming into consciousness of an archetype can result in a "numinosity of [the] highest intensity" (p. 89), while Aziz (1990) maintains that although not all synchronicities must necessarily be highly numinous (i.e., religiously felt), "in spite of this variability, the numinous charge of the archetype plays a very important role as an aspect of the meaningfulness of synchronistic events" (p. 80).

However, as a characteristic, numinosity is not restricted to mystical and synchronistic experiences. Parapsychological experiences have routinely been

described, discussed, and interpreted within the context of religious doctrine and belief. For example, Kahoe (1988) has suggested that "Christians might be humbly open to the claims of parapsychology... [as] our relationship with God implies direct knowledge through nonsensory means." (p. 93). Holzer (1985) has stated that "nothing reported about Jesus, both while in the body and after his physical death, is inconsistent with the findings of modern parapsychology" (p. 19), while Bishop James Pike faced a heresy charge, in part for promoting a re-evaluation of the basis of Christian faith that would recognize the relevance of the claims of parapsychological research for the understanding of religion (Pike, 1967). In an extensive review article, Clark (1977) states simply that following parapsychological experiences "many people will report subjectively...that the experience was in fact religious" (p. 772). Therefore, as a shared characteristic of all three experiences, it is not expected that numinosity can be used to categorically differentiate mystical experience and synchronicity from parapsychological experience.

Summary of the dimensions of mystical experience

Each of the five characteristics of mystical experience that constitute Hood's (1975) phenomenological factor (Factor I) have been argued to be experiential properties that are shared with the experience of synchronicity, but not with parapsychological experience. These are (a) the perception of a universal underlying unity, (b) the sense of self being absorbed by, or part of the perceived unity (c) the sense of presence or intentionality in the perceived unity, (d) alterations in the perception of time and space, and (e) the claimed ineffability of the experience.

On the other hand, I have suggested that the three dimensions of mystical experience forming Hood's (1975) interpretive factor (Factor II) are as equally descriptive of parapsychological experiences as they are of experiences of synchronicity. These are (a) noetic quality, (b) positive affect, and (c) religious or numinous quality. On the basis of the preceding discussion, the proposal tested in this study is that although experiences of synchronicity may be interpreted as either parapsychological or mystical, experiences of synchronicity are phenomenologically

more like mystical experiences than they are like parapsychological experiences.

## Concomitants of mystical and parapsychological experience

The second objective of this study is to comparatively assess the nature and extent of the consequences of mystical, synchronistic, and parapsychological experiences. However, a review of the literature suggests that psychology has tended to focus more of its effort on identifying the concomitants of mystical and parapsychological experience than on identifying their consequences. This body of literature can be roughly divided into two classes: (a) studies which seek to establish correlational associations between the experiences and psychopathology, and (b) individual differences research. Therefore, before discussing the consequences of mystical, synchronistic, and parapsychological experiences, a brief and representative outline of these two traditional streams of inquiry will be useful in establishing the background against which the consequences of mystical,

synchronistic, and parapsychological experiences will be approached in this study.

Pathological perspectives. The relationship between psychopathology and parapsychological and mystical/religious experience has been of ongoing interest to psychology. In reviewing the research on the relationship between parapsychological experience and psychopathology, Ullman (1977) notes that some research has found positive correlations between these experiences and impairment in cognitive functioning, repressed aggression, paranoid delusions, dissociation and depersonalization, and psychosis. The Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R, 1987) lists loss of ego boundaries - one of the hallmarks of mystical experience - as one of the diagnostic criteria of schizophrenia, along with "delusions of reference in which events, objects, or other people are given particular or unusual significance" (p. 188). Interestingly, the latter could be used to characterize the significance given to events in the experience of synchronicity.

However, research findings on the correlation between parapsychological and mystical experience and

psychopathology is by no means consensual or consistent. Schumaker (1987), for example, showed a negative correlation between paranormal belief and symptoms of psychopathology, Feldman & Rust (1989) found religiosity to be negatively associated with schizotypal thinking, and Genia & Shaw (1991) found reduced instances of depression in individuals with an intrinsic religious orientation. Although Irwin (1991) found a strong positive correlation between paranormal belief and fantasy proneness, he found no relationship between paranormal belief and measures of healthy psychological adjustment. In terms of mystical experience, Spanos and Moretti (1988) found no relationship between psychopathology and mysticism, and Caird (1987) found no relationship between neuroticism or psychoticism and the reporting of mystical experience. Tobacyk (1983), found belief in the paranormal to be correlated with reduced concerns about death.

In terms of physical health, Ferraro and Albrecht-Jensen (1991) observed a consistent positive relationship between physical health and active religious practice, while Kass, Friedman, Leserman,

Zuttermeister, and Benson (1991) found reduced medical symptoms in those reporting mystical experiences.

Correlates with individual differences. In terms of individual differences, Tobacyk & Milford (1983) found a positive correlation between levels of paranormal belief and external locus of control. Pekala, Kumar, and Cummings (1992) found increased reports of transpersonal experiences among individuals measuring high in hypnotic-susceptibility, while Irwin (1985) found positive associations between trait absorption (a personality variable thought to be related to hypnotic susceptibility) and reports of spontaneous experiences of ESP, lucid dreaming, deja-vu, the seeing of apparitions, and out-of-body experiences. This relationship was subsequently confirmed by Glicksohn (1990) and Nelson (1989), and also found to be associated with the tendency to have mystical experiences by Spanos and Moretti (1988).

## Consequences of the three experiences

Although the studies cited above make important contributions to our understanding of mystical and parapsychological experiences, their correlational

nature can only suggest the possible consequences of these experiences in the lives of individuals. Milton (1992) states that "readers are left to guess how the experients felt about what was happening to them, or how the experients' lives were affected in the long term by what they had experienced" (p. 314).

Regarding the consequences of mystical experience, Stace (1960) wrote that:

> by a single such experience, of only a few moments' duration a man's life may be revolutionized. He may previously have found life meaningless and worthless, whereas now he feels that is has acquired meaning, value, and direction, or his attitude to life may sometimes be radically and permanently changed (p. 60-61).

Although Stace's statement can be seen as essentially expressing a predominant view in transpersonal psychology concerning the consequences of transpersonal experience, he does not specifically describe what the consequences are, or how they come about.

In terms of long-term clinical observations, where causal associations between experience and outcome may be more easily inferred than by single session paper-and-pencil research methods, owing to the personal

knowledge the practitioner has of the particular individual, Grof (1992) maintains that in addition to the changes in attitude and the "entirely new perspective on their daily problems" (p. 167) that people frequently report as a consequence of transpersonal experiences, these experiences can also have powerful consequences for psychological and physical health. Grof (1992) cites some of these as, for example, the eradication of chronic depression, psychogenic asthma, a variety of phobias, psychosomatic pain, severe migraines, and feelings of victimization, stating that "symptoms that had resisted months or even years of other treatments often vanished" following transpersonal experiences (p.17). Similarly, Maslow (1987) relates his experience with two patients who "were totally, immediately, and permanently cured of (in one case) chronic anxiety neurosis and (in the other case) of strong obsessional thoughts of suicide" following a peak experience (p. 59), adding his "strong suspicion that even one such experience might be able to prevent suicide, for instance, and perhaps many varieties of slow self-destruction, e.g., alcoholism, drug-addiction, addiction to violence, etc." (p. 75).

In the non-clinical population, Milton (1992) has stated that a "paranormal experience is, for some people, a major life event" (p. 315). Collecting accounts of individuals' first paranormal experiences, Milton found that, in terms of long-term consequences, some of her participants said that the experience had no long-term effects, whereas others said that the experiences had completely changed their lives. One person, for example, stated that the experience "permeated my whole way of life," and another said that "I cannot think that there is anything about my life which I could say was unaffected by this experience" (Milton, 1992, p. 320). Other long-term effects cited by Milton were increased acceptance of life events and sense of the meaningfulness of life, and reduced fears and/or concerns about death.

Maslow (1987) has also maintained that "peak experiences" frequently produced profound changes in an individual's values and motivations. Maslow (1987) wrote that following a peak experience the "conflicts of life tend to be transcended or resolved....there tends to be a loss, even though transient, of fear, anxiety, inhibition, of defense and control, of

perplexity, confusion, conflict, of delay and restraint" (p. 65-66).

Of his own mystical experiences, James (1902/1958) wrote that:

> the keynote of it is invariably a reconciliation. It is as if the opposites of the world, whose contradictoriness and conflict make all our difficulties and troubles, were melted into unity. Not only do they, as contrasted species, belong to one and the same genus, but...the nobler and better one...soaks up and absorbs its opposite into itself. This is a dark saying, I know, when thus expressed in terms of common logic, but I cannot wholly escape from its authority (p. 298).

Although recognizing the transient nature of mystical and peak experiences, both Maslow (1987) and James (1902/1958) felt that the perceptions had during mystical and peak experiences persisted past the experience itself. This view was held by Stace (1960), who suggested that the discrete state of consciousness characteristic of mystical experiences could sometimes "become permanent, running concurrently with, and in some way fused and integrated with, the normal or common consciousness" (p.61).

However, one of the problems with a great deal of the literature on the consequences of transpersonal experience is that very specific types of experiences are often not discussed in relation to specific consequences. The term "transpersonal" is used in such a broad sense by so many different people, and includes so many different types of experiences and subject matter that specific distinctions between experiences and their consequences are difficult to make. For example, although Milton (1990) attempted to look at the consequences of paranormal experiences, she did not clearly specify exactly what the experiences were in relation to their consequences. Her sample included accounts of out-of-body experience, contacts with ghosts and spirits, precognition, and real-time ESP (presumably telepathy or clairvoyance), plus others that she states she could not fit into any particular category. Aside from three specific examples she gives (i.e., one of an out-of-body experience, and two experiences of precognition), her discussion of consequences is generic and not related to specific types of experience. Noting however that the sample size in her study was too small to answer questions "to do with patterns within and between types of cases"

(p.321), she does state that they are questions worth asking.

Although Jung (1969b) did not provide either a summary or a typology of the specific or normative consequences of synchronicity in his formal account of synchronicity, other than stating the importance they could have in the life of the person, he clearly alluded to its impact in his own life in his autobiography (Jung, 1961), and in an account of synchronicity that took place during a clinical session (Jung, 1969b). According to Jung (1969b), a patient he was attempting to treat was dysfunctionally holding so firmly to a rationalistic model of reality that clinical progress was very difficult. Then, during one session, while relating a dream she had of being given a beetle as a gift, an actual beetle appeared at the window. Jung opened the window, caught the beetle, and presented it to her. Jung (1969b) noted that following this event the patient's "natural being...burst through the armour of her animus possession and the process of transformation could at last begin to move" (p. 439).

As noted previously, a number of clinicians have observed and discussed the importance and utility of synchronicity as critical incidents during the

counselling process (e.g., Frick, 1983; Hopcke, 1990; Hunsley & Glueckauf, 1988; Keutzer, 1984, 1989; Roehlke, 1988; Wharton, 1986). Essentially, the expressed consensus is that synchronistic events facilitate the process of individuation by helping to initiate the process whereby the conscious can come into a balanced relationship with the unconscious. As noted previously, the deepest level of the unconscious is that of the collective unconscious, which Jung maintained was extrapsychic (i.e., transpersonal). Of the individuation process, Edinger (1974) wrote:

> The dichotomy between outer and inner reality is replaced by a sense of unitary reality. It is as though original unconscious wholeness and oneness with life, in which we began and out of which we had to emerge, can now be recovered in part on a conscious level (p. 96-97).

The question that remains however, is that of classifying, in a simple yet specific manner, the changes that comes about from mystical experiences. To this end, Pahnke's (1976) study is of particular value.

In addition to experimentally verifying Stace's (1960) model of mystical experience, Pahnke was also interested in the positive consequences of the

experience, and was able to empirically demonstrate some of these. He identified four categories of change in attitude and/or behaviour: changes in attitude and behaviour (a) toward the self, (b) toward others, (c) toward life, and (d) toward the mystical experience itself.

In describing (a) changes toward the self, Pahnke (1967) listed the person's increased ability to face and deal with his or her undesirable traits, an increased sense of inner authority, increases in creativity and achievement efficiency, inner optimism, and feelings of joy, happiness and peace. Changes in (b), attitudes and behaviours toward others, included "more sensitivity, more tolerance, more real love, and more authenticity as a person by being more open and more one's true self with others" (p.634). Changes in (c), attitudes toward life, included positive changes in the "sense of values, sense of meaning and purpose, vocational commitment, need for service to others, and a new appreciation for the whole of creation" (p. 634). Finally, changes in (d) the attitude toward mystical experience itself were such that on the whole his subjects regarded it:

as valuable and that what [was] learned [was]

> thought to be useful. The experience [was] remembered as a high point, and the attempt [was] made to recapture the experience, or if possible, to gain new experiences as a source of growth and strength; mystical experiences of others are better appreciated and understood" (p. 634).

Compared to the matched control group, Pahnke's (1967) experimental group showed positive changes in all four types of consequence, which also persisted six months after the experience.

## Hypotheses of the study

Based on the preceding discussions, two formal hypotheses were tested in this study. The first was derived from the argument that the phenomenological characteristics of mystical and synchronistic experiences are similar to each other, but different from parapsychological experiences. Operationally, it was predicted that in terms of Hood's (1975) typology, scores on Factor I of the Mysticism Scale for both mystical and synchronicity experiences would be significantly higher than scores for parapsychological experiences.

The second formal hypothesis concerns the consequences of mystical, synchronistic, and parapsychological experiences. It was hypothesized that the consequences of synchronicity would be rated similar to the consequences of mystical experience, but dissimilar to the consequences of parapsychological experiences. This expectation was made on the basis that if synchronicity and mystical experiences are phenomenologically equivalent and antecedent to definable outcomes, then these outcomes would also be linearly equivalent. In contrast, and by the same linear reasoning, if it is the case that parapsychological experiences are phenomenologically dissimilar to mystical and synchronistic experiences, then the consequences would also be dissimilar.

Operationally, it was therefore hypothesized that ratings of measures derived from Pahnke's (1967) typology of consequences would be significantly higher for mystical and synchronistic experiences than the ratings for the consequences of parapsychological experiences.

## Method

### Participants

A total of 181 university students took part in the study. Of this total, 161 students were recruited from two Introductory Psychology classes offered during the summer of 1993 at the University of Manitoba. These students voluntarily participated in the study in exchange for course credit. The remaining 20 students were enroled in a section of Abnormal Psychology, and voluntarily participated in the study without reward.

The students ranged in age from less than 18 years, to over 40 years, with a modal age of 18 - 24 years. In terms of gender, 35.9% the sample was male ($n$ = 65), compared to 64.1% female ($n$ = 116). The majority of participants (66.8 %, $n$ = 113) identified their religious background as Christian, 26% ($n$ = 44) identified themselves as having no religious background, with the remaining 7.2% ($n$ = 12) identifying themselves as either Hindu, Moslem, Buddhist, or Jewish.

In terms of the participants cultural background, 63.3% ($n$ = 112) indicated having been raised in a western culture, 25.4% ($n$ = 45) in an eastern culture, 5.6% ($n$ = 10) in an aboriginal culture, 1.1% ($n$ = 2) in

a middle-eastern culture, and 4.5% (n = 8) in an undefined "other" category.

## Materials

A questionnaire consisting of three short definitions of mystical, synchronistic, and parapsychological states, each followed by a modified version of Hood's (1975) Mysticism scale (see Appendix B) was developed for this study. Each of the definitions was directly derived from definitions that are given in the literature on mystical experience, synchronicity, and parapsychology.

Each definition was followed by the first clause of one of the three following questions (depending on the experience in question): (a) "To what extent do you consider mystical states to involve experiences...," (b) "To what extent do you consider synchronicity to involve experiences...," or (c) "To what extent do you consider parapsychological states to involve experiences...," followed by a list of 32 completing clauses (descriptors) that constitute, with minor variation, each of Hood's (1975) 32-item Mysticism Scale items. The variations consisted of changes in (a) verb tense, from the past to the present (e.g.,

from "felt" to "feel," from "was" to "is"), (b) changes from the singular to the plural (e.g., from "is" to "are"), (c) the addition of a question mark at the end of each completing clause to change it from a statement to a question, and (d) items expressed in the negative in Hood's original scale were changed to the positive. Regarding this latter change, Hood (1975) noted that the "high significant correlations between positive and negative expressions of [items of] the same category...indicate that the form of expression does not alter the meaningfulness of the measurement of the categories" (p. 33). Other than these changes, the wording of the completing clauses was consistent with Hood's (1975) original wording.

Following the list of 32 descriptors, four additional descriptors were added, related to Pahnke's (1967) typology of consequences. Each of these descriptors were composites taken directly from Pahnke's (1976) descriptions of the four types of consequences he found to result from experimentally induced mystical experience. These four descriptors were written in a style and grammatical form consistent with Hood's items (see Appendix II, items 33-36). To the right of the each of the 36 descriptors was a 5-

point rating scale, with the anchors labelled as "not at all" and "to a great extent."

At the end of each section, two additional questions asked (a) to what extent the person believes he or she has had the experience in question, and (b) how many times the person has had the experience. The last page of the questionnaire consisted of a demographics section, containing items related to the person's age, gender, religion, and cultural background.

Two forms of the questionnaire were used. In both forms, the mystical experience section appeared first, to reflect the conception that the ratings for mystical experience constituted the "baseline" measures for the study. To control for order effects, one form of the questionnaire had the synchronicity section placed after the mystical experience section, but before the parapsychology section; whereas in the other form, the order of presentation was reversed.

## Procedure

One week prior to data collection, I attended the Introductory Psychology class during the regularly scheduled class time to recruit participants for the

study. In order to avoid biasing the students' conceptions of the study prior to their decision to participate, they were simply told that they would be asked to read definitions of three types of experiences and rate a list of descriptive statements for each experience in terms of the extent to which they believed each statement to be part of the experience. Participation forms were then distributed to the class, and those wishing to participate signed up for the study by filling in their names and student numbers on the forms. No pre-registration was done with the students from the Abnormal Psychology class. I attended the class on the day of administration as a guest of the course instructor, and the questionnaires were done in class.

One week later, students in the Introductory Psychology class who had pre-registered for the study remained in the lecture hall after class to do the questionnaires. Each participant was given a questionnaire booklet, an IBM answer sheet, and a pencil, with verbal instructions not to open the booklet until I explained the instructions. After the materials were distributed and the students settled in their seats, I thanked them for attending, and directed

their attention to the instructions on the cover page of the booklet. After giving the students a few moments to read the instructions, I verbally summarized the instructions and asked if there were any questions. None of the students had any questions, and as a final statement I reminded the students that if at any time any of them decided not to complete the questionnaire, he or she could simply return the booklet and still receive course credit. The students were then free to complete the questionnaires. On the whole, most people took about 20 minutes to complete the questionnaire. Upon handing in the questionnaire, each student was given a debriefing sheet (see Appendix C) and was free to leave.

## Results

### Primary Analysis

#### Hood's factor scores

Using the same scoring procedure as Hood (1975), a phenomenological score and an interpretive score was computed for each person for each of the three experiences (for a total of six scores per person). These scores were computed by simply summing the raw scores of all items that originally loaded into each of

Hood's two factors. The possible range for the phenomenological score was 20 to 100, and 12 to 60 for the interpretive score. Cronbach's alpha for the phenomenological and interpretive scores for mystical experience were .8963 and .8500 respectively. These two scores were highly and significantly correlated, $r = .7399$, $p < .0001$, supporting Hood's (1975) claim that the characteristics of mystical experience can be seen as all falling on a single continuum.

Repeated-measures ANOVAs, using the type of experience as the repeated measure, revealed significant differences for both the phenomenological scores, $F(2, 344) = 51.31$, $p < .0001$, and the interpretive scores, $F(2, 344) = 42.28$, $p < .0001$. Pairwise contrasts were then done for each pair of scores for both dimensions. As shown in Table 1, the contrasts for all pairs of scores for both dimensions were highly significant, $p < .0001$.

The means for both dimensions for each of the three experiences suggests a consistent pattern (see Figure 1). For the phenomenological and interpretive dimensions, synchronicity was rated the lowest among the three experiences and mystical experience rated the highest, with the scores for parapsychological

experience rated between the ratings for synchronicity and mystical experience.

Table 1

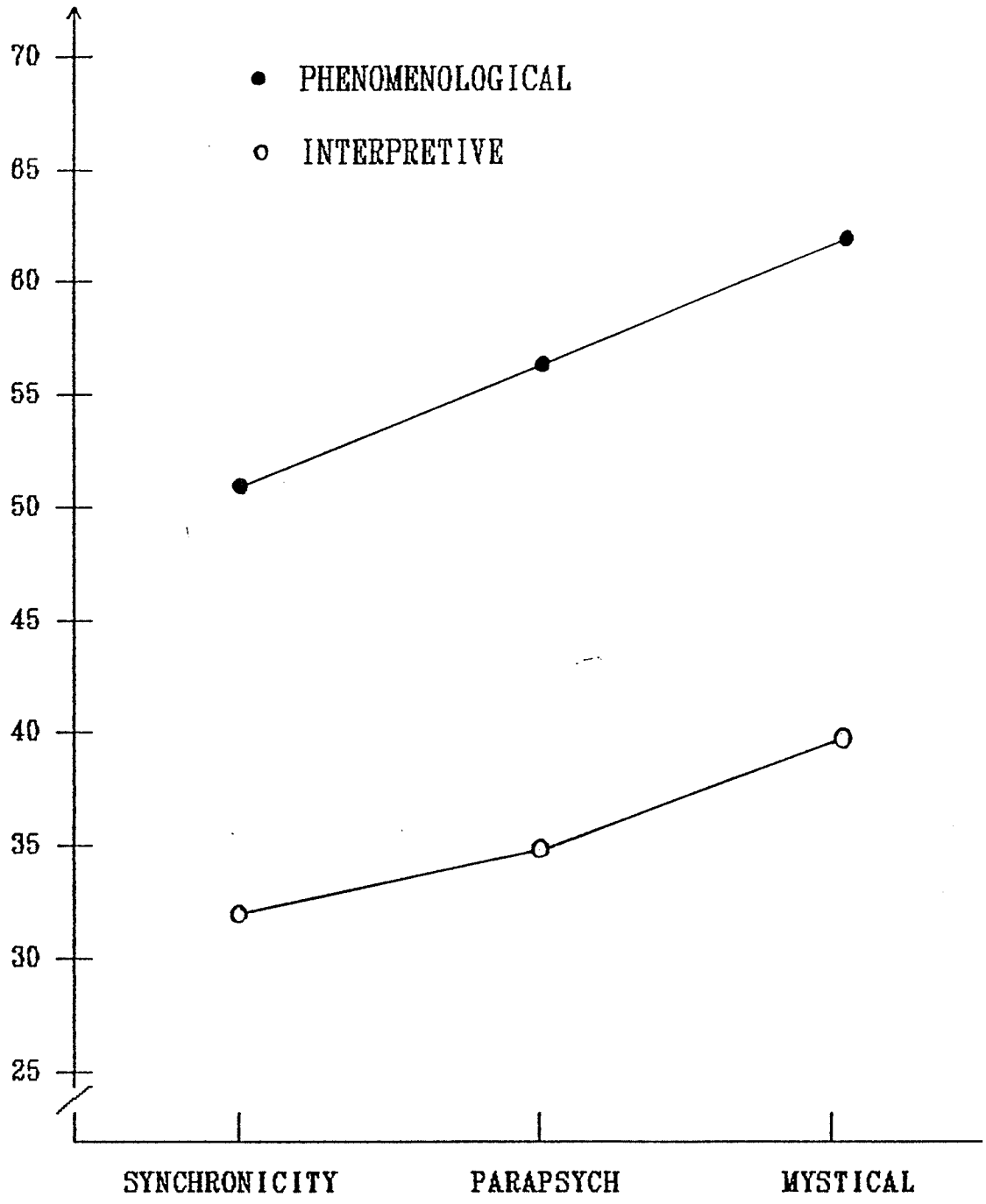
Means and Pairwise Contrast Values for the Phenomenological and Interpretive Factors

| Phenomenological Factor | | | |
|---|---|---|---|
| Experience | | Mean | St. Dev. |
| Mystical (MYST) | | 62.07 | 14.38 |
| Parapsychological (PARA) | | 56.31 | 18.62 |
| Synchronicity (SYNC) | | 50.63 | 16.07 |
| Contrast | F | df | p |
| MYST to SYNC | 97.78 | 1,172 | < .0001 |
| MYST to PARA | 24.76 | 1,172 | < .0001 |
| SYNC to PARA | 27.97 | 1,172 | < .0001 |

| Interpretive Factor | | | |
|---|---|---|---|
| Experience | | Mean | St. Dev. |
| Mystical (MYST) | | 38.46 | 8.95 |
| Parapsychological (PARA) | | 34.45 | 10.53 |
| Synchronicity (SYNC) | | 32.25 | 9.41 |
| Contrast | F | df | p |
| MYST to SYNC | 78.02 | 1,170 | < .0001 |
| MYST to PARA | 28.54 | 1,170 | < .0001 |
| SYNC to PARA | 15.13 | 1,170 | < .0001 |

Figure 1

Plot of the mean ratings for phenomenological and interpretive dimensions for all three experiences



Based on these analyses, the first hypothesis cannot be supported. As measured in this study, the experience of synchronicity cannot be regarded as phenomenologically equivalent to mystical experience. In fact, the pattern suggests that (a) synchronicity is less like mystical experience than parapsychological experience, and (b) all three experiences are different in terms of the measured dimensions.

## Subscale scores

To explore the basis of the differences between the three experiences in more detail, a second analysis was performed. Because each of the four items in each of the eight subscales were intercorrelated (see Appendix D), a separate score was calculated for each subscale, for each of the three experiences, by summing the ratings of each of the four items comprising each sub-scale.

Repeated measures ANOVAs of each subscale score, using type of experience as the repeated measure, showed significant differences between the three experiences for all subscales (see Table 2). This procedure was followed by a series of pairwise contrasts between the ratings for each pair of the

three experiences for each of the eight sub-scales.

Table 2

Within-subject F ratios and significance levels for Repeated-measures ANOVAs of the Eight Subscales

| Subscale | F | p |
|---|---|---|
| Experience of Unity | $F(2, 354) = 15.76$ | $p < .0001$ |
| Loss of Ego Boundaries | $F(2, 356) = 44.12$ | $p < .0001$ |
| Sense of Presence | $F(2, 356) = 20.57$ | $p < .0001$ |
| Time/Space Perception | $F(2, 358) = 40.32$ | $p < .0001$ |
| Ineffability | $F(2, 352) = 36.44$ | $p < .0001$ |
| Noetic Quality | $F(2, 352) = 16.95$ | $p < .0001$ |
| Positive Affect | $F(2, 352) = 47.37$ | $p < .0001$ |
| Religious Quality | $F(2, 346) = 28.67$ | $p < .0001$ |

Perception of unity. The perception of unity was rated significantly higher for mystical experience ($m$ = 12.15) than for either synchronicity ($m$ = 10.55), $F(1, 177) = 23.59$, $p < .0001$, or parapsychological experience ($m$ = 10.88), $F(1, 177) = 16.54$, $p < .0001$. However, the difference between synchronicity and parapsychological experience was non-significant, $F(1,$

177) = 1.81, $p$ = .1797. These results suggest that (a) the perception of unity is more involved in mystical experience than in either synchronicity or parapsychological experience, and (b) that the perception of unity in synchronicity and parapsychological experience are, more or less equivalent.

Ego loss. The experience of ego loss was rated higher in mystical experience ($m$ = 12.46) than in either synchronicity ($m$ = 9.80), $F(1, 178) = 84.89$, $p < .0001$, or in parapsychological experience ($m$ = 11.83), $F(1, 178) = 4.62$, $p = .033$. The difference in ego loss ratings between synchronicity and parapsychological experience were also significant, $F(1, 178) = 42.49$, $p < .0001$. Together, these results show that all three experiences were rated differently on the dimension of ego loss. Synchronicity was rated as involving the least amount of ego loss, mystical experience the most involvement of ego loss, with ratings for ego loss in parapsychological experience rated between synchronicity and mystical experience.

Sense of presence. All three experiences were also rated differently in terms of the sense of presence involved in the experiences. The sense of presence rating for mystical experience ($m$ = 11.67) was significantly greater than ratings for synchronicity ($m$ = 9.92), $F(1, 178) = 43.41$, $p < .0001$, or for parapsychological experience ($m$ = 10.80), $F(1, 178) = 7.86$, $p < .006$. Synchronicity was also rated significantly different than parapsychological experience, $F(1, 178) = 13.28$, $p < .0004$. The sense of presence was rated lowest for synchronicity, and highest for mystical experience, with ratings for parapsychological experience falling between the two extremes.

Altered perceptions of time and/or space. Ratings on the involvement of altered perceptions of time and/or space were greater for mystical experience ($m$ = 12.87) than ratings for parapsychological experience ($m$ = 11.67), $F(1, 179) = 11.78$, $p = .0007$, or for synchronicity ($m$ = 9.67), $F(1, 179) = 73.49$, $p < .0001$. The difference in ratings between synchronicity and parapsychological experience was also significant, $F(1, 179) = 31.04$, $p < .0002$. Consistent with the results

of the preceding analyses, alterations in the perception of time and/or space was rated lowest for synchronicity, highest for mystical experience, with ratings for parapsychological experience between the two.

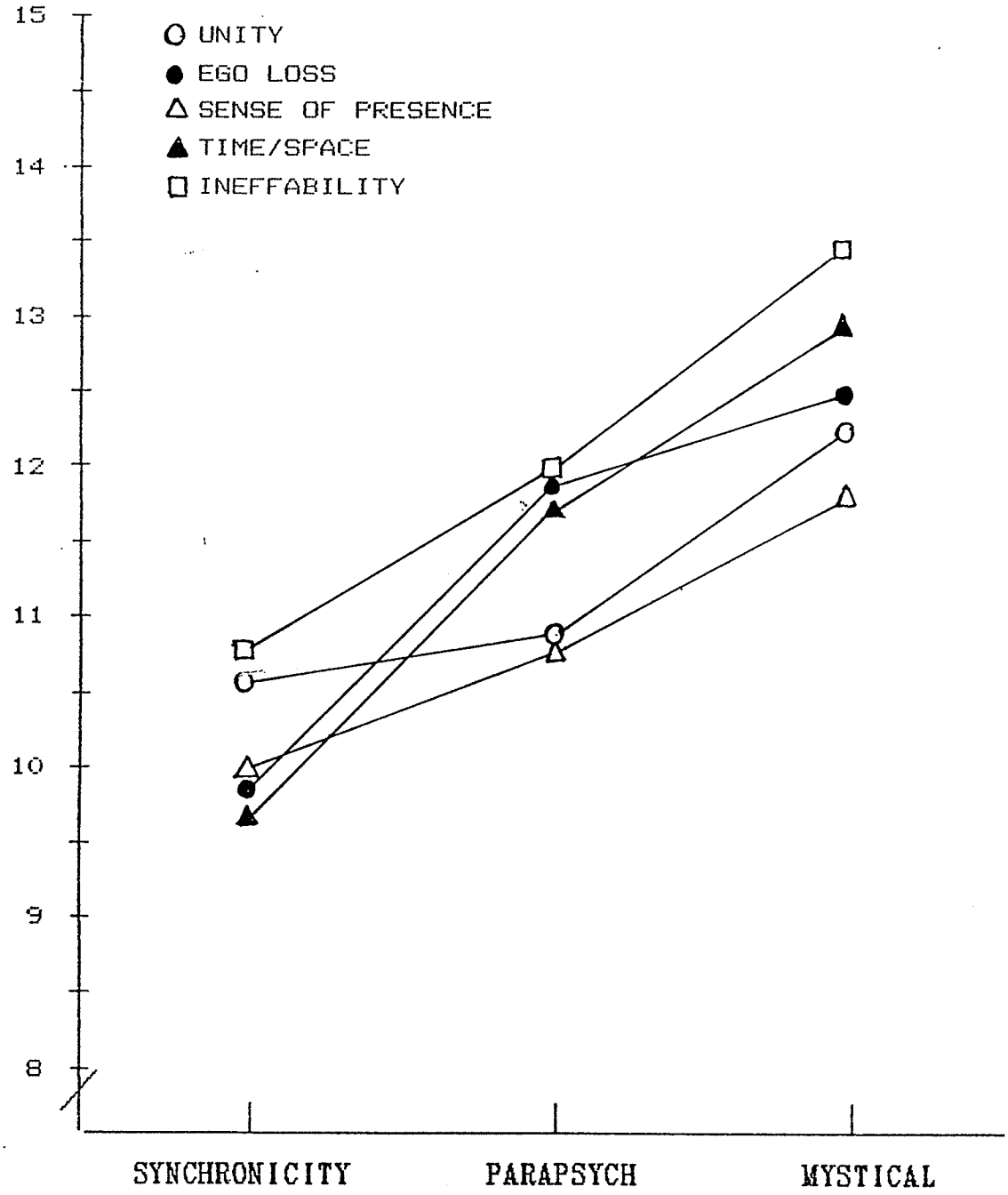
Ineffability. Ineffability was rated higher for mystical experience ($m$ = 13.45) than for either parapsychological experience ($m$ = 11.93), $F(1, 176) = 22.78$, $p < .0001$, or synchronicity ($m$ = 10.71), $F(1, 176) = 66.93$, $p < .0001$. The difference between ineffability ratings for parapsychological experience and synchronicity was also significant, $F(1, 176) = 15.54$, $p < .0001$. Again, synchronicity was rated the lowest on ineffability, mystical experience rated the highest, with ineffability of parapsychological experience rated between the two.

On four of the above five sub-scales, each of which Hood (1975) described as a component of the phenomenological dimension of mystical experience, the ratings for synchronicity were significantly less than the ratings for both parapsychological experience and mystical experience. On only one sub-scale - that measuring the experience of unity, was synchronicity

rated equivalent to parapsychological experience. Furthermore, on all five sub-scales, mystical experience was rated significantly higher than either synchronicity or parapsychological experience. As shown in Figure 2, these results do not support the hypothesis of phenomenological similarity between synchronicity and mystical experience and dissimilarity between synchronicity and parapsychological experience. On the other hand, the consistent "pattern" of ratings between all three experiences on all five of the sub-scales is highly suggestive of a phenomenological continuum in which synchronicity and mystical experience mark, respectively, the low and high ends of a spectrum, with parapsychological experience occupying a middle position.

Figure 2

Plot of the mean ratings for the five phenomenological subscales for each experience



Noetic quality. Mean ratings on the noetic quality sub-scale for mystical experience ($m$ = 12.42) were not significantly different from the ratings for parapsychological experience ($m$ = 11.92), $F(1, 176) = 2.16$, $p = .1435$, but significantly different from, and greater than ratings for synchronicity ($m$ = 10.71), $F(1, 176) = 29.80$, $p < .0001$. The difference between ratings for synchronicity and parapsychological experience on this dimension was also significantly different, $F(1, 176) = 18.71$, $p < .0001$. The noetic quality (i.e., sense of reality) was thus rated as more involved in both mystical and parapsychological experiences than in experiences of synchronicity.

Positive affect. The involvement of positive emotions was rated significantly higher for mystical experience ($m$ = 12.96) than for either parapsychological experience ($m$ = 10.73), $F(1, 176) = 65.69$, $p < .0001$, or synchronicity ($m$ = 10.84), $F(1, 176) = 56.80$, $p < .0001$. However, the slight difference between ratings for synchronicity and parapsychological experience was non-significant, $F(1, 176) = 0.24$, $p = .6250$. In short, mystical experience

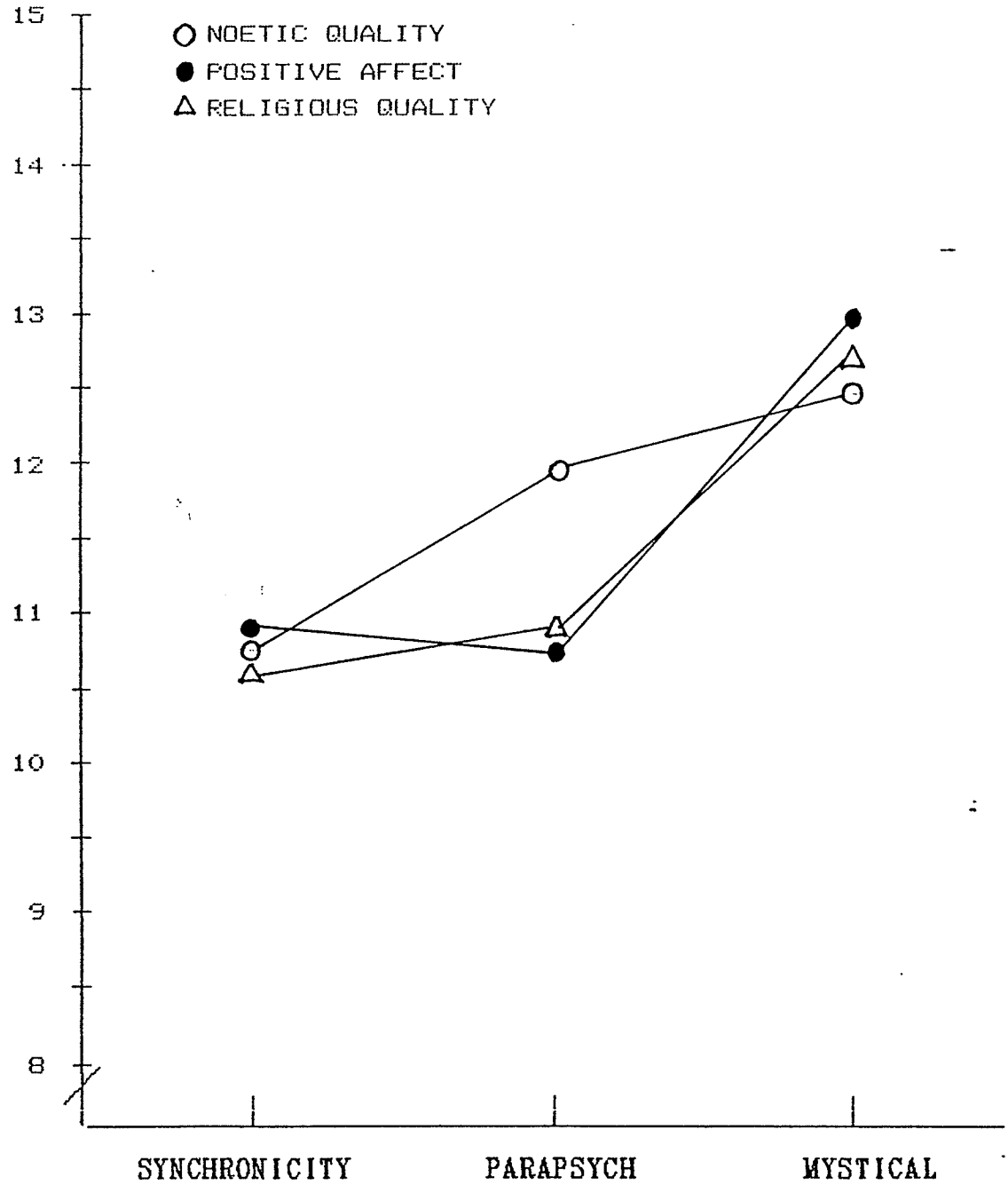
was rated higher on positive affect than either parapsychological experience or synchronicity.

Religious quality. Mystical experience was rated as being more religious or numinous ($m$ = 12.64) than either parapsychological experience ($m$ = 10.90), $F(1, 173) = 30.38$, $p < .0001$, or synchronicity ($m$ = 10.62), $F(1, 173) = 49.05$, $p < .0001$. There was no significant difference between ratings for synchronicity and parapsychological experience, $F(1, 173) = 1.99$, $p = .1602$.

The results of the analyses of these three sub-scales, together measuring the interpretive dimension, suggest that both mystical experience and parapsychological experience are seen (a) as real sources of valid knowledge more so than synchronicity, and (b) that mystical experiences are regarded more religiously and affectively positive than either parapsychological experiences or synchronicity. As with the five characteristics of the phenomenological dimension, the characteristics of the interpretive dimension reveal a similar pattern suggestive of a continuum between synchronicity, parapsychological, and mystical experience (see Figure 3).

Figure 3

Plot of the mean ratings for the three subscales of the interpretive dimension



Consequences of the experiences.

The second hypothesis proposed in this study was that the consequences of synchronicity would be equivalent to those of mystical experience, and dissimilar to the consequences of parapsychological experience. This hypothesis was not supported by the data.

The four items used in the questionnaire to assess the consequential dimension of the three experiences were all highly and positively intercorrelated (see Appendix D). As Cronbach's alpha for the four consequence items was .8787 for mystical experience, .9146 for parapsychological experience, and .8742 for synchronicity, a single consequence score was derived for each experience by simply summing the ratings of the four items, thus producing three scores for each subject, each with a possible range of 4 to 20.

A repeated measures ANOVA revealed a significant overall within-subjects difference between the three experiences, $F(2, 356) = 36.04$, $p < .0001$. Pairwise contrasts for each pair of experiences showed that the mean rating for mystical experience ($m = 13.88$) was significantly higher than the mean ratings for both parapsychological experience ($m = 12.13$), $F(1, 178) =$

27.60, $p < .0001$, and synchronicity ($m = 11.22$), $F(1, 178) = 65.63$, $p < .0001$. The difference between parapsychological experience and synchronicity was also significant, $F(1, 178) = 9.85$, $p < .002$.

This analysis shows that mystical experience was rated the highest in terms of positive consequence, synchronicity rated the lowest, with parapsychological experience rated in between the two. To explore this result in greater detail, a separate repeated measures ANOVA was performed for each of the four consequence items. Each item was rated on a scale of 1 to 5.

Attitudes toward the self. A significant within-subjects difference between the three experiences was found for positive inward changes in attitudes toward the self, $F(2, 356) = 36.54$, $p < .0001$. Pairwise contrasts showed that the rating on positive changes towards the self for mystical experience ($m = 3.48$) was significantly higher than the rating for either parapsychological experience ($m = 2.83$), $F(1, 178) = 40.94$, $p < .0001$, or synchronicity ($m = 2.68$), $F(1, 178) = 58.98$, $p < .0001$. The difference in ratings between parapsychological experience and synchronicity was, however, not significant, $F(1, 178) = 2.68$, $p =$

.1037. These results suggest that mystical experience is perceived as leading to greater positive changes in attitudes toward the self than either synchronicity or parapsychological experience.

Attitudes toward others. A significant difference between the three experiences was also observed for ratings on the item related to positive changes in attitude and behaviour toward others, $F(2, 358) = 19.26$, $p < .0001$. Pairwise contrasts revealed that the rating for mystical experience ($m = 3.38$) was significantly higher than the ratings for both parapsychological experience ($m = 2.96$), $F(1, 179) = 17.31$, $p < .0001$, and synchronicity ($m = 2.78$), $F(1, 179) = 32.39$, $p < .0001$. The difference between parapsychological experience and synchronicity on this item was only marginally significant, $F(1, 179) = 3.88$, $p = .0503$.

Sense of meaning and purpose. In terms of increases in the sense of meaning and purpose in life associated with the three experiences, significant overall differences were observed between the three experiences, $F(2, 358) = 29.62$, $p < .0001$. Pairwise

contrasts showed that the mean rating for mystical experience ($m$ = 3.62) was significantly higher than the rating for parapsychological experience ($m$ = 3.17), $F(1, 179) = 19.39$, $p < .0001$, or the rating for synchronicity ($m$ = 2.87), $F(1, 179) = 58.14$, $p < .0001$. Additionally, the difference between parapsychological experience and synchronicity on this dimension was also significant, $F(1, 179) = 10.29$, $p < .0016$. Synchronicity was associated with the least amount of positive change in life meaning, mystical experience with the greatest degree of positive change, with parapsychological experience rated between mystical experience and synchronicity.

Value and regard for the experience. The fourth consequence-related item inquired into the positive regard and value placed on each of the three experiences. Consistent with the results of the other three consequence measures, a significant overall difference between the three experiences was observed, $F(2, 358) = 12.56$, $p < .0001$. The rating for mystical experience ($m$ = 3.36) was significantly higher than the rating for parapsychological experience ($m$ = 3.15), $F(1, 179) = 4.25$, $p < .0407$, or the rating for

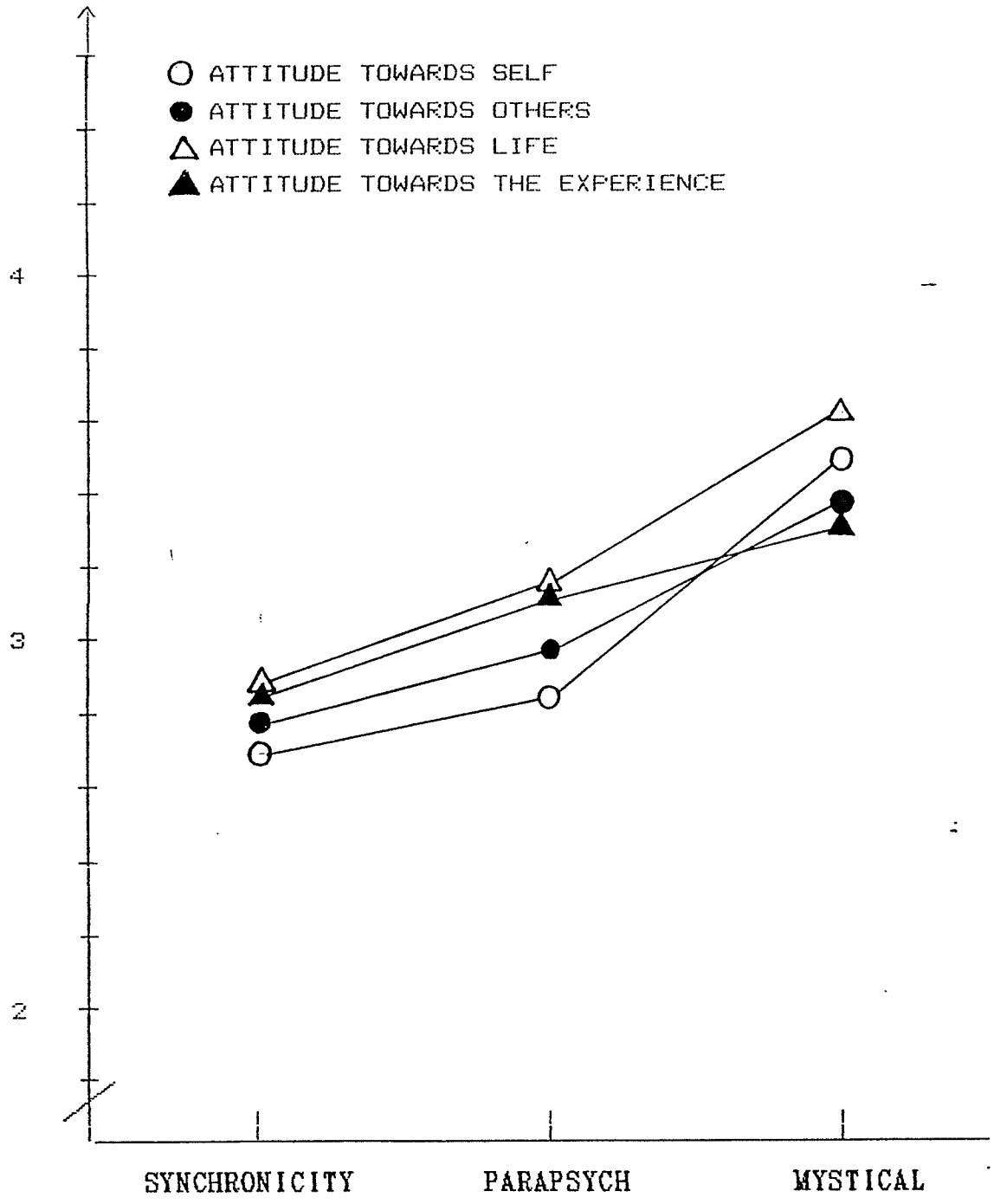
synchronicity ($m$ = 2.86), $F(1, 179) = 24.58$, $p < .0001$. The difference between parapsychological experience and synchronicity was also significant, $F(1, 179) = 8.75$, $p < .0035$.

In summary, the results of this primary analysis clearly do not support the hypothesis that the consequences of synchronicity are equivalent to the consequences of mystical experience. Furthermore, as Figure 4 shows, the ratings on the four dimensions of positive consequence associated with each of the experiences suggest a continuum extending from synchronicity at the low end, through parapsychological experience in a middle range, to mystical experience at the high end of the continuum.

As a concluding note to this primary analysis, mention should be made of that due to the large number of statistical tests performed on the data, it is almost certain that some of the individual test results may be entirely due to statistical chance. However, the consistent and recurrent <u>patterning</u> of the results <u>as a whole</u> is strongly suggestive of a common continuum underlying the experiential, interpretive, and consequential dimensions of the three different experiences.

Figure 4

Plot of the means of the four consequence measures for the three experiences



## Secondary Analysis

### Hood's factor scores

A second analysis of the data was done, comparing the results of a subset of those participants who reported never having had any of the three experiences ($n$ = 23) to a subset of those who reported having had all three of the experiences at least once ($n$ = 75). The intent of this analysis was to explore the question of whether or not there were any differences in the pattern of ratings of the three experiences between "non-experiencers" versus "experiencers."

Phenomenological dimension. On the phenomenological dimension, the mean rating of the experiencers was higher than the mean rating of the non-experiencers (see Table 3). This difference in ratings between experiencers and non-experiencers was, however, non-significant.

Of particular interest, however, was the observation that the pattern or "ranking" of the experiences, suggestive of a continuum, was the same for both experiencers and non-experiencers. As shown in Figure 5, both groups rated synchronicity the lowest, and mystical experience the highest, with parapsychological experience rated in a middle range.

Table 3

Means, t and p values for differences between "experiencers" and "non-experiencers" on phenomenological and interpretive ratings

Phenomenological Dimension

| | Group Means | | t (df) | p |
|---|---|---|---|---|
| Experience | Non-Exp | All-Exp | | |
| Synchronicity | 49.34 | 53.97 | 1.133 (96) | .2600 |
| Parapsychological | 53.00 | 60.05 | 1.587 (92) | .1158 |
| Mystical | 58.39 | 64.45 | 1.842 (96) | .0685 |

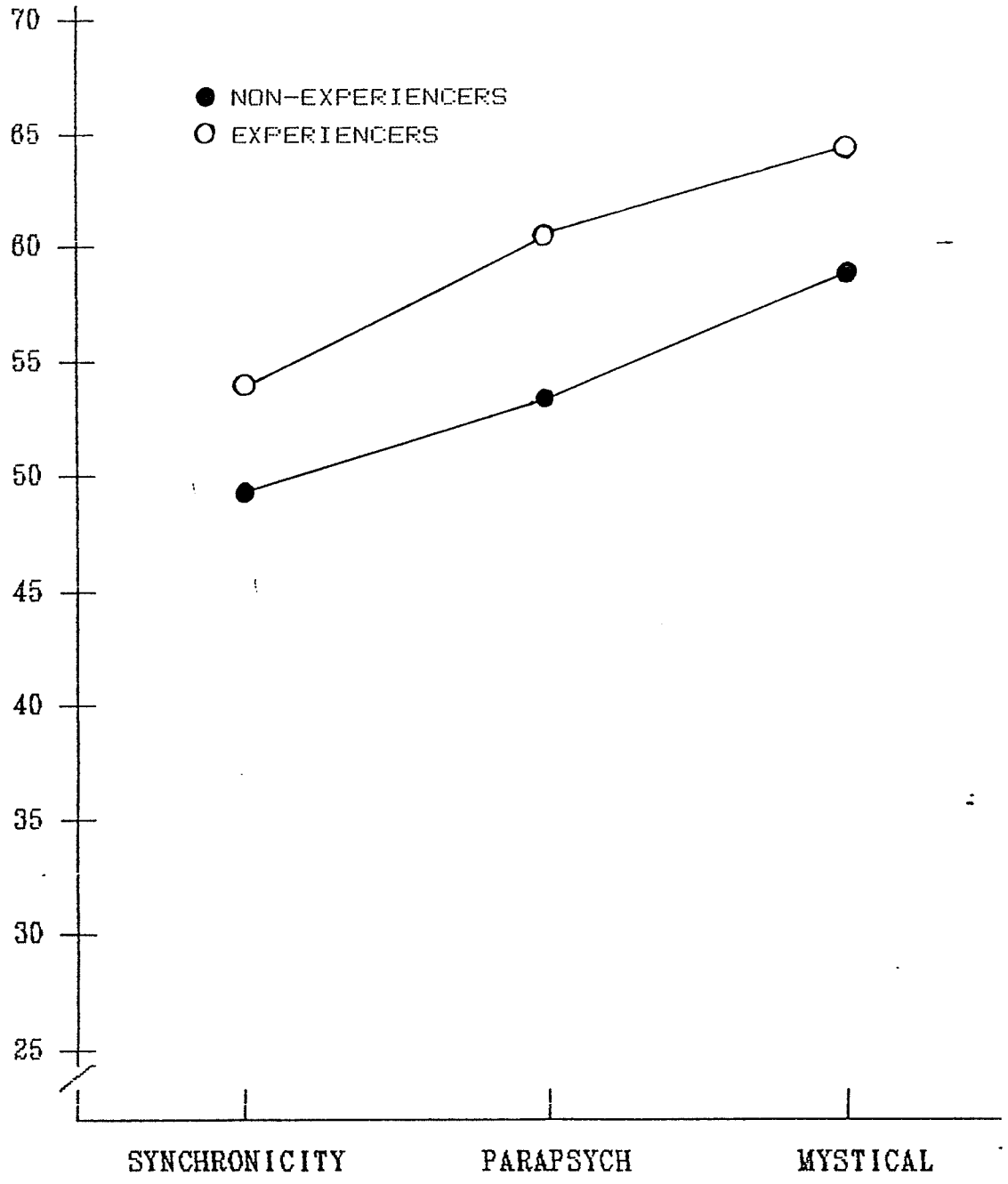
Interpretive Dimension

| | Group Means | | t (df) | p |
|---|---|---|---|---|
| Experience | Non-Exp | All-Exp | | |
| Synchronicity | 28.95 | 34.68 | 2.530 (93) | .0130 |
| Parapsychological | 31.36 | 37.38 | 2.560 (93) | .0119 |
| Mystical | 36.47 | 39.76 | 1.529 (93) | .1296 |

Note: The non-experiencer group is denoted by the abbreviation "Non-Exp," and the group having had all three experiences is denoted by the abbreviation "All-Exp."

Figure 5

Plot of the mean ratings for "experiencers" versus "non-experiencers" on the phenomenological dimension of all three experiences



Within-groups repeated measures contrasts revealed that the experiencers rated all three experiences significantly different from each other, whereas only the difference between synchronicity and mystical experience was significant in the non-experiencer ratings (see Table 4). This suggests the possibility that the experiencers made a greater distinction between the three experiences on the phenomenological dimension than the non-experiencers. This makes conceptual sense, in that if the three experiences are truly different from each other, it would be reasonable to expect that people who have had all three experiences would be more likely to differentiate between the experiences than non-experiencers.

Table 4

Means and contrasts for non-experiencers versus experiencers on phenomenological factor

| | Experiencers | | |
|---|---|---|---|
| Contrast | Means | F(1, 67) | p |
| Myst---Para | 63.58 -- 59.50 | 11.29 | .0001 |
| Myst---Sync | 63.58 -- 53.23 | 36.26 | .0001 |
| Para---Sync | 59.50 -- 53.23 | 14.82 | .0003 |

Non-experiencers

| Contrast | Means | F(1, 20) | p |
|---|---|---|---|
| Myst---Para | 58.39 -- 53.00 | 1.83 | .1915 |
| Myst---Sync | 58.39 -- 49.34 | 7.37 | .0133 |
| Para---Sync | 53.00 -- 49.34 | 3.01 | .0979 |

Interpretive dimension. On the combined index of noetic quality, religious quality, and positive affect, experiencers rated synchronicity higher than the non-experiencers, $t(93) = 2.53$, $p < .0130$, two-tailed. They also rated parapsychological experience higher on the interpretive dimension than non-experiencers, $t(93) = 2.56$, $p < .0119$, two-tailed (see Figure 6).

However, the slightly higher ratings of mystical experience given by experiencers compared to non-experiencer ratings was not significantly different, $t(93) = 1.529$, $p < .1296$, two-tailed.

Pairwise contrasts performed between the means for the three experiences for both groups (Table 5) showed that synchronicity was rated significantly lower than mystical experience for both groups. However, experiencers rated synchronicity significantly different from parapsychological experience, whereas

non-experiencers did not, again suggesting that experiencers made finer distinctions between the three experiences than non-experiencers.

Table 5

Means and contrasts for non-experiencers versus experiencers on interpretive factor

Experiencers

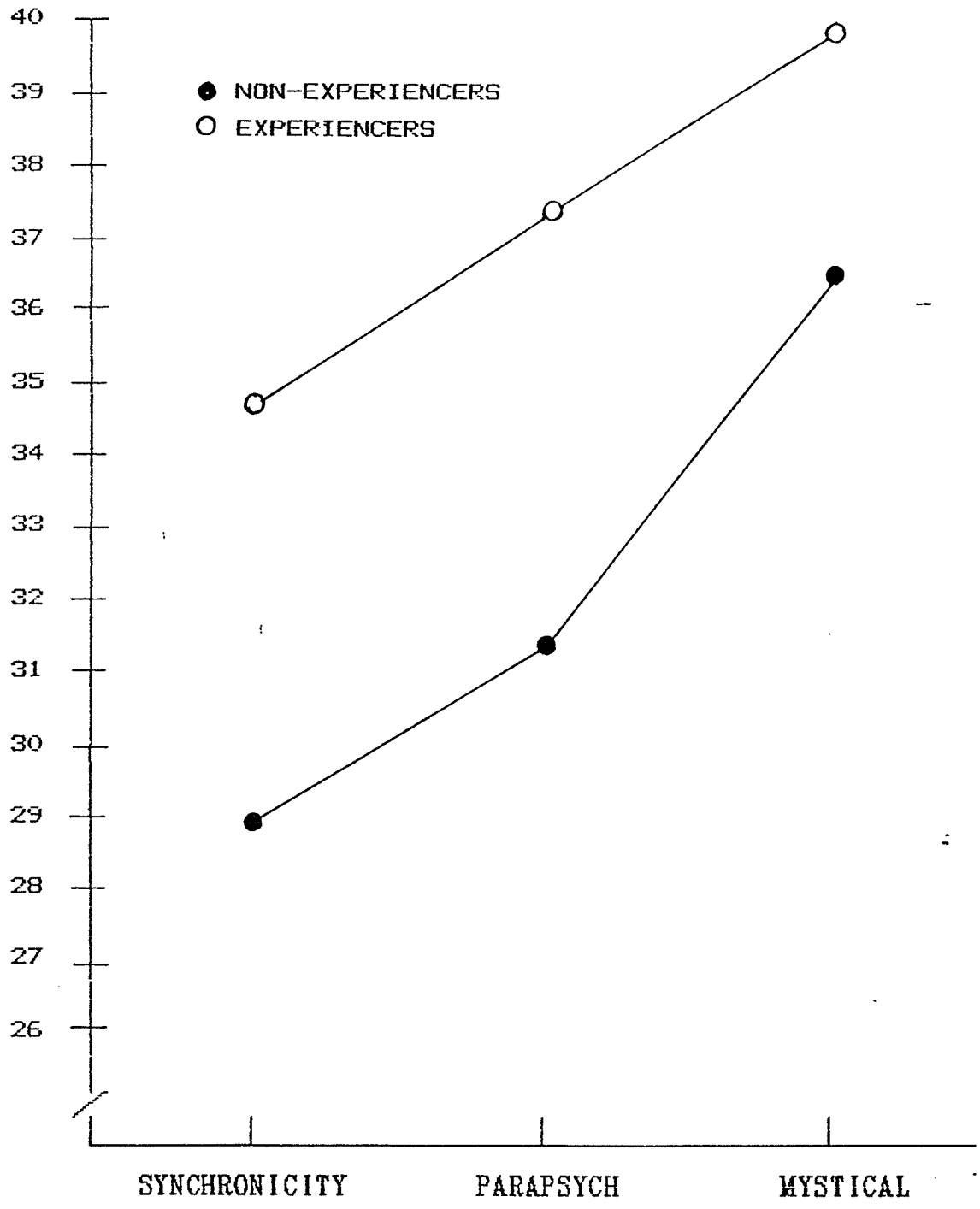
| Contrast | Means | F(1, 64) | p |
|---|---|---|---|
| Myst---Para | 39.34 -- 37.39 | 3.28 | .0749 |
| Myst---Sync | 39.34 -- 34.25 | 25.56 | .0001 |
| Para---Sync | 37.39 -- 34.25 | 12.28 | .0006 |

Non-experiencers

| Contrast | Means | F(1, 21) | p |
|---|---|---|---|
| Myst---Para | 36.47 -- 31.36 | 5.92 | .0240 |
| Myst---Sync | 36.47 -- 28.95 | 7.37 | .0007 |
| Para---Sync | 31.36 -- 28.95 | 3.01 | .1183 |

Figure 6

Plot of the mean ratings for "experiencers" versus "non-experiencers" on the interpretive factor



The eight subscales

With one exception, ratings for the eight subscales making up the phenomenological and interpretive factors were greater for experiencers than for non-experiencers (see Table 6). The exception was on ineffability, where synchronicity was given a non-significantly higher rating by non-experiencers.

Table 6

Subscale means, t and p values: experiencers vs non-experiencers

| | Unity Experience | | | |
|---|---|---|---|---|
| | Group Means | | t (df) | p |
| Experience | Non-Exp | All-Exp | | |
| Synchronicity | 9.78 | 10.37 | 1.550 (96) | .1242 |
| Parapsychological | 9.78 | 11.87 | 2.090 (95) | .0393 |
| Mystical | 11.34 | 12.77 | 1.638 (96) | .1045 |

(table continues)

Ego Loss

| Experience | Group Means Non-Exp | All-Exp | t (df) | p |
|---|---|---|---|---|
| Synchronicity | 9.39 | 10.77 | 1.430 (95) | .1558 |
| Parapsychological | 10.82 | 12.93 | 2.065 (95) | .0416 |
| Mystical | 11.65 | 12.96 | 1.640 (96) | .1042 |

Sense of Presence

| Experience | Group Means Non-Exp | All-Exp | t (df) | p |
|---|---|---|---|---|
| Synchronicity | 9.39 | 10.45 | 1.153 (96) | .2515 |
| Parapsychological | 9.90 | 11.31 | 1.361 (94) | .1766 |
| Mystical | 11.69 | 12.02 | 0.385 (96) | .7088 |

Altered Perceptions of Time and Space

| Experience | Group Means Non-Exp | All-Exp | t (df) | p |
|---|---|---|---|---|
| Synchronicity | 9.91 | 10.24 | 0.313 (96) | .7544 |
| Parapsychological | 11.47 | 12.29 | 0.775 (95) | .4402 |
| Mystical | 11.17 | 12.38 | 2.451 (96) | .0160 |

(table continues)

Ineffability

| Experience | Group Means Non-Exp | All-Exp | t | (df) | p |
|---|---|---|---|---|---|
| Synchronicity | 11.08 | 10.91 | 0.007 | (96) | .9940 |
| Parapsychological | 11.54 | 12.60 | 1.015 | (94) | .3127 |
| Mystical | 13.21 | 13.65 | 0.801 | (96) | .4249 |

Noetic Quality

| Experience | Group Means Non-Exp | All-Exp | t | (df) | p |
|---|---|---|---|---|---|
| Synchronicity | 9.60 | 11.72 | 2.229 | (95) | .0281 |
| Parapsychological | 10.86 | 13.06 | 2.332 | (94) | .0218 |
| Mystical | 12.13 | 12.61 | 0.507 | (93) | .6129 |

Positive Affect

| Experience | Group Means Non-Exp | All-Exp | t | (df) | p |
|---|---|---|---|---|---|
| Synchronicity | 9.82 | 11.60 | 2.205 | (96) | .0298 |
| Parapsychological | 10.00 | 11.53 | 2.001 | (94) | .0482 |
| Mystical | 12.26 | 13.26 | 1.227 | (96) | .2228 |

(table continues)

Religious Quality

| Experience | Group Means Non-Exp | All-Exp | t | (df) | p |
|---|---|---|---|---|---|
| Synchronicity | 9.30 | 11.34 | 2.347 | (94) | .0210 |
| Parapsychological | 10.04 | 11.63 | 1.665 | (93) | .0993 |
| Mystical | 11.39 | 13.15 | 2.051 | (94) | .0430 |

Consequence Index

| Experience | Group Means Non-Exp | All-Exp | t | (df) | p |
|---|---|---|---|---|---|
| Synchronicity | 10.43 | 12.41 | 2.126 | (95) | .0361 |
| Parapsychological | 11.69 | 13.18 | 1.473 | (95) | .1439 |
| Mystical | 13.26 | 14.41 | 1.228 | (96) | .2222 |

Attitudes towards the self

| Experience | Group Means Non-Exp | All-Exp | t | (df) | p |
|---|---|---|---|---|---|
| Synchronicity | 2.47 | 3.04 | 1.993 | (95) | .0491 |
| Parapsychological | 2.60 | 3.13 | 1.778 | (95) | .0786 |
| Mystical | 3.26 | 3.62 | 1.308 | (96) | .1937 |

(table continues)

Attitudes towards others

| Experience | Group Means Non-Exp | All-Exp | t (df) | p |
|---|---|---|---|---|
| Synchronicity | 2.60 | 3.08 | 1.705 (95) | .0913 |
| Parapsychological | 2.86 | 3.27 | 1.417 (95) | .1596 |
| Mystical | 3.21 | 3.50 | 1.002 (96) | .3186 |

Increased sense of purpose and meaning

| Experience | Group Means Non-Exp | All-Exp | t (df) | p |
|---|---|---|---|---|
| Synchronicity | 2.73 | 3.13 | 1.404 (96) | .1634 |
| Parapsychological | 2.91 | 3.43 | 1.805 (95) | .0742 |
| Mystical | 3.52 | 3.81 | 1.046 (96) | .2978 |

Value of the experience

| Experience | Group Means Non-Exp | All-Exp | t (df) | p |
|---|---|---|---|---|
| Synchronicity | 2.60 | 3.14 | 1.995 (96) | .0489 |
| Parapsychological | 3.30 | 3.35 | 0.163 (95) | .8705 |
| Mystical | 3.26 | 3.46 | 0.727 (96) | .4685 |

Although the majority of absolute differences in ratings between experiencers and non-experiencers on the eight subscales were not statistically significant, some were. Synchronicity was rated higher by experiencers than by non-experiencers on noetic quality, $t(95) = 2.229$, $p < .0281$, positive affect, $t(96) = 2.205$, $p < .0298$, and religious quality, $t(94) = 2.347$, $p < .0210$ (all tests two-tailed).

Parapsychological experience was rated significantly higher by experiencers than by non-experiencers on the dimensions of unity, $t(95) = 2.09$, $p < .0393$, ego loss, $t(95) = 2.095$, $p < .0416$, noetic quality, $t(94) = 2.332$, $p < .0218$, and positive affect, $t(94) = 2.001$, $p < .0482$ (all tests two-tailed).

Mystical experience was rated higher by experiencers than by non-experiencers on the dimensions of altered perceptions of time and/or space, $t(96) = 2.451$, $p < .016$, and religious quality, $t(94) = 2.051$, $p < .0430$ (all tests two-tailed).

Repeated measures ANOVAs and pairwise contrasts for each pair of the three experiences for each of the eight subscales, again support the notion that experiencers made a finer distinction between the three experiences than non-experiencers. With non-

experiencers, there was not a single case where all three experiences were rated significantly different from one and other, whereas for experiencers, all three experiences were rated significantly differently from each other on the dimensions of alterations of time and/or space perceptions, ineffability, and marginally, on the sense of presence. Furthermore, on all eight subscales, mystical experience was rated significantly higher than synchronicity by experiencers, whereas this was not the case for non-experiencers (see Tables 7 - 14, below, for complete listings of contrast values for each of the eight subscales).

Finally, it should be noted that the pattern of "ranking" - that is, the general tendency of mystical experience to be rated the highest, synchronicity the lowest, with ratings for parapsychological experience between the two - paralleled, with minor variation, the pattern of the primary whole sample analysis. The one notable exception to this was that on the dimension of noetic quality, parapsychological experience was rated <u>higher</u> than mystical experience among those who reported having had all three experiences (see Table 12). This reversal in rankings was, however, only marginally significant, $F(1, 65) = 3.55$, $p < .0641$.

Table 7

Means and contrasts for experiencers versus non-experiencers on the Unity subscale

Experiencers

| Contrast | Means | F(1, 68) | p |
|---|---|---|---|
| Myst---Para | 12.56 -- 11.78 | 3.85 | .0537 |
| Myst---Sync | 12.56 -- 11.16 | 9.59 | .0028 |
| Para---Sync | 11.78 -- 11.16 | 2.58 | .1128 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 11.34 -- 9.78 | 2.72 | .1133 |
| Myst---Sync | 11.34 -- 9.78 | 2.91 | .1020 |
| Para---Sync | 9.78 -- 9.78 | 0.00 | 1.0000 |

Table 8

Means and contrasts for experiencers versus non-experiencers on the Ego Loss subscale

Experiencers

| Contrast | Means | F(1, 68) | p |
|---|---|---|---|
| Myst---Para | 12.82 -- 12.78 | 0.02 | .8919 |
| Myst---Sync | 12.82 -- 10.56 | 19.85 | .0001 |
| Para---Sync | 12.78 -- 10.56 | 19.99 | .0001 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 11.65 -- 10.82 | 1.04 | .3184 |
| Myst---Sync | 11.65 -- 9.39 | 12.29 | .0020 |
| Para---Sync | 10.82 -- 9.39 | 5.02 | .0355 |

Table 9

Means and contrasts for experiencers versus non-experiencers on the Sense of Presence subscale

Experiencers

| Contrast | Means | F(1, 68) | p |
|---|---|---|---|
| Myst---Para | 11.89 -- 11.13 | 3.94 | .0511 |
| Myst---Sync | 11.89 -- 10.31 | 15.51 | .0002 |
| Para---Sync | 11.13 -- 10.31 | 5.08 | .0275 |

Non-experiencers

| Contrast | Means | F(1, 21) | p |
|---|---|---|---|
| Myst---Para | 11.69 -- 9.91 | 5.51 | .0288 |
| Myst---Sync | 11.69 -- 9.39 | 12.27 | .0021 |
| Para---Sync | 9.91 -- 9.39 | 0.56 | .4639 |

Table 10

Means and contrasts for experiencers versus non-experiencers on the Time/Space subscale

Experiencers

| Contrast | Means | F(1, 68) | p |
|---|---|---|---|
| Myst---Para | 13.30 -- 12.17 | 5.06 | .0277 |
| Myst---Sync | 13.30 -- 10.15 | 27.29 | .0001 |
| Para---Sync | 12.17 -- 10.15 | 14.37 | .0003 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 11.17 -- 11.47 | 0.10 | .7578 |
| Myst---Sync | 11.17 -- 9.91 | 1.66 | .2109 |
| Para---Sync | 11.47 -- 9.91 | 3.43 | .0776 |

Table 11

Means and contrasts for experiencers versus non-experiencers on the Ineffability subscale

Experiencers

| Contrast | Means | F(1, 68) | p |
|---|---|---|---|
| Myst---Para | 13.65 -- 12.39 | 5.35 | .0238 |
| Myst---Sync | 13.65 -- 10.91 | 27.69 | .0001 |
| Para---Sync | 12.39 -- 10.91 | 12.13 | .0009 |

Non-experiencers

| Contrast | Means | F(1, 21) | p |
|---|---|---|---|
| Myst---Para | 13.21 -- 11.54 | 4.40 | .0481 |
| Myst---Sync | 13.21 -- 11.08 | 10.82 | .0035 |
| Para---Sync | 11.54 -- 11.08 | 0.72 | .4044 |

Table 12

Means and contrasts for experiencers versus non-experiencers on the Noetic Quality subscale

Experiencers

| Contrast | Means | F(1, 65) | p |
|---|---|---|---|
| Myst---Para | 12.34 -- 13.04 | 3.55 | .0641 |
| Myst---Sync | 12.34 -- 11.53 | 4.35 | .0409 |
| Para---Sync | 13.04 -- 11.53 | 10.89 | .0016 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 12.13 -- 10.87 | 2.03 | .1683 |
| Myst---Sync | 12.13 -- 9.61 | 6.44 | .0188 |
| Para---Sync | 10.87 -- 9.61 | 3.24 | .0857 |

Table 13

Means and contrasts for experiencers versus non-experiencers on the Positive Affect subscale

Experiencers

| Contrast | Means | F(1, 67) | p |
|---|---|---|---|
| Myst---Para | 13.14 -- 11.51 | 16.80 | .0001 |
| Myst---Sync | 13.14 -- 11.49 | 14.65 | .0003 |
| Para---Sync | 11.51 -- 11.49 | 0.00 | 1.0000 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 12.26 -- 10.00 | 7.92 | .0101 |
| Myst---Sync | 12.26 -- 9.82 | 10.96 | .0032 |
| Para---Sync | 10.00 -- 9.82 | 0.12 | .7280 |

Table 14

Means and contrasts for experiencers versus non-experiencers on the Religious Quality subscale

Experiencers

| Contrast | Means | F(1, 65) | p |
|---|---|---|---|
| Myst---Para | 13.07 -- 11.69 | 10.02 | .0024 |
| Myst---Sync | 13.07 -- 11.26 | 17.89 | .0001 |
| Para---Sync | 11.69 -- 11.26 | 1.72 | .1945 |

Non-experiencers

| Contrast | Means | F(1, 21) | p |
|---|---|---|---|
| Myst---Para | 11.39 -- 10.04 | 1.91 | .1816 |
| Myst---Sync | 11.39 -- 9.30 | 8.03 | .0100 |
| Para---Sync | 10.04 -- 9.30 | 1.62 | .2165 |

Consequences

Mean ratings on the consequence index showed that all three experiences were also rated slightly higher by experiencers than by non-experiencers (refer to Table 6, previous). However, only the between-groups difference in ratings for the experience of synchronicity was statistically significant, $t(95) = 2.126$, $p < .0361$, two-tailed.

Pairwise contrasts using a repeated measures ANOVA showed that experiencers rated the consequences of mystical experience significantly higher ($m = 14.26$) than either the consequences of parapsychological experience ($m = 13.11$), $F(1, 67) = 6.03$, $p < .0166$, or the consequences of synchronicity ($m = 12.25$), $F(1, 67) = 18.18$, $p < .0001$. Again, these results parallel the results of the primary whole sample analysis. In comparison, the ratings differences between mystical experience and parapsychological experience were non-significant in the non-experiencer group, $F(1, 22) = 3.59$, $p < .0715$ (see Table 15).

Table 15

Means and contrasts for experiencers versus non-experiencers on the Consequence Index

Experiencers

| Contrast | Means | F(1, 67) | p |
|---|---|---|---|
| Myst---Para | 14.29 -- 13.11 | 6.03 | .0166 |
| Myst---Sync | 14.29 -- 12.25 | 18.18 | .0001 |
| Para---Sync | 13.11 -- 12.25 | 3.17 | .0794 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 13.26 -- 11.69 | 3.59 | .0715 |
| Myst---Sync | 13.26 -- 10.43 | 14.79 | .0009 |
| Para---Sync | 11.69 -- 10.43 | 5.65 | .0266 |

Attitudes toward the self. On the item related to positive changes in attitude toward the self as a result of the experiences, both experiencers and non-experiencers rated mystical experience significantly higher than either synchronicity or parapsychological experience. Differences in ratings between synchronicity and parapsychological experience on this

aspect of the consequential dimension were non-significant (see Table 16).

Table 16

Means and contrasts for experiencers versus non-experiencers on the Attitudes Toward the Self item

Experiencers

| Contrast | Means | F(1, 67) | p |
|---|---|---|---|
| Myst---Para | 3.61 -- 3.13 | 9.33 | .0032 |
| Myst---Sync | 3.61 -- 3.01 | 12.27 | .0008 |
| Para---Sync | 3.13 -- 3.01 | 0.44 | .5105 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 3.26 -- 2.61 | 4.98 | .0362 |
| Myst---Sync | 3.26 -- 2.47 | 10.36 | .0040 |
| Para---Sync | 2.61 -- 2.47 | 0.46 | .5035 |

Attitudes toward others. In terms of positive changes in attitude toward others as a result of the experiences, there was no significant difference in the ratings for mystical and parapsychological experience between experiencers and non-experiencers. This result

is in contrast to the whole sample analysis, in which all three experiences were rated differently. Pairwise contrasts between means for mystical experience and synchronicity also showed that mystical experience was rated significantly higher than synchronicity by both groups (see Table 17), a result which is consistent with the whole sample analysis.

Table 17

Means and contrasts for experiencers versus non-experiencers on the Attitudes Toward Others item

Experiencers

| Contrast | Means | F(1, 68) | p |
|---|---|---|---|
| Myst---Para | 3.46 -- 3.21 | 2.48 | .1199 |
| Myst---Sync | 3.46 -- 3.00 | 6.77 | .0114 |
| Para---Sync | 3.21 -- 3.00 | 2.02 | .1597 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 3.21 -- 2.87 | 1.74 | .2009 |
| Myst---Sync | 3.21 -- 2.61 | 6.82 | .0159 |
| Para---Sync | 2.87 -- 2.61 | 2.39 | .1367 |

Sense of meaning and purpose. Analysis of the item related to positive changes in the sense of life-meaning and purpose associated with each of the experiences showed that experiencers rated all three experiences significantly differently. Consistent with the whole sample analysis, mystical experience was associated with the greatest degree of change by experiencers, synchronicity with the least degree of change, with ratings for parapsychological experience falling on a presumed continuum between the two (see Table 18). On the other hand, non-experiencers failed to differentiate between parapsychological experience and synchronicity on this dimension.

Value and regard for the experiences. In terms of positive regard and value, experiencers rated all three experiences higher than non-experiencers. However, the differences in mean ratings between the three experiences for this group were non-significant. In contrast, the non-experiencers rated synchronicity to be of less value than either mystical or parapsychological experiences (see Table 19). This result provides some normative empirical support for Bolen's (1979) assertion that to fully appreciate a

synchronicity, one must have personally experienced an uncanny coincidence or meaningful patterning of events.

Table 18

Means and contrasts for experiencers versus non-experiencers on the Sense of Meaning and Purpose item

Experiencers

| Contrast | Means | F(1, 68) | p |
|---|---|---|---|
| Myst---Para | 3.77 -- 3.42 | 6.19 | .0153 |
| Myst---Sync | 3.77 -- 3.07 | 24.00 | .0001 |
| Para---Sync | 3.42 -- 3.07 | 5.93 | .0175 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 3.52 -- 2.91 | 4.31 | .0497 |
| Myst---Sync | 3.52 -- 2.74 | 10.36 | .0040 |
| Para---Sync | 2.91 -- 2.74 | 0.56 | .4620 |

Table 19

Means and contrasts for experiencers versus non-experiencers on the Value of Experience item

Experiencers

| Contrast | Means | F(1, 68) | p |
|---|---|---|---|
| Myst---Para | 3.45 -- 3.39 | 0.44 | .5104 |
| Myst---Sync | 3.45 -- 3.14 | 3.93 | .0515 |
| Para---Sync | 3.39 -- 3.14 | 1.33 | .2527 |

Non-experiencers

| Contrast | Means | F(1, 22) | p |
|---|---|---|---|
| Myst---Para | 3.26 -- 3.30 | 0.03 | .8737 |
| Myst---Sync | 3.26 -- 2.61 | 7.91 | .0102 |
| Para---Sync | 3.30 -- 2.61 | 10.71 | .0035 |

## Supplemental Analyses

### Order effects on ratings

As previously noted, the order of presentation of the three experiences in the questionnaire was partially counterbalanced. In half of the questionnaires, the synchronicity section was placed

before the parapsychological experience section, and in the other half of the questionnaires, this order was reversed.

Two-tailed t-tests of the means on the phenomenological and interpretive measures, using the order of presentation as the grouping variable, showed an overall order effect on the ratings for parapsychological experience, but not for synchronicity on seven of the eight subscales. Specifically, in questionnaires where the parapsychological experience section appeared last, that is, following the synchronicity section (Order 1), the mean ratings for parapsychological experience were higher than the mean ratings given by those who completed the parapsychological section before the synchronicity section (Order 2). These higher ratings for parapsychological experience given by Order 1 subjects were significant for all measures except ego loss and noetic quality. It should be noted, however, that the differences due to order of presentation for both ego loss and noetic quality nonetheless approached statistical significance ($p < .0583$, and $p < .0548$, respectively). The one exception to this overall pattern was on the dimension of positive affect. On

this dimension (and this dimension only), the order effect was also significant for synchronicity ratings. On the index of consequences, the effect of order of presentation was also evident for both synchronicity and parapsychological experience (see Appendix E).

Gender differences

As part of the demographic data collected, participants were asked to identify their gender. Although this information was collected as a matter of routine, and not for reasons specific to the formal hypotheses, it revealed some interesting differences between males and females.

With minor exceptions, females rated the measured dimensions of both mystical and parapsychological experience significantly higher than males. Surprisingly, however, there were no gender differences at all on ratings for synchronicity (see Appendix F for complete table of $F$ ratios and $p$ values).

Some studies have shown that females tend to report experiencing some types of parapsychological experiences to a greater extent than males (e.g., Greeley, 1975; Haraldsson, 1985; Nelson, 1975; Tobacyk & Milford, 1983), with some suggestion that females are

also more likely to report having had mystical experiences than males (e.g., Hay & Morisy, 1978; Hood et al, 1979). With respect to the reporting of synchronicity, Henry (1993) reported the results of a postal survey that showed that only marginally more females than males reported experiencing synchronicity.

Despite the observation that females rated the dimensions of mystical and parapsychological experience higher than males in this study, females, relative to males, did not significantly report having more mystical experiences, $\chi^2$ (1, $N$ = 174) = 0.8555, $p$ = .3550, parapsychological experiences, $\chi^2$ (1, $N$ = 178) = 0.9773, $p$ = .3229, or experiences of synchronicity, $\chi^2$ (1, $N$ = 177) = 0.7214, $p$ = .3957 (see Table 20).

Table 20

Gender differences: Percentages reporting having had one or more of each experience

| | Males | Females |
|---|---|---|
| Mystical Experience | 68.3 % | 72.4 % |
| Parapsychological Exp. | 48.4 % | 53.4 % |
| Synchronicity | 77.8 % | 71.9 % |

Effects of religious background

Demographic data collected concerning the religious background of the participants was recoded to create a dichotomous grouping variable. Each participant was coded as having a religious background versus not having a religious background. This recoding produced a group of 44 people (26%) classed as having no religious background, and 125 people (74%) classed as having a religious background.

Two-tailed t-tests revealed no significant differences between religious versus non-religious participants on all of the measures except for the religious quality subscale of mystical experience. The mean rating on this measure for participants having a religious background ($m$ = 13.00) was significantly higher than the mean rating of the "no religious background" group ($m$ = 11.41), $t(165) = 2.462$, $p < .0148$. Interestingly, ratings on the religious quality of both parapsychological and synchronistic experiences were not significantly different between the two groups (see Appendix G for complete table of means, $t$ values and significance levels).

Effects of cultural background

Demographic information concerning the cultural environment within which the study participants were raised was recoded to classify each person as having either a "western" cultural background ($n$ = 112), or a "non-western" cultural background ($n$ = 69). The non-western group contained all those subjects who identified themselves as being raised in Asiatic, Middle-Eastern, or Aboriginal cultures, plus those few subjects who identified themselves as belonging to an ambiguous questionnaire category labelled "other."

This categorization was made on the basis that the traditional worldviews of non-western cultures might influence responding relative to the responding of those raised in a non-traditional western culture. Two-tailed $t$-tests of the ratings for the various dimensions provide some support for this notion.

On the whole, the non-western group rated the measured dimensions of all three experiences nominally higher than the western cultural group (see Appendix H for complete table of means, $t$ values and significance levels). Although most of these nominal differences were not statistically significant, and thus only

suggestive of a cultural effect on ratings, some of the differences were significant.

On the phenomenological index, synchronicity was rated significantly higher by non-westerners ($m$ = 54.56) than by westerners ($m$ = 48.18), $t(176) = 2.630$, $p < .009$. In terms of the sub-scales that contribute to the general phenomenological index of synchronicity, the non-westerners rated the involvement of ego loss, sense of presence, and alterations in the perception of time and/or space significantly higher than the western cultural group (see Appendix H). In terms of the interpretive dimension, non-westerners also rated synchronicity as a valid source of knowledge (noetic quality) to a greater extent ($m$ = 11.48) than westerners ($m$ = 10.25), $t(178) = 2.029$, $p < .0439$.

Factor analysis

As noted previously, the procedure used in this study for calculating the subjects' ratings on the phenomenological and interpretive factors were the same as those used by Hood (1975), who had based his scoring method on a factor analysis of the Mysticism Scale using an orthogonally rotated two factor solution. Although Hood's two factors accounted for only 31.8% of

the variance, he opted to use this structure because of its "psychological and conceptual meaningfulness" (p. 33). Because my study was based to a large extent on Hood's conceptualization of mystical experience, I used the same scoring procedure.

However, for solely comparative and exploratory reasons, I also conducted a separate factor analysis of my own data. Using a conventional minimum eigenvalue of 1, and a varimax rotation, seven factors were identified, which in sum accounted for 62.9% of the variance (See Appendix I for table of loadings).

Factor I, accounting for 32.56% of the variance, was found to consist of nine items - all of those related to the experience of unity and to the sense of presence, and one ego loss item (questionnaire item 6: "...in which you feel yourself to be absorbed as one with all things."). This factor can be thought of as relating to the immediate sensual perception of a universal underlying unity, sensed as having consciousness or intentionality, with which the self felt to be a part. This factor was part of Hood's (1975) phenomenological factor.

Factor II consists of all the items related to the ineffability of the experience, plus one religious

experience item (questionnaire item 22: "...which leave you with a feeling of awe."). This factor accounts for an additional 8.28% of the variance. Ineffability was also part of Hood's phenomenological factor, but in this study, was found to be a separate factor. Interestingly, one of Hood's religious quality items (that related to the feeling of awe in the experience) is also part of this factor. This suggests that in this study, the notion of "awe" was interpreted by the participants as belonging more to the ineffability of the experience than to its religious quality.

Factor III accounts for a further 5.97% of the variance, and consists of the items related to alterations in the perception of time and/or space, plus one ego loss item (questionnaire item 4: "...in which everything disappears from your mind until you are conscious only of a void."). Also part of Hood's phenomenological factor, alterations in the perception of time and/or space formed a separate factor in this study. The loading of one ego loss item related to the disappearance of objects and the coming into consciousness of a void suggests support for a previously discussed idea - that the normal perception of time and space is an <u>indirect</u> perception, and occurs

via objects and processes existing in time and space. When the consciousness of objects disappears or is disrupted, so does is perception of time and/or space.

Factor IV adds an additional 4.72% to the explained variance, and consists of two items from the noetic quality subscale (item 13: "...in which a new view of reality is revealed to you," and item 26: "...in which deeper aspects of reality are revealed to you"), one positive affect item (questionnaire item 25: "...which leaves you with a feeling of wonder"), and one ego loss item (questionnaire item 24: "...in which your self seems to merge into something greater"). This factor seems to be related to a positive "cognitive emotion" (wonder) associated with the "revelation" of the experience. I might also suggest that the inclusion of one ego loss item in this factor suggests that the self is felt to be intimately related or connected to the deeper reality that is felt to be revealed during the experience.

Factor V consists of the remaining three religious quality items (item 9: "...which seems holy to you," item 14: "...of something as divine," and item 20: "...which you know to be sacred"), and one ego loss item (item 3: "...in which something greater than

yourself seems to absorb you"). This factor accounts for a further 3.99% of the variance, and seems to be clearly related to a traditional religious interpretation of mystical experience. The inclusion of the ego loss item is interesting. The wording of the item suggests that the "something greater" is active rather than passive, inasmuch as the wording of the item suggests intentional action (absorption) by the "something greater."

Factor VI adds a further 3.94% to the total variance accounted for, and consists of the two remaining noetic quality items (item 16: "...of something you could call ultimate reality," and item 17: "...in which ultimate reality is revealed to you"), and one positive affect item (item 18: "...in which you feel all is perfection at the time"). Again, a cognitive emotion associated with the revelation is implied. However, it differs from Factor IV in two ways. First, In Factor IV, the reality revealed was characterized as "new" and "deeper." In this factor, the revealed reality is characterized as "ultimate." Secondly, in Factor IV, the cognitive emotion is one of "wonder." In Factor VI, the cognitive emotion is one of the feeling that "all is perfection." Together,

these differences suggest that a judgment has been made: The initially new and deeper reality (Factor IV) is subsequently judged as ultimate (Factor VI), and the emotion of wonder (Factor IV) gives way to a judgment that the perceived reality is perfect (Factor VI). In this sense, Factor VI can be conceived of as reflecting a more traditional religious interpretation of "revealment."

Factor VII consists of the two remaining positive affect items (item 5: "...of profound joy," and item 7: "...of a perfectly peaceful state"), and adds an additional 3.46% to the explained variance. This factor clearly relates to the ordinary positive emotions associated with the experience.

One observation which can be made about this factor structure is that it more specifically differentiates the components of mystical experience than the two-factor structure. The phenomenological dimension can be seen as formed by two factors: (a) the sensual perception of a unity felt to be conscious or possessing intentionality, and (b) the consciousness of a void arising out of alterations in the perception of time and/or space, with both of these factors involving some degree of ego loss.

The interpretive dimension can be thought of as being formed by (a) the initial revelation of a layer of reality new to the experiencer, which is associated with the cognitive emotion of wonder, (b) a subsequent judgment of this reality as ultimate and perfect, which may or may not (c) be interpreted religiously, and may or may not result in (d) positive emotions of joy and/or peacefulness. Finally, it is suggested that ineffability stands as a separate factor related to the subsequent understanding the experiencer may have of the experience.

An alternative set of scores for each of the three experiences was computed for each participant by summing the ratings of the items that loaded into each of the above factors. Repeated-measures ANOVAs and contrasts were then performed in the same manner as the primary analysis.

As shown in Table 21, the within-subjects differences for the three experiences were statistically significant for all seven sets of scores derived from the seven factors. Additionally, the "pattern" of the ratings which emerged from this analysis was for all purposes equivalent to the general pattern of ratings from the earlier analysis: Mystical

experience was rated highest on the scales, synchronicity was rated lowest, and parapsychological experience was rated between the two.

Table 21

Means, within-subjects F values, and significance levels of scores derived from the supplemental factor analysis

| Factor | Sync. | Para. | Myst. | df | F | p |
|---|---|---|---|---|---|---|
| I | 22.84 | 24.40 | 26.84 | 2,352 | 25.68 | .0001 |
| II | 14.02 | 15.44 | 17.17 | 2,350 | 36.91 | .0001 |
| III | 11.85 | 14.40 | 15.54 | 2,358 | 42.24 | .0001 |
| IV | 11.85 | 13.26 | 13.73 | 2,356 | 25.89 | .0001 |
| V | 9.92 | 10.68 | 12.47 | 2,344 | 37.27 | .0001 |
| VI | 7.69 | 7.79 | 8.73 | 2,350 | 11.77 | .0001 |
| VII | 4.70 | 4.76 | 6.13 | 2,356 | 50.27 | .0001 |

Note. Maximum possible scores are as follows: Factor I - 45, Factor II - 25, Factor III - 25, Factor IV - 20, Factor V - 20, Factor VI - 15, Factor VII - 10.

Contrasts between ratings for each pair of experiences for each of the seven scores were also

performed. An inspection of Table 22 shows that mystical experience was rated differently from synchronicity on all seven factors. Mystical experience was also rated significantly different than parapsychological experience on all factors except Factor IV. With this factor, the contrast suggests that both mystical experience and parapsychological experience reveal a "new" reality to the experiencer which is associated with the feeling of "wonder." It is interesting to note however, that this new revealed reality is subsequently judged as "ultimate" and "perfect" to a significantly greater extent in mystical experience than in parapsychological experience, as suggested by the contrast for Factor VI.

The ratings for synchronicity were also rated significantly less than the ratings for parapsychological experience on all of the factors except Factor VI and Factor VII. With Factor VI, judgments of the revealed reality as ultimate and perfect were equivalent for parapsychological experience and synchronicity. With Factor VII, the emotions of joy and peacefulness were equivalent for both experiences.

Table 22

Pairwise contrast values and significance levels for scores derived from the supplemental factor analysis

Factor I: Unity and sense of presence

| Contrast | Means | df | F | p |
|---|---|---|---|---|
| Myst.---Para. | 26.83---24.40 | 1,176 | 16.12 | .0001 |
| Myst.---Sync. | 26.83---22.84 | 1,176 | 47.19 | .0001 |
| Para.---Sync. | 24.40---22.84 | 1,176 | 10.17 | .0001 |

Factor II: Ineffability

| Contrast | Means | df | F | p |
|---|---|---|---|---|
| Myst.---Para. | 17.17---15.44 | 1,175 | 21.97 | .0001 |
| Myst.---Sync. | 17.17---14.02 | 1,175 | 67.89 | .0001 |
| Para.---Sync. | 15.44---14.02 | 1,175 | 16.63 | .0001 |

Factor III: Time and/or space alterations

| Contrast | Means | df | F | p |
|---|---|---|---|---|
| Myst.---Para. | 15.54---14.40 | 1,179 | 8.22 | .0046 |
| Myst.---Sync. | 15.54---11.85 | 1,179 | 77.60 | .0001 |
| Para.---Sync. | 14.40---11.85 | 1,179 | 36.51 | .0001 |

Factor IV: New view of reality/sense of wonder

| Contrast | Means | df | F | p |
|---|---|---|---|---|
| Myst.---Para. | 13.73---13.26 | 1,178 | 2.38 | .1244 |
| Myst.---Sync. | 13.73---11.85 | 1,178 | 46.73 | .0001 |
| Para.---Sync. | 13.26---11.85 | 1,178 | 28.87 | .0001 |

(table continues)

Factor V: Traditional religious interpretation

| Contrast | Means | df | F | p |
|---|---|---|---|---|
| Myst.---Para. | 12.47---10.68 | 1,172 | 31.49 | .0001 |
| Myst.---Sync. | 12.47--- 9.92 | 1,172 | 65.42 | .0001 |
| Para.---Sync. | 10.68--- 9.92 | 1,172 | 8.55 | .0039 |

Factor VI: Revealed reality as ultimate and perfect

| Contrast | Means | df | F | p |
|---|---|---|---|---|
| Myst.---Para. | 8.73--- 7.79 | 1,175 | 14.70 | .0002 |
| Myst.---Sync. | 8.73--- 7.69 | 1,175 | 17.92 | .0001 |
| Para.---Sync. | 7.79--- 7.69 | 1,175 | 0.43 | .5122 |

Factor VII: Positive affects: joy and peacefulness

| Contrast | Means | df | F | p |
|---|---|---|---|---|
| Myst.---Para. | 6.13--- 4.76 | 1,178 | 60.31 | .0001 |
| Myst.---Sync. | 6.13--- 4.70 | 1,178 | 70.61 | .0001 |
| Para.---Sync. | 4.76--- 4.70 | 1,178 | 0.35 | .5549 |

## Discussion of Results

### The continuum of experience

The formal hypotheses of this study predicted (a) that the experience of synchronicity would be rated similar to mystical experience, but differently than parapsychological experience in terms of the dimensions

measured by a modified version of Hood's (1975) Mysticism Scale, and (b) that the consequences of synchronicity would be rated similar to those of mystical experience but differently than parapsychological experience on measures of consequence derived from Pahnke (1967). Neither of these hypotheses was supported by the data.

Rather, the analyses indicate that on the whole synchronicity is _less_ like mystical experience than like parapsychological experience. Further, the results have also suggested that all three experiences are substantially different from one another.

From my own perspective, however, the most striking observation, which was evident early in the analysis, was related to the consistent _pattern_ of ratings among the three experiences, where synchronicity and mystical experience were respectively rated lowest and highest, with parapsychological experience rated in between the two. More than anything else, the overall consistency of this pattern of ratings suggests a "continuum" of experience with synchronicity occupying the "low" end, mystical experience the "high" end, and parapsychological experience a "middle" range.

One question which must naturally be asked is what is the nature or character of this continuum? Although the data of this study cannot be used to definitively or even directly answer this question, some reasoned speculations can be made. The first is that the nature of the presumed continuum can be characterized by the terms "concrete" and "abstract," representing the two poles of the continuum. As noted in the introduction, synchronicity requires the occurrence of one or more objective (concrete) events that parallel a subjective mental content (i.e., a dream, a thought, etc.). Such an event, by definition, would in principle be observable by someone other than the experiencer of the synchronicity. Jung's near-famous account of the appearance of the beetle at the window at the moment a patient was relating a dream of a beetle is an example of this. By way of anecdote, following the administration of the questionnaires, some participants related stories of their own experiences. I recall that in several of these accounts, some individuals told me that if I didn't believe the story, I could ask the person's friend "so and so" who was there when the event(s) occurred. My own personal experience of synchronicity (which I should note provided me with the

initial motivation for this research) was also such that, aside from the subjective event and the personal meaning I attached to the experience, the objective components were without exception events that could have been observed by another had another been present at the time.

Following from this, in terms of the phenomenological dimensions of experience measured in this study, concrete events would not be expected to be rated highly. Phenomenologically, concrete and objective events are perceptually distinct, that is, they "stand out" from the rest of the environment (non-unitive), they occur or exist within the normal space/time perceptual field of ordinary consciousness (no spatial or temporal alterations), are perceived by an individual who is separate from them (no ego loss), are not usually perceived as possessing intrinsic intentionality or consciousness (no sense of presence), and are describable to others (non-ineffable). As such, the objective event(s) required by definition for a synchronicity to take place would constitute those elements of the total experience that would act to suppress ratings on the phenomenological dimension.

Progressing along the proposed continuum, parapsychological events could be regarded as having less "concreteness" or "objectivity" than synchronicity, in that an observable event is not by definition necessary in all cases for a parapsychological event to occur. For instance, a telepathic event experienced between two people does not require any component that in principle could be observed by a third party for the experience of telepathy to take place. That is, it can be entirely a subjective experience. On the other hand, a psychokinetic event does by definition involve an objective component. If the presumption is tentatively accepted that the continuum is (a) characterized by a range of concreteness, and that (b) the variety of parapsychological experiences would include some experiences in which objective events occurred, and others where they did not, then it might be expected that the variance of the ratings would be greater for parapsychological experience than for synchronicity. Although the $F$ tests showed homogeneity of variance among the three experiences, it is worth noting that in terms of standard deviations, phenomenological ratings for parapsychological experience showed a greater

numerical range than the ratings for synchronicity (respectively, sd = 18.62 vs. sd = 16.06), suggesting that at least to some extent, there may have been either a great variety of different parapsychological experiences that were in the minds of the participants at the time they completed the questionnaires, or an ambiguous "composite" idea of parapsychological events which included both those having and not having concrete events.

To the extent that some parapsychological experiences may involve an objective event (for example, the spontaneous thought of a long-lost friend followed shortly thereafter by a telephone call from the same person), they may be classified by the experiencer as synchronistic rather than parapsychological. Given this possibility, it would then be expected that the frequency of reported experiences of synchronicity would be greater than the reported frequency of parapsychological experience. Table 23 (below) shows estimates of the number of occurrences of each type of experience reported by the participants in this study. The estimates were simply determined by multiplying the lower bound of the

frequency interval by the number of participants who checked the interval on the questionnaire.

Table 23

Estimated total number of occurrences of each of the three experiences

| Experience | Frequency |
|---|---|
| Synchronicity | 470 |
| Parapsychological Experience | 350 |
| Mystical Experience | 364 |
| Total | 1184 |

Of the total estimated number of experiences had by participants in the study, about 40% of these were synchronicities. A nonparametric multinomial test of proportions (NCSS, version 5.03) showed this percentage of the total to be significant, $\chi^2$ (2, $N$ = 1184) = 21.84, $p < .0001$, giving support to the proposal that synchronicity is a more frequent occurrence than parapsychological experience.

At the "abstract" end of the continuum, where mystical experience is presumed to be located, the occurrence of an observable event is even less evident. In none of the literature I reviewed on mystical

experience is the occurrence of objective events given any mention or prominence as a component or element of mystical experience. This accords well with the familiar (and perhaps stereotypic) image of the contemplative mystic sitting quietly and motionlessly in meditation, privately experiencing something no one else can see. The events of the experience are entirely abstract and without material substance, that is, they are non-observable to another, unlike the observability-in-principle that is required of the external events of a synchronicity, or the objective event in, for example, a psychokinetic episode.

The characterization of the continuum in polar terms of concreteness and abstraction is not inconsistent with the way other writers have discussed the continuum of spiritual consciousness. Eliade's (1959) discussion of the "sacred" and the "profane," Wilber's (1985) "spectrum of consciousness," Bond's (1993) continuum of symbolic consciousness, and Ouspensky's (1957) more esoteric "octaves" of being, all invoke, with varying degrees of explicitness, a conception of a graded dichotomy between the universe of matter and the universe of mind.

A second possible way of characterizing the nature of the continuum suggested by the data of this study, which is not incompatible with the first possible characterization, is in terms of the "narrative" versus "non-narrative" potentiality of the experiences. At the synchronistic end of the continuum, the coincidental objective events could be arranged, like the elements of a drama, to tell a story, and they frequently are, as part of a larger life story. Published accounts of synchronicity provide support for this assertion (e.g., Bolen, 1979; Koestler, 1976; Vaughan, 1979). For Bolen (1979), "synchronistic events seem to occur...commenting on and paralleling the real-life situation" (p. 41), and the published collections of synchronistic stories show the extent to which they are thematically interwoven with the day-to-day events and concerns of the experiencers' lives.

To give some support to this speculation, I note the following evidence from a separate study I was involved with concerning various aspects of students' first-year experience at university. Among the hundreds of questionnaire items in this study, two items were included in the survey which asked the participants ($N$ = 207) to rate, on a 7-point scale, (a)

the extent to which they felt their lives were "unfolding like a story or a movie," and (b) the extent to which they had experienced coincidences which led them to feel that the events were due to something more than chance. Their responses to these two items were significantly and positively correlated, $r = .295$, $p < .0001$, suggesting that the tendency to experience life "narratively" may in some way be associated with the tendency to ascribe non-chance explanations to coincidental events in the stream of one's life experience. The exact nature of this association, however, is yet to be worked out, and is more properly the subject of possible future research.

The components of conventional narrative (i.e., sequences of events, situations, people, and so on) share in the concrete qualities discussed previously. Events are distinct from the situation within which they occur (non-unitive), they occur in linear time and linear space, they can be identified and communicated (non-ineffable), and they are told from the perspective of a narrator (distinct ego). The meaning or interpretation of the story may not be intrinsic to the individual events in themselves, but rather a property that emerges out of the whole.

Joseph Campbell (1968) has pointed out that throughout history and across culture, the enduring myths, fables, and legends share a similar archetypal pattern, which he calls the "monomyth." Essentially, the monomyth involves the tale of a journey undertaken by the individual in which the "hero" enter a strange and dangerous world, successfully undergoes a series of trials and/or initiations, often with the help of supernatural assistance, and returns to the former and familiar world transformed by the experience.

My reading of Campbell and others (e.g., Atkinson, 1990; Bond, 1993; Dubin-Vaughn, 1990; Feinstein & Krippner, 1988; Larsen, 1990; May, 1991; Pieracci, 1990) suggests that the monomythic structure is not solely restricted to the myths, fables, and legends of antiquity, but that the monomythic structure also extends into the present, and into the stories people tell of the on-going events of their daily lives. On this point, what is relevant to the current discussion is that although he did not explicitly discuss synchronicity, Campbell (1968) stated that what he called "the hero's journey" often begins when "apparently the merest chance reveals an unsuspected

world, and the individual is drawn into a relationship with forces that are not rightly understood" (p. 51).

At the other, that is, at the "non-narrative" end of the continuum, is mystical experience. Descriptive accounts of mystical experiences do not, in my view, seem to share the "storied" quality to the same extent as experiences of synchronicity. Rather than being "stories" (i.e., of discrete events occurring in time, and so on), my impression is that accounts of mystical experience seem to be more descriptions of momentary single gestalt-like states in which the elemental qualities of narrative (i.e., discrete observable events ordered in time and space) are attenuated or wholly absent. Further, the elements of narrative structure in these accounts seem to be restricted to information concerning the time and the place the person was in when the experience occurred. Additionally, the content of these experiences seem not to be as overtly related or interwoven into the on-going stream of the day-to-day concerns of the experiencer, with frequent mention made of the idea that the experience transcended the mundane level of the person's existence. In this sense, the term "transpersonal" acquires a more precise meaning than is

often intended in general discussions of parapsychological and other anomalous experiences.

Parapsychological experiences, in occupying a middle position in the continuum, may have both narrative and non-narrative qualities. For example, spontaneous instances of precognition or telepathy are quite frequently imbedded within involved stories of crisis, illness, or death, frequently of family members or friends (Garrett, 1941/1968; Greeley, 1975; LeShan, 1987; Meyer, 1988; Moss, 1974; Ullman, Krippner, & Vaughan, 1973), or on the other hand may be far less narratively elaborate and involve only a single gestalt-like perception not connected to any particular or specific existential life issues facing the experiencer, as in the ganzfeld studies of Extra-Sensory Perception (ESP) (for a review, see Broughton, 1991).

Any suggestion of a continuum, whether characterized as concrete versus abstract or narrative versus non-narrative, must however recognize a graded continuity between the three experiences - that there may be mystical experiences that are experienced as a narrative unfolding, just as there may be synchronicities that are more gestalt-like and non-

narrative, with the possibility of some parapsychological experiences spanning the continuum.

To support this speculation, of the subset of 75 participants in the current study who reported having experienced all three experiences at least once, 19 of these participants (25.3%) rated the phenomenological dimension of synchronicity the same or slightly higher ($m$ = 65.52) than they rated mystical experience ($m$ = 60.05). Additionally, the mean rating on the phenomenological dimension for synchronicity for this subgroup was significantly higher than the mean rating of the remaining 56 participants ($m$ = 50.05), $t(73) = 3.723$, $p < .0004$. On the other hand, the difference between these two subgroups on the phenomenological ratings of mystical experience (60.05 vs. 65.94) were non-significant, $t(73) = 1.648$, $p < .1035$ (see Table 24). Together, these observations suggest that for a small proportion of individuals, their experiences of synchronicity may have in fact been experienced at the mystical pole of the continuum.

Table 24

Means, t, and p values for sub-sets of participants (N=75) reporting having had all three experiences

Phenomenological

| Experience | subset 1 | subset 2 | t | df | p |
|---|---|---|---|---|---|
| Sync. Exp. | 65.52 | 50.05 | 3.723 | 73 | .0004 |
| Parapsy. Exp. | 64.50 | 58.60 | 1.287 | 71 | .2021 |
| Mystical Exp. | 60.05 | 65.94 | 1.648 | 73 | .1035 |

Interpretive

| Experience | subset 1 | subset 2 | t | df | p |
|---|---|---|---|---|---|
| Sync. Exp. | 38.50 | 33.40 | 1.967 | 70 | .0531 |
| Parapsy. Exp. | 37.44 | 37.36 | 0.031 | 71 | .9752 |
| Mystical Exp. | 38.11 | 40.31 | 0.945 | 70 | .3475 |

Note. "Subset 1" consists of those subjects who reported having had all three experiences and who rated synchronicity equal to or greater than mystical experience on the phenomenological dimension ($n$ = 19). "Subset 2" consists of the remaining subjects ($n$ = 56) who rated synchronicity less than mystical experience on the phenomenological dimension.

Order effects

In drawing toward a conclusion, this study has raised at least as many interesting questions as it has tentatively answered, each of which could be explored in future research. At the level of measurement for example, the detection of a small effect of order of presentation of the three experiences raises an interesting interpretive problem - that is, to what can this effect be attributed? One possibility that might account for the observed order effect may be related to the demand characteristics of the study.

It may have been the case that some participants, in realizing that they were being asked to rate different experiences by the same criteria felt that the second experience they encountered in the questionnaire (no matter which experience it may have been) had to be rated obviously differently than the first experience in the questionnaire (i.e., mystical experience), to, in effect, "please the experimenter" and/or to demonstrate their ability to discriminate between the experiences. Now if it is true that synchronicity is in truth at the "low" end of a continuum, then the occurrence of the synchronicity section in the second position in the questionnaire,

that is, following the mystical experience section, may have in effect resulted in some subjects unconsciously defining for themselves and "committing" to a range of values representing the range of the continuum. Having thus defined this range, these subjects then encountered the parapsychological experience section in the third questionnaire position. Having, in a manner of speaking, "used up" the high and low ends of the continuum for the previous two experiences, some subjects may have in effect filled the "measurement space" in the middle of the continuum with their ratings of the remaining (parapsychological) experience.

In the reverse order of presentation, that is, when the parapsychological experience section was encountered second (i.e., before the synchronicity section), the poles of the continuum may not have been as easy for the subjects to intuitively or unconsciously define, thus leaving the demand characteristics free to suppress the ratings for parapsychological experience in comparison to the ratings from the alternative order of presentation. This explanation is of course purely speculative, and poses a question that would be more appropriately

answered by a separate and more strictly controlled psychometric study using a sufficiently known and understood continuum.

Effects of cultural background

Another interesting question raised by this study is that related to the observed effect of cultural background on the ratings. As previously noted, ratings from subjects classed as "non-western" were significantly higher than those given by "westerners" for the experience of synchronicity on the dimensions of ego loss, sense of presence, time/space alterations, and the noetic quality of the experience. In my view, this finding provides some evidential support for Jung's claim (discussed in the introduction) that what he called the "eastern mind" both recognizes and values the importance and significance of chance and coincidence in the unfolding of events to a greater extent than the western mind. Future research could specifically examine the effects of cultural background on the experience and interpretation of synchronicity in general, and in particular, on the cultural differences (if they exist) in the way that synchronistic experiences operate as catalytic events

in the formation of the individual's personal life-story or monomyth. Given that several writers (e.g., Bond, 1993; May, 1991) have suggested that much of the existential "dis-ease" among westerners is due to the vacuum created by the declining influence and relevance of traditional western cultural monomyths, the exploration of the role played by synchronistic experience in the formation of a (compensatory) personal myth within the context of different cultures might be of practical significance in clinical and counselling settings.

Comment on several methodological issues

This study proceeded from the position that the characteristics of mystical experience could be used as a baseline against which to contrast and compare synchronistic and parapsychological experiences. Implicit in the method used in this study is the exclusion of either unknown and/or unmeasured dimensions or qualities of experience that may be characteristic of synchronistic and/or parapsychological experience but not of mystical experience. That is, both synchronicity and parapsychological experience were measured in the

defining terms of mystical experience rather than on their own terms. Because of this, the "continuum" that was suggested by the results of this study may in fact be an artifact of the methodology rather than an accurate representation of any presumably true state of relationship between the three experiences. It is at least conceivable, for example, that had a set of characteristics of synchronicity been used as the baseline, the continuum might look entirely different (e.g., with mystical experience in the middle of the continuum, or at the opposite pole). In a more general sense, the problem of "linearity" is a problem in any inquiry in so far as that in any geometric representation, any two points can be used to define a line and thus a representational structure upon which to infer or project the suggestion of a "continuum."

A second point to be made on the methods employed in this study is that related to the use of statistical tests. As noted previously, the number of tests is sufficient enough to ensure the commission of at least one Type I error. Although the rejection of a true null hypothesis is of practical and sometimes serious or life-threatening consequence, for example, in medical research, I would argue that there are research

programs in which the benefits of repeated analyses can outweigh the formal requirements of hypothesis testing. In exploratory research (such as that undertaken here), statistical methods can be used to probe or explore the microstructures of data in which an unexpected macrostructure has been tacitly perceived as the result of the formal or preliminary hypothesis test. In turn, these analyses can generate conceptions of the data which may not have been arrived at by theory alone and lead to new ways of thinking about the problem under study, thus providing the raw material for subsequent research. The use of statistical tests in this study is a case in point. As nothing other than my own ideas were "at stake" in the research, the benefits of statistically exploring the data beyond the constraints of the hypotheses led me to a point which enabled a synthesis of information in the study with information from another domain of interest (i.e., narrative mythology). In turn, this allowed me to see synchronicity from a perspective that I may not have arrived at (at least in the same period of time) had I closed the inquiry after rejecting the formal hypotheses.

Some suggestions for future research

The results (and the interpretations) of this study suggest several possible lines of further inquiry. From a methodological perspective, the question of whether or not the suggested continuum is merely an artifact of the method could be addressed. For example, the current study used a repeated measures design in which ratings for each of the three experiences were not independent of each other. Would ratings derived from three independent (and sufficiently random) groups (one group for each experience) produce the same relationships as in this study? Alternatively, would using a sufficiently developed structural model of synchronicity as the baseline (instead of the structural model of mystical experience) result in the same ordering or pattern of relationships between the three experiences? If such a model were to be developed, how would other types of experiences related to the "creation of meaning" (such as aesthetic, intuitive, or imaginative experiences, or moments of insight and creativity) be related to this model? In terms of consequences, studies could be done in order to explore the relationship between the experience of synchronicity and more familiar

psychological constructs (e.g., changes in motivation, self-esteem, self-efficacy, or attributional style) as a consequence of synchronistic experiences.

Despite the failure of this research to provide overall statistical evidence in favour of the formal hypotheses, there were nonetheless 19 students in this study that did rate synchronicity the same or greater than mystical experience on the measured dimensions. Why? Methodologically sophisticated case studies could be done to determine the reasons why, for some people, synchronicity is experienced mystically. Do these people, for example, have something intrinsically in common that would account for the high ratings, or is it some set of characteristics specific to the details of their actual experiences, or perhaps some combination of both that may account for the ratings?

One question offered by a reviewer of an earlier version of this document asked whether or not the results of this study have any relevance for disciplines other than psychology. This is an interesting, if not difficult question to answer, for several reasons. The first is simply that I am not in the position to judge the relevance of the results for disciplines I am not familiar with. If I am permitted

to let my imagination run free however, I could envision some of the results of this study being of possible interest to disciplines outside of psychology. For example, I imagine that philosophy (or that branch of philosophy that deals with "ways of knowing") might be interested in the noetic properties of the experiences described in this research. Cultural anthropology might find relevant the findings that indicate that study participants labelled as culturally "non-western" rated synchronicity higher in the characteristics of mystical experience than the subjects identified as "western." This may, I imagine, have indirect implications for interpreting cross-cultural differences in belief systems. Jung himself certainly drew heavily on cultural anthropology in formulating his ideas of the archetypes and the collective unconscious. Religionists could also find some relevance in the results of this study, for as David Hay (1990) has pointed out, experiences of synchronicity and the unusual patterning of events constitute the largest single class of experiences that people report as being experienced as having religious significance (p. 41).

The second reason that the question of relevance is hard to answer has to do with the notion of "relevance" itself. I do not believe that relevance is inherent in any idea, but rather that relevance is created and given to ideas by individuals, either directly, or indirectly through the conventions of their disciplines. Thus, rather than to ask what the relevance of this study _is_ for other disciplines, it may be more appropriate to ask what the relevance _could_ be - which brings me to the concluding statement of this thesis. In the back of my mind, throughout the entire term of this research, one of my aims has been to make a case (if even to no one other than myself) that synchronicity is (or can be) as legitimate a subject matter for academic psychology as any other.

Jung's interest in connecting the concept of synchronicity to speculative metaphysics and parapsychology had the effect of marginalizing the experience of synchronicity as a psychological subject matter. This is to say that the experience of synchronicity has, in my view, been all but collectively disregarded as irrelevant to psychology's grand project of understanding human thought, feeling, and behaviour. In the background of my pragmatic

thinking had been the thought that if it could be shown, using the standard epistemological rules of normative psychology, that synchronicity bore a closer experiential relationship to mystical experience (or the more contemporary and secular term "peak experience"), then this demonstration could be used as a basis upon which to argue for a non-parapsychological perspective on the subject matter. The tentative conclusions and speculations arising out of this study are, I think, a small move in this direction, even though they came about in an unexpected way. Differences in the ratings between all three of the experiences examined in this study suggest that rather than being a subordinate subject matter of either metaphysical parapsychology or mysticism, there is a kind of "reasonableness" in construing synchronicity as type of experience in its own right. As such, I can see no good reason why synchronicity cannot in the future be studied by psychology <u>on its own terms</u> as one of the many ways through which people find or create experiential coherence and meaning in the events of their lives and the world in which they live.

None of the immediately foregoing should however be taken to suggest that I explicitly support the

notion that any given subject matter "belongs more" to one discipline rather than another. Rather, the boundaries that divide disciplines are our collective inventions, reflective of the larger and broader historical transition to increased specialization in all areas of western society and culture. It is my view that as appropriate as this specialization may have been in its time, a kind of limit is being reached, and the boundaries that in past defined (and thus confined) specific subject matter to specific disciplines must become permeable in order that the enterprise of knowing be allowed to proceed and evolve. We are, I think (I hope) beginning to realize, as Ken Wilber (1979) has put it, that "if the only tool you have is a hammer, then everything starts to look like a nail" (p. 42).

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# Appendix A

## Hood's (1975) Mysticism Scale

Note: Items from the M-scale are presented grouped into each of the subscales used by Hood. Item numbering reflects the order in which they appear in the actual questionnaire. Numbers in parentheses following the subscale description are subscale to total scale correlations. Numbers in parentheses following the item are item-to-total scale correlations with that item excluded.

Subscale 1: EGO QUALITY: refers to the experience of a loss of sense of self while consciousness is nevertheless maintained. The loss of self is commonly experienced as an absorption into something greater than the mere empirical ego. (.64)

3. I have had an experience in which something greater than myself seemed to absorb me. (.52)

4. I have had an experience in which everything seemed to disappear from my mind until I was conscious only of a void. (.36)

6. I have never had an experience in which I felt myself to be absorbed as one with all things. (.42)

24. I have never had an experience in which my own self seemed to merge into something greater. (.45)

Subscale 2: UNIFYING QUALITY: Refers to the multiplicity of objects of perception as nevertheless united. Everything is in fact perceived as "One." (.60)

12. I have had an experience in which I realized the oneness of myself with all things. (.52)

19. I have had an experience in which I felt everything in the world to be part of the same whole. (.52)

28. I have never had an experience in which I became aware of the unity of all things. (.55)

30. I have never had an experience in which all things seemed to be unified into a single whole. (.46)

Subscale 3: INNER SUBJECTIVE QUALITY: Refers to the perception of an inner subjectivity to all things, even those usually experienced in purely material forms. (.56)

8. I have never had an experience in which I felt as if all things were alive. (.46)

10. I have never had an experience in which all things seemed to be aware. (.43)

29. I have had an experience in which all things seemed to be conscious. (.39)

31. I have had an experience in which I felt that nothing is ever really dead. (.37)

Subscale 4: TEMPORAL/SPATIAL QUALITY: Refers to the spatial and temporal parameters of the experience. Essentially, both time and space are modified with the extreme being one of an experience that is both "timeless" and "spaceless." (.54)

1. I have had an experience which was both timeless and spaceless. (.48)

11. I have had an experience in which I had no sense of time or space. (.41)

15. I have never had an experience in which time and space seemed non-existent. (.46)

27. I have never had an experience in which time, place, and distance were meaningless. (.54)

Subscale 5: NOETIC QUALITY: Refers to the experience as a source of valid knowledge. Emphasis is on a non-rational, intuitive, insightful experience that is nevertheless recognized as not merely subjective. (.50)

13. I have had an experience in which a new view of reality was revealed to me. (.43)

16. I have never experienced anything that I could call ultimate reality. (.35)

17. I have had an experience in which ultimate reality was revealed to me. (.44)

26. I have never had an experience in which deeper aspects of reality were revealed to me. (.45)

Subscale 6: INEFFABILITY: Refers to the impossibility of expressing the experience in conventional language. The experience simply cannot be put into words due to the nature of the experience itself and not to the linguistic capacity of the subject. (.45)

2. I have never had an experience which was incapable of being expressed in words. (.29)

21. I have never had an experience which I was unable to express adequately through language. (.37)

23. I have had an experience which is impossible to communicate. (.42)

32. I have had an experience that cannot be expressed in words. (.42)

Subscale 7: POSITIVE AFFECT: Refers to the positive affective quality of the experience. Typically the experience is of joy or blissful happiness. (.62)

5. I have experienced profound joy. (.36)

7. I have never experienced a perfectly peaceful state. (.40)

18. I have had an experience in which I felt that all was perfection at the time. (.45)

25. I have never had an experience which left me with a feeling of wonder. (.40)

<u>Subscale 8: RELIGIOUS QUALITY</u>: Refers to the intrinsic sacredness of the experience. This includes feelings of mystery, awe, and reverence that may nevertheless be expressed independently of traditional religious language. (.39)

9. I have never had an experience which seemed holy to me. (.44)

14. I have never experienced anything to be divine. (.30)

20. I have had an experience which I knew to be sacred. (.33)

22. I have had an experience which left me with a feeling of awe. (.33)

# Appendix B

## Modified Mysticism Scale

### UNUSUAL EXPERIENCE QUESTIONNAIRE

Dear Student,

Thank you for participating in my research. On the following pages, you will be given some definitions of unusual "states of mind" each followed by a list of phrases which may or may not describe the previously defined mental state. Please read each definition carefully and then rate each of the descriptive phrases on a scale of 1 to 5 where:

1 = not at all involved in the mental state

to 5 = involved to a great extent in the mental state.

Please rate each descriptive phrase. Do not leave any phrase unrated.

If you have any difficulties, raise your hand, and the experimenter will assist you.

Please circle your answers on the questionnaire as well as filling in the bubbles on the IBM sheet.

DEFINITION OF MYSTICAL STATES TO BE USED TO RATE THE DESCRIPTIVE PHRASES

Mystical consciousness is a superconscious state which seems to be beyond anything known in ordinary consciousness. It is described as a sudden perception of hidden significance in things, a perception of what may be called a 'something there' which adds a supersensuous meaning to the ordinary outward data of consciousness. It is a particular form of consciousness resulting in an enlargement and refining of perception, a consciousness of the beyond which is the inspiration of much philosophy, poetry, art, and music.

**"To what extent do you consider mystical states to involve experiences..."**

| | NOT AT ALL | | | | TO A GREAT EXTENT |
|---|---|---|---|---|---|
| 1. which are both timeless and spaceless? | 1 | 2 | 3 | 4 | 5 |
| 2. which are incapable of being expressed in words? | 1 | 2 | 3 | 4 | 5 |
| 3. in which something greater than yourself seems to absorb you? | 1 | 2 | 3 | 4 | 5 |
| 4. in which everything seems to disappear from your mind until you are conscious only of a void? | 1 | 2 | 3 | 4 | 5 |
| 5. of profound joy? | 1 | 2 | 3 | 4 | 5 |
| 6. in which you feel yourself to be absorbed as one with all things? | 1 | 2 | 3 | 4 | 5 |
| 7. of a perfectly peaceful state? | 1 | 2 | 3 | 4 | 5 |
| 8. in which you feel as if all things are alive? | 1 | 2 | 3 | 4 | 5 |
| 9. which seem holy to you? | 1 | 2 | 3 | 4 | 5 |
| 10. in which all things seem to be aware? | 1 | 2 | 3 | 4 | 5 |
| 11. in which you have no sense of time or space? | 1 | 2 | 3 | 4 | 5 |
| 12. in which you realize the oneness of yourself with all things? | 1 | 2 | 3 | 4 | 5 |
| 13. in which a new view of reality is revealed to you? | 1 | 2 | 3 | 4 | 5 |
| 14. of something as divine? | 1 | 2 | 3 | 4 | 5 |

| | NOT AT ALL | | | | TO A GREAT EXTENT |
|---|---|---|---|---|---|
| 15. in which time and space seem non-existent? | 1 | 2 | 3 | 4 | 5 |
| 16. of something you could call ultimate reality? | 1 | 2 | 3 | 4 | 5 |
| 17. in which ultimate reality is revealed you? | 1 | 2 | 3 | 4 | 5 |
| 18. in which you feel that all is perfection at the time? | 1 | 2 | 3 | 4 | 5 |
| 19. in which you feel everything in the world to be a part of the same whole? | 1 | 2 | 3 | 4 | 5 |
| 20. which you know to be sacred? | 1 | 2 | 3 | 4 | 5 |
| 21. which you are unable to express adequately through language? | 1 | 2 | 3 | 4 | 5 |
| 22. which leave you with a feeling of awe? | 1 | 2 | 3 | 4 | 5 |
| 23. which are impossible to communicate? | 1 | 2 | 3 | 4 | 5 |
| 24. in which your self seems to merge into something greater? | 1 | 2 | 3 | 4 | 5 |
| 25. which leaves you with a feeling of wonder? | 1 | 2 | 3 | 4 | 5 |
| 26. in which deeper aspects of reality are revealed to you? | 1 | 2 | 3 | 4 | 5 |
| 27. in which time, place, and distance are meaningless? | 1 | 2 | 3 | 4 | 5 |
| 28. in which you become aware of the unity of all things? | 1 | 2 | 3 | 4 | 5 |
| 29. in which all things seem to be conscious? | 1 | 2 | 3 | 4 | 5 |
| 30. in which all things seem to be unified into a single whole? | 1 | 2 | 3 | 4 | 5 |
| 31. in which you feel that nothing is ever really dead? | 1 | 2 | 3 | 4 | 5 |
| 32. that cannot be expressed in words? | 1 | 2 | 3 | 4 | 5 |

| | NOT AT ALL | | | | TO A GREAT EXTENT |
|---|---|---|---|---|---|
| 33. leading to basic inward change in the personal self, for example, increases in feelings of happiness, joy, and peace? | 1 | 2 | 3 | 4 | 5 |
| 34. that lead to changes in attitudes and behaviour towards others, for example, being more open and more one's true self with others? | 1 | 2 | 3 | 4 | 5 |
| 35. which give you a sense of meaning and purpose, and a new appreciation for life and the whole of creation? | 1 | 2 | 3 | 4 | 5 |
| 36. that are remembered as a high point and regarded as valuable, and that what has been learned is thought to be useful? | 1 | 2 | 3 | 4 | 5 |

37. To what extent do you believe that you have experienced a mystical state?

CERTAIN I NEVER HAVE 1 2 3 4 5 VERY CERTAIN THAT I HAVE

38. How many times have you had this experience? (check the box, and fill in the number on the IBM sheet).

1. [] NEVER
2. [] once
3. [] 2 to 5 times
4. [] 6 to 10 times
5. [] more than 10 times

DEFINITION OF SYNCHRONICITY TO BE USED TO RATE THE DESCRIPTIVE PHRASES

Synchronicity refers to the coincidence in time of two or more causally unrelated events which have the same or similar meaning. That is, synchronicity is the meaningful coincidence of two or more events where something other than the probability of chance in involved, or an uncanny convergence of forces and circumstances in the life of an individual that defy ordinary explanation.

"To what extent do you consider synchronicity to involve experiences...."

| | NOT AT ALL | | | | TO A GREAT EXTENT |
|---|---|---|---|---|---|
| 39. which are both timeless and spaceless? | 1 | 2 | 3 | 4 | 5 |
| 40. which are incapable of being expressed in words? | 1 | 2 | 3 | 4 | 5 |
| 41. in which something greater than yourself seems to absorb you? | 1 | 2 | 3 | 4 | 5 |
| 42. in which everything seems to disappear from your mind until you are conscious only of a void? | 1 | 2 | 3 | 4 | 5 |
| 43. of profound joy? | 1 | 2 | 3 | 4 | 5 |
| 44. in which you feel yourself to be absorbed as one with all things? | 1 | 2 | 3 | 4 | 5 |
| 45. of a perfectly peaceful state? | 1 | 2 | 3 | 4 | 5 |
| 46. in which you feel as if all things are alive? | 1 | 2 | 3 | 4 | 5 |
| 47. which seem holy to you? | 1 | 2 | 3 | 4 | 5 |
| 48. in which all things seem to be aware? | 1 | 2 | 3 | 4 | 5 |
| 49. in which you have no sense of time or space? | 1 | 2 | 3 | 4 | 5 |
| 50. in which you realize the oneness of yourself with all things? | 1 | 2 | 3 | 4 | 5 |
| 51. in which a new view of reality is revealed to you? | 1 | 2 | 3 | 4 | 5 |
| 52. of something as divine? | 1 | 2 | 3 | 4 | 5 |
| 53. in which time and space seem non-existent? | 1 | 2 | 3 | 4 | 5 |

| | NOT AT ALL | | | | TO A GREAT EXTENT |
|---|---|---|---|---|---|
| 54. of something you could call ultimate reality? | 1 | 2 | 3 | 4 | 5 |
| 55. in which ultimate reality is revealed you? | 1 | 2 | 3 | 4 | 5 |
| 56. in which you feel that all is perfection at the time? | 1 | 2 | 3 | 4 | 5 |
| 57. in which you feel everything in the world to be a part of the same whole? | 1 | 2 | 3 | 4 | 5 |
| 58. which you know to be sacred? | 1 | 2 | 3 | 4 | 5 |
| 59. which you are unable to express adequately through language? | 1 | 2 | 3 | 4 | 5 |
| 60. which leave you with a feeling of awe? | 1 | 2 | 3 | 4 | 5 |
| 61. which are impossible to communicate? | 1 | 2 | 3 | 4 | 5 |
| 62. in which your self seems to merge into something greater? | 1 | 2 | 3 | 4 | 5 |
| 63. which leaves you with a feeling of wonder? | 1 | 2 | 3 | 4 | 5 |
| 64. in which deeper aspects of reality are revealed to you? | 1 | 2 | 3 | 4 | 5 |
| 65. in which time, place, and distance are meaningless? | 1 | 2 | 3 | 4 | 5 |
| 66. in which you become aware of the unity of all things? | 1 | 2 | 3 | 4 | 5 |
| 67. in which all things seem to be conscious? | 1 | 2 | 3 | 4 | 5 |
| 68. in which all things seem to be unified into a single whole? | 1 | 2 | 3 | 4 | 5 |
| 69. in which you feel that nothing is ever really dead? | 1 | 2 | 3 | 4 | 5 |
| 70. that cannot be expressed in words? | 1 | 2 | 3 | 4 | 5 |

| | NOT AT ALL | | | | TO A GREAT EXTENT |
|---|---|---|---|---|---|
| 71. leading to basic inward change in the personal self, for example, increases in feelings of happiness, joy, and peace? | 1 | 2 | 3 | 4 | 5 |
| 72. that lead to changes in attitudes and behaviour towards others, for example, being more open and more one's true self with others? | 1 | 2 | 3 | 4 | 5 |
| 73. which give you a sense of meaning and purpose, and a new appreciation for life and the whole of creation? | 1 | 2 | 3 | 4 | 5 |
| 74. that are remembered as a high point and regarded as valuable, and that what has been learned is thought to be useful? | 1 | 2 | 3 | 4 | 5 |

75. To what extent do you believe that you have experienced a synchronicity?

CERTAIN I NEVER HAVE 1 2 3 4 5 VERY CERTAIN THAT I HAVE

76. How many times have you had this experience? (check the box, and fill in the number on the IBM sheet).

1. [] NEVER
2. [] once
3. [] 2 to 5 times
4. [] 6 to 10 times
5. [] more than 10 times

DEFINITION OF PARAPSYCHOLOGICAL STATES TO BE USED TO RATE THE DESCRIPTIVE PHRASES

Parapsychology is the branch of psychology that deals with occurrences that defy physical explanation in terms of orthodox science. It is the study of alleged paranormal abilities of women and men, to make direct contact with their environment through some means other than those now recognized by physics and physiology. It encompasses those aspects of human experience which make no apparent sense at all in terms of the physical world view, phenomena such as telepathy (the direct communication of one mind with another), clairvoyance (the viewing of distant scenes), precognition (the ability to look into the future), and psychokinesis (popularly called 'mind over matter').

"To what extent do you consider parapsychological states to involve experiences..."

| | NOT AT ALL | | | | TO A GREAT EXTENT |
|---|---|---|---|---|---|
| 77. which are both timeless and spaceless? | 1 | 2 | 3 | 4 | 5 |
| 78. which are incapable of being expressed in words? | 1 | 2 | 3 | 4 | 5 |
| 79. in which something greater than yourself seems to absorb you? | 1 | 2 | 3 | 4 | 5 |
| 80. in which everything seems to disappear from your mind until you are conscious only of a void? | 1 | 2 | 3 | 4 | 5 |
| 81. of profound joy? | 1 | 2 | 3 | 4 | 5 |
| 82. in which you feel yourself to be absorbed as one with all things? | 1 | 2 | 3 | 4 | 5 |
| 83. of a perfectly peaceful state? | 1 | 2 | 3 | 4 | 5 |
| 84. in which you feel as if all things are alive? | 1 | 2 | 3 | 4 | 5 |
| 85. which seem holy to you? | 1 | 2 | 3 | 4 | 5 |
| 86. in which all things seem to be aware? | 1 | 2 | 3 | 4 | 5 |
| 87. in which you have no sense of time or space? | 1 | 2 | 3 | 4 | 5 |
| 88. in which you realize the oneness of yourself with all things? | 1 | 2 | 3 | 4 | 5 |
| 89. in which a new view of reality is revealed to you? | 1 | 2 | 3 | 4 | 5 |
| 90. of something as divine? | 1 | 2 | 3 | 4 | 5 |

| | NOT AT ALL | | | | TO A GREAT EXTENT |
|---|---|---|---|---|---|
| 91. in which time and space seem non-existent? | 1 | 2 | 3 | 4 | 5 |
| 92. of something you could call ultimate reality? | 1 | 2 | 3 | 4 | 5 |
| 93. in which ultimate reality is revealed you? | 1 | 2 | 3 | 4 | 5 |
| 94. in which you feel that all is perfection at the time? | 1 | 2 | 3 | 4 | 5 |
| 95. in which you feel everything in the world to be a part of the same whole? | 1 | 2 | 3 | 4 | 5 |
| 96. which you know to be sacred? | 1 | 2 | 3 | 4 | 5 |
| 97. which you are unable to express adequately through language? | 1 | 2 | 3 | 4 | 5 |
| 98. which leave you with a feeling of awe? | 1 | 2 | 3 | 4 | 5 |
| 99. which are impossible to communicate? | 1 | 2 | 3 | 4 | 5 |
| 100. in which your self seems to merge into something greater? | 1 | 2 | 3 | 4 | 5 |
| 101. which leaves you with a feeling of wonder? | 1 | 2 | 3 | 4 | 5 |
| 102. in which deeper aspects of reality are revealed to you? | 1 | 2 | 3 | 4 | 5 |
| 103. in which time, place, and distance are meaningless? | 1 | 2 | 3 | 4 | 5 |
| 104. in which you become aware of the unity of all things? | 1 | 2 | 3 | 4 | 5 |
| 105. in which all things seem to be conscious? | 1 | 2 | 3 | 4 | 5 |
| 106. in which all things seem to be unified into a single whole? | 1 | 2 | 3 | 4 | 5 |
| 107. in which you feel that nothing is ever really dead? | 1 | 2 | 3 | 4 | 5 |
| 108. that cannot be expressed in words? | 1 | 2 | 3 | 4 | 5 |

| | NOT AT ALL | | | | TO A GREAT EXTENT |
|---|---|---|---|---|---|
| 109. leading to basic inward change in the personal self, for example, increases in feelings of happiness, joy, and peace? | 1 | 2 | 3 | 4 | 5 |
| 110. that lead to changes in attitudes and behaviour towards others, for example, being more open and more one's true self with others? | 1 | 2 | 3 | 4 | 5 |
| 111. which give you a sense of meaning and purpose, and a new appreciation for life and the whole of creation? | 1 | 2 | 3 | 4 | 5 |
| 112. that are remembered as a high point and regarded as valuable, and that what has been learned is thought to be useful? | 1 | 2 | 3 | 4 | 5 |

113. To what extent do you believe that you have experienced a parapsychological state?

CERTAIN I NEVER HAVE 1 2 3 4 5 VERY CERTAIN THAT I HAVE

114. How many times have you had this experience? (check the box, and fill in the number on the IBM sheet).

1. [] NEVER
2. [] once
3. [] 2 to 5 times
4. [] 6 to 10 times
5. [] more than 10 times

115. What is your age?

1. [] less than 18 years
2. [] 18 - 24
3. [] 25 - 32
4. [] 33 - 40
5. [] over 40

116. What is your gender?

1. [] male
2. [] female

117. Which of the following best describes your cultural background, that is, the culture and society in which you were mainly raised? (Circle the number of the one that comes closest).

1. [] Aboriginal culture
2. [] Western culture (e.g., the Americas, European, Australian)
3. [] Eastern culture (e.g., Asia, India, Pakistan, Indo-China)
4. [] Middle Eastern culture
5. [] other_____

118. What is your current religious affiliation? (write on the line below)

_____

Appendix C

Debriefing Sheet for Student Participants

The study you have participated in is an attempt to determine whether or not experiences of synchronicity (i.e., a term coined by Carl G. Jung to refer to "meaningful coincidences" that cannot be explained by chance) can be considered to be a type of mystical experience.

Historically, much of the writing about synchronicity, however, has tended to treat it as a parapsychological experience, in the same class, for example, as telepathy, precognition, clairvoyance and psychokinesis (i.e., 'mind over matter'), or as a phenomena best left to study and explanation by theoretical physics. This tendency led, in my opinion, to the situation where synchronicity was more or less being ignored by mainstream psychology and by psychologists studying both the psychology of religious experience and the psychology of consciousness.

The study you participated in comes out of the observation that I had that descriptions of mystical experiences had a number of qualities that seemed to be very much like the qualities of synchronicity experiences, while at the same time, experiences of telepathy, precognition, etc. did not seem to share these qualities. In addition to the qualities of the experience itself, I also suspected that the consequences of mystical experience and synchronicity might be the same, but that the consequences of parapsychological experiences would be different.

In order to test these suspicions, I took a scale (called the Mysticism Scale), which has traditionally been used to measure peoples' experiences of mystical states, and modified it slightly so that it could be used to measure the three experiences you responded to in the questionnaire. By comparing the responses of each person to each experience, it should be possible to statistically show (if my suspicions are correct) that synchronicity is perceived to be more like a mystical experience and less like a parapsychological experience, both in terms of the experience itself, and in terms of the consequences that it has or is believed to have for the person who experiences it.

Many social scientists (including some psychologists) believe that having "religious" thoughts, feelings, and experiences (including mystical experiences) is one of the defining characteristics of

being human. Even though outwardly, religion may not play as important a role in our lives as it did in the past, there are some who maintain that because it is so natural to the human species, it is a very important aspect of human experience to study from a social science perspective. My study of synchronicity is one small step (or at least I hope it is) in this direction.

If you are particularly interested in this study or its subject matter, or would like to obtain more information about the details of this study or of the subject matter, then please write your name and phone number in the spaces below, indicate your interest and return the slip to me via campus mail at the address below.

---

Your name_____

phone number_____

return to:

Steve Hladkyj
Department of Psychology
P403, Duff Roblin Building
University of Manitoba

# Appendix D

## Correlations, Significance Levels, and Alphas of the Eight Subscales and the Four Consequence Items of the Modified Mysticism Scale

CODES M = MYSTICAL EXPERIENCE
P = PARAPSYCHOLOGICAL EXPERIENCE
S = SYNCHRONICITY EXPERIENCE

UNIFYING QUALITY

M-,P-, OR S- UNITY1 realize the oneness of yourself with all things
M-,P-, OR S- UNITY2 feel everything...to be part of the same whole
M-,P-, OR S- UNITY3 become aware of the unity of all things
M-,P-, OR S- UNITY4 things seem to be unified into a single whole

| | MUNITY1 | MUNITY2 | MUNITY3 | MUNITY4 |
|---|---|---|---|---|
| MUNITY1 | 1.00000 | 0.50790 | 0.58513 | 0.52356 |
| | .0000 | .0000 | .0000 | .0000 |
| MUNITY2 | 0.50790 | 1.00000 | 0.56039 | 0.55655 |
| | .0000 | .0000 | .0000 | .0000 |
| MUNITY3 | 0.58513 | 0.56039 | 1.00000 | 0.69790 |
| | .0000 | .0000 | .0000 | .0000 |
| MUNITY4 | 0.52356 | 0.55655 | 0.69790 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8390

| | PUNITY1 | PUNITY2 | PUNITY3 | PUNITY4 |
|---|---|---|---|---|
| PUNITY1 | 1.00000 | 0.63652 | 0.62976 | 0.68460 |
| | .0000 | .0000 | .0000 | .0000 |
| PUNITY2 | 0.63652 | 1.00000 | 0.71165 | 0.72421 |
| | .0000 | .0000 | .0000 | .0000 |
| PUNITY3 | 0.62976 | 0.71165 | 1.00000 | 0.75355 |
| | .0000 | .0000 | .0000 | .0000 |
| PUNITY4 | 0.68460 | 0.72421 | 0.75355 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8990

| | SUNITY1 | SUNITY2 | SUNITY3 | SUNITY4 |
|---|---|---|---|---|
| SUNITY1 | 1.00000 | 0.56030 | 0.63483 | 0.64705 |
| | .0000 | .0000 | .0000 | .0000 |
| SUNITY2 | 0.56030 | 1.00000 | 0.67861 | 0.75574 |
| | .0000 | .0000 | .0000 | .0000 |
| SUNITY3 | 0.63483 | 0.67861 | 1.00000 | 0.78754 |
| | .0000 | .0000 | .0000 | .0000 |
| SUNITY4 | 0.64705 | 0.75574 | 0.78754 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8940

EGO LOSS QUALITY

| | |
|---|---|
| M-,P-, OR S- EGO1 | something greater...seems to absorb you. |
| M-,P-, OR S- EGO2 | everything disappears from your mind until you are conscious only of a void |
| M-,P-, OR S- EGO3 | feel yourself to be absorbed as one with all things |
| M-,P-, OR S- EGO4 | your self seems to merge into something greater |

| | MEGO1 | MEGO2 | MEGO3 | MEGO4 |
|---|---|---|---|---|
| MEGO1 | 1.00000 | 0.20069 | 0.25014 | 0.38169 |
| | .0000 | .0068 | .0007 | .0000 |
| MEGO2 | 0.20069 | 1.00000 | 0.17693 | 0.29149 |
| | .0068 | .0000 | .0172 | .0001 |
| MEGO3 | 0.25014 | 0.17693 | 1.00000 | 0.40549 |
| | .0007 | .0172 | .0000 | .0000 |
| MEGO4 | 0.38169 | 0.29149 | 0.40549 | 1.00000 |
| | .0000 | .0001 | .0000 | .0000 |

Cronbach's Alpha 0.6104

continued...

| | PEG01 | PEG02 | PEG03 | PEG04 |
|---|---|---|---|---|
| PEG01 | 1.00000 | 0.62441 | 0.63193 | 0.60690 |
| | .0000 | .0000 | .0000 | .0000 |
| PEG02 | 0.62441 | 1.00000 | 0.58395 | 0.53826 |
| | .0000 | .0000 | .0000 | .0000 |
| PEG03 | 0.63193 | 0.58395 | 1.00000 | 0.63510 |
| | .0000 | .0000 | .0000 | .0000 |
| PEG04 | 0.60690 | 0.53826 | 0.63510 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8586

| | SEG01 | SEG02 | SEG03 | SEG04 |
|---|---|---|---|---|
| SEG01 | 1.00000 | 0.54810 | 0.52526 | 0.62938 |
| | .0000 | .0000 | .0000 | .0000 |
| SEG02 | 0.54810 | 1.00000 | 0.52551 | 0.42656 |
| | .0000 | .0000 | .0000 | .0000 |
| SEG03 | 0.52526 | 0.52551 | 1.00000 | 0.56879 |
| | .0000 | .0000 | .0000 | .0000 |
| SEG04 | 0.62938 | 0.42656 | 0.56879 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8219

SENSE OF PRESENCE

M-,P-, OR S- PRES1 you feel as if all things are alive
M-,P-, OR S- PRES2 all things seem to be aware
M-,P-, OR S- PRES3 all things seem to be conscious
M-,P-, OR S- PRES4 you feel that nothing is ever really dead

| | MPRES1 | MPRES2 | MPRES3 | MPRES4 |
|---|---|---|---|---|
| MPRES1 | 1.00000 | 0.46289 | 0.47301 | 0.31085 |
| | .0000 | .0000 | .0000 | .0000 |
| MPRES2 | 0.46289 | 1.00000 | 0.50553 | 0.22981 |
| | .0000 | .0000 | .0000 | .0019 |
| MPRES3 | 0.47301 | 0.50553 | 1.00000 | 0.34747 |
| | .0000 | .0000 | .0000 | .0000 |
| MPRES4 | 0.31085 | 0.22981 | 0.34747 | 1.00000 |
| | .0000 | .0019 | .0000 | .0000 |

Cronbach's Alpha 0.7093

continued...

| | PPRES1 | PPRES2 | PPRES3 | PPRES4 |
|---|---|---|---|---|
| PPRES1 | 1.00000 | 0.67278 | 0.64906 | 0.50977 |
| | .0000 | .0000 | .0000 | .0000 |
| PPRES2 | 0.67278 | 1.00000 | 0.64766 | 0.42550 |
| | .0000 | .0000 | .0000 | .0000 |
| PPRES3 | 0.64906 | 0.64766 | 1.00000 | 0.46423 |
| | .0000 | .0000 | .0000 | .0000 |
| PPRES4 | 0.50977 | 0.42550 | 0.46423 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8329

| | SPRES1 | SPRES2 | SPRES3 | SPRES4 |
|---|---|---|---|---|
| SPRES1 | 1.00000 | 0.50945 | 0.47704 | 0.52556 |
| | .0000 | .0000 | .0000 | .0000 |
| SPRES2 | 0.50945 | 1.00000 | 0.58248 | 0.37414 |
| | .0000 | .0000 | .0000 | .0000 |
| SPRES3 | 0.47704 | 0.58248 | 1.00000 | 0.43938 |
| | .0000 | .0000 | .0000 | .0000 |
| SPRES4 | 0.52556 | 0.37414 | 0.43938 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.7894

ALTERATIONS IN THE PERCEPTION OF TIME AND SPACE

M-,P-, OR S- TIME1 are both timeless and spaceless
M-,P-, OR S- TIME2 you have no sense of time or space
M-,P-, OR S- TIME3 time and space seem non-existent
M-,P-, OR S- TIME4 time, place, and distance are meaningless

| | MTIME1 | MTIME2 | MTIME3 | MTIME4 |
|---|---|---|---|---|
| MTIME1 | 1.00000 | 0.42084 | 0.47424 | 0.33111 |
| | .0000 | .0000 | .0000 | .0000 |
| MTIME2 | 0.42084 | 1.00000 | 0.64287 | 0.58110 |
| | .0000 | .0000 | .0000 | .0000 |
| MTIME3 | 0.47424 | 0.64287 | 1.00000 | 0.60074 |
| | .0000 | .0000 | .0000 | .0000 |
| MTIME4 | 0.33111 | 0.58110 | 0.60074 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8072

continued...

| | PTIME1 | PTIME2 | PTIME3 | PTIME4 |
|---|---|---|---|---|
| PTIME1 | 1.00000 | 0.67575 | 0.61730 | 0.58250 |
| | .0000 | .0000 | .0000 | .0000 |
| PTIME2 | 0.67575 | 1.00000 | 0.72505 | 0.63089 |
| | .0000 | .0000 | .0000 | .0000 |
| PTIME3 | 0.61730 | 0.72505 | 1.00000 | 0.72409 |
| | .0000 | .0000 | .0000 | .0000 |
| PTIME4 | 0.58250 | 0.63089 | 0.72409 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8854

| | STIME1 | STIME2 | STIME3 | STIME4 |
|---|---|---|---|---|
| STIME1 | 1.00000 | 0.59776 | 0.56372 | 0.50827 |
| | .0000 | .0000 | .0000 | .0000 |
| STIME2 | 0.59776 | 1.00000 | 0.80749 | 0.61603 |
| | .0000 | .0000 | .0000 | .0000 |
| STIME3 | 0.56372 | 0.80749 | 1.00000 | 0.59772 |
| | .0000 | .0000 | .0000 | .0000 |
| STIME4 | 0.50827 | 0.61603 | 0.59772 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8631

INEFFABILITY

M-,P-, OR S- INEFF1 incapable of being expressed in words
M-,P-, OR S- INEFF2 unable to express adequately through language
M-,P-, OR S- INEFF3 impossible to communicate
M-,P-, OR S- INEFF4 cannot be expressed in words

| | MINEFF1 | MINEFF2 | MINEFF3 | MINEFF4 |
|---|---|---|---|---|
| MINEFF1 | 1.00000 | 0.36313 | 0.38591 | 0.42780 |
| | .0000 | .0000 | .0000 | .0000 |
| MINEFF2 | 0.36313 | 1.00000 | 0.42182 | 0.59265 |
| | .0000 | .0000 | .0000 | .0000 |
| MINEFF3 | 0.38591 | 0.42182 | 1.00000 | 0.54506 |
| | .0000 | .0000 | .0000 | .0000 |
| MINEFF4 | 0.42780 | 0.59265 | 0.54506 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.7683

continued...

| | PINEFF1 | PINEFF2 | PINEFF3 | PINEFF4 |
|---|---|---|---|---|
| PINEFF1 | 1.00000 | 0.62450 | 0.46697 | 0.57678 |
| | .0000 | .0000 | .0000 | .0000 |
| PINEFF2 | 0.62450 | 1.00000 | 0.57409 | 0.76852 |
| | .0000 | .0000 | .0000 | .0000 |
| PINEFF3 | 0.46697 | 0.57409 | 1.00000 | 0.63850 |
| | .0000 | .0000 | .0000 | .0000 |
| PINEFF4 | 0.57678 | 0.76852 | 0.63850 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8611

| | SINEFF1 | SINEFF2 | SINEFF3 | SINEFF4 |
|---|---|---|---|---|
| SINEFF1 | 1.00000 | 0.56184 | 0.52179 | 0.55151 |
| | .0000 | .0000 | .0000 | .0000 |
| SINEFF2 | 0.56184 | 1.00000 | 0.56493 | 0.62331 |
| | .0000 | .0000 | .0000 | .0000 |
| SINEFF3 | 0.52179 | 0.56493 | 1.00000 | 0.67371 |
| | .0000 | .0000 | .0000 | .0000 |
| SINEFF4 | 0.55151 | 0.62331 | 0.67371 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8477

NOETIC SENSE

M-,P-, OR S- NOETIC1 new view of reality is revealed to you
M-,P-, OR S- NOETIC2 experience of...ultimate reality
M-,P-, OR S- NOETIC3 ultimate reality is revealed to you
M-,P-, OR S- NOETIC4 deeper aspects of reality are revealed to you

| | MNOETIC1 | MNOETIC2 | MNOETIC3 | MNOETIC4 |
|---|---|---|---|---|
| MNOETIC1 | 1.00000 | 0.36683 | 0.43680 | 0.55679 |
| | .0000 | .0000 | .0000 | .0000 |
| MNOETIC2 | 0.36683 | 1.00000 | 0.82285 | 0.38513 |
| | .0000 | .0000 | .0000 | .0000 |
| MNOETIC3 | 0.43680 | 0.82285 | 1.00000 | 0.48123 |
| | .0000 | .0000 | .0000 | .0000 |
| MNOETIC4 | 0.55679 | 0.38513 | 0.48123 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8030

continued...

| | PNOETIC1 | PNOETIC2 | PNOETIC3 | PNOETIC4 |
|---|---|---|---|---|
| PNOETIC1 | 1.00000 | 0.51719 | 0.56569 | 0.71477 |
| | .0000 | .0000 | .0000 | .0000 |
| PNOETIC2 | 0.51719 | 1.00000 | 0.79309 | 0.54934 |
| | .0000 | .0000 | .0000 | .0000 |
| PNOETIC3 | 0.56569 | 0.79309 | 1.00000 | 0.61427 |
| | .0000 | .0000 | .0000 | .0000 |
| PNOETIC4 | 0.71477 | 0.54934 | 0.61427 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8695

| | SNOETIC1 | SNOETIC2 | SNOETIC3 | SNOETIC4 |
|---|---|---|---|---|
| SNOETIC1 | 1.00000 | 0.53017 | 0.49439 | 0.56633 |
| | .0000 | .0000 | .0000 | .0000 |
| SNOETIC2 | 0.53017 | 1.00000 | 0.76703 | 0.56943 |
| | .0000 | .0000 | .0000 | .0000 |
| SNOETIC3 | 0.49439 | 0.76703 | 1.00000 | 0.66302 |
| | .0000 | .0000 | .0000 | .0000 |
| SNOETIC4 | 0.56633 | 0.56943 | 0.66302 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8563

POSITIVE AFFECT

M-,P-, OR S- JOY1 experience of profound joy
M-,P-, OR S- JOY2 experience of a perfectly peaceful state
M-,P-, OR S- JOY3 you feel...all is perfection
M-,P-, OR S- JOY4 leaves you with a feeling of wonder

| | MJOY1 | MJOY2 | MJOY3 | MJOY4 |
|---|---|---|---|---|
| MJOY1 | 1.00000 | 0.49951 | 0.33454 | 0.27594 |
| | .0000 | .0000 | .0000 | .0002 |
| MJOY2 | 0.49951 | 1.00000 | 0.31541 | 0.26613 |
| | .0000 | .0000 | .0000 | .0003 |
| MJOY3 | 0.33454 | 0.31541 | 1.00000 | 0.28754 |
| | .0000 | .0000 | .0000 | .0001 |
| MJOY4 | 0.27594 | 0.26613 | 0.28754 | 1.00000 |
| | .0002 | .0003 | .0001 | .0000 |

Cronbach's Alpha 0.6626

continued...

| | PJOY1 | PJOY2 | PJOY3 | PJOY4 |
|---|---|---|---|---|
| PJOY1 | 1.00000 | 0.43140 | 0.39657 | 0.35269 |
| | .0000 | .0000 | .0000 | .0000 |
| PJOY2 | 0.43140 | 1.00000 | 0.43336 | 0.36869 |
| | .0000 | .0000 | .0000 | .0000 |
| PJOY3 | 0.39657 | 0.43336 | 1.00000 | 0.39922 |
| | .0000 | .0000 | .0000 | .0000 |
| PJOY4 | 0.35269 | 0.36869 | 0.39922 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.7228

| | SJOY1 | SJOY2 | SJOY3 | SJOY4 |
|---|---|---|---|---|
| SJOY1 | 1.00000 | 0.48180 | 0.41780 | 0.31989 |
| | .0000 | .0000 | .0000 | .0000 |
| SJOY2 | 0.48180 | 1.00000 | 0.52492 | 0.25585 |
| | .0000 | .0000 | .0000 | .0005 |
| SJOY3 | 0.41780 | 0.52492 | 1.00000 | 0.37280 |
| | .0000 | .0000 | .0000 | .0000 |
| SJOY4 | 0.31989 | 0.25585 | 0.37280 | 1.00000 |
| | .0000 | .0005 | .0000 | .0000 |

Cronbach's Alpha 0.7205

RELIGIOUS QUALITY

M-,P-, OR S- RELI1 experiences which seem holy to you
M-,P-, OR S- RELI2 experiences of something as divine
M-,P-, OR S- RELI3 experiences which you know to be sacred
M-,P-, OR S- RELI4 leave you with a feeling of awe

| | MRELI1 | MRELI2 | MRELI3 | MRELI4 |
|---|---|---|---|---|
| MRELI1 | 1.00000 | 0.41754 | 0.44329 | 0.20601 |
| | .0000 | .0000 | .0000 | .0057 |
| MRELI2 | 0.41754 | 1.00000 | 0.56858 | 0.37514 |
| | .0000 | .0000 | .0000 | .0000 |
| MRELI3 | 0.44329 | 0.56858 | 1.00000 | 0.31177 |
| | .0000 | .0000 | .0000 | .0000 |
| MRELI4 | 0.20601 | 0.37514 | 0.31177 | 1.00000 |
| | .0057 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.7141

continued...

| | PRELI1 | PRELI2 | PRELI3 | PRELI4 |
|---|---|---|---|---|
| PRELI1 | 1.00000 | 0.56307 | 0.68289 | 0.38695 |
| | .0000 | .0000 | .0000 | .0000 |
| PRELI2 | 0.56307 | 1.00000 | 0.55971 | 0.42452 |
| | .0000 | .0000 | .0000 | .0000 |
| PRELI3 | 0.68289 | 0.55971 | 1.00000 | 0.42427 |
| | .0000 | .0000 | .0000 | .0000 |
| PRELI4 | 0.38695 | 0.42452 | 0.42427 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8003

| | SRELI1 | SRELI2 | SRELI3 | SRELI4 |
|---|---|---|---|---|
| SRELI1 | 1.00000 | 0.65231 | 0.64808 | 0.21449 |
| | .0000 | .0000 | .0000 | .0038 |
| SRELI2 | 0.65231 | 1.00000 | 0.57487 | 0.25003 |
| | .0000 | .0000 | .0000 | .0007 |
| SRELI3 | 0.64808 | 0.57487 | 1.00000 | 0.37782 |
| | .0000 | .0000 | .0000 | .0000 |
| SRELI4 | 0.21449 | 0.25003 | 0.37782 | 1.00000 |
| | .0038 | .0007 | .0000 | .0000 |

Cronbach's Alpha 0.7664

CONSEQUENCES : CHANGES IN ATTITUDES

M-,P-, OR S- SELF towards the personal self
M-,P-, OR S- OTHERS changes in attitude and behaviour toward others
M-,P-, OR S- LIFE give a sense of meaning and purpose
M-,P-, OR S- EXP ...regarded as valuable

| | MSELF | MOTHERS | MLIFE | MEXP |
|---|---|---|---|---|
| MSELF | 1.00000 | 0.74614 | 0.66599 | 0.61340 |
| | .0000 | .0000 | .0000 | .0000 |
| MOTHERS | 0.74614 | 1.00000 | 0.68437 | 0.55915 |
| | .0000 | .0000 | .0000 | .0000 |
| MLIFE | 0.66599 | 0.68437 | 1.00000 | 0.60143 |
| | .0000 | .0000 | .0000 | .0000 |
| MEXP | 0.61340 | 0.55915 | 0.60143 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8787

continued...

| | PSELF | POTHERS | PLIFE | PEXP |
|---|---|---|---|---|
| PSELF | 1.00000 | 0.81142 | 0.70571 | 0.66457 |
| | .0000 | .0000 | .0000 | .0000 |
| POTHERS | 0.81142 | 1.00000 | 0.75848 | 0.69468 |
| | .0000 | .0000 | .0000 | .0000 |
| PLIFE | 0.70571 | 0.75848 | 1.00000 | 0.73724 |
| | .0000 | .0000 | .0000 | .0000 |
| PEXP | 0.66457 | 0.69468 | 0.73724 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.9146

| | SSELF | SOTHERS | SLIFE | SEXP |
|---|---|---|---|---|
| SSELF | 1.00000 | 0.64717 | 0.62832 | 0.54763 |
| | .0000 | .0000 | .0000 | .0000 |
| SOTHERS | 0.64717 | 1.00000 | 0.72316 | 0.60463 |
| | .0000 | .0000 | .0000 | .0000 |
| SLIFE | 0.62832 | 0.72316 | 1.00000 | 0.66340 |
| | .0000 | .0000 | .0000 | .0000 |
| SEXP | 0.54763 | 0.60463 | 0.66340 | 1.00000 |
| | .0000 | .0000 | .0000 | .0000 |

Cronbach's Alpha 0.8742

Appendix E

Order Effects: t-tests of Means

Order 1: mystical, synchronicity, parapsychological
Order 2: mystical, parapsychological, synchronicity

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Phenomenological factor | | | | | |
| Parapsych. Exp. | 60.01 | 52.56 | 2.705 | (175) | .0075 |
| Synchronicity | 52.61 | 48.73 | 1.624 | (178) | .1061 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Interpretive factor | | | | | |
| Parapsych. Exp. | 36.54 | 32.56 | 2.601 | (173) | .0101 |
| Synchronicity | 33.54 | 30.98 | 1.824 | (176) | .0698 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Unity | | | | | |
| Parapsych. Exp. | 11.59 | 10.19 | 2.154 | (178) | .0326 |
| Synchronicity | 11.13 | 10.00 | 1.828 | (179) | .0692 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Ego Loss | | | | | |
| Parapsych. Exp. | 12.47 | 11.20 | 1.905 | (178) | .0583 |
| Synchronicity | 10.32 | 9.28 | 1.852 | (178) | .0657 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Sense of Presence | | | | | |
| Parapsych. Exp. | 11.44 | 10.16 | 2.058 | (177) | .0410 |
| Synchronicity | 10.23 | 9.63 | 1.100 | (179) | .2724 |

continued...

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Time/Space alterations | | | | | |
| Parapsych. Exp. | 12.47 | 10.90 | 2.260 | (178) | .0246 |
| Synchronicity | 9.87 | 9.47 | 0.648 | (179) | .5177 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Ineffability | | | | | |
| Parapsych. Exp. | 12.77 | 11.11 | 2.564 | (177) | .0122 |
| Synchronicity | 11.09 | 10.35 | 1.241 | (178) | .2160 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Noetic Quality | | | | | |
| Parapsych. Exp. | 12.55 | 11.30 | 1.933 | (177) | .0548 |
| Synchronicity | 11.01 | 10.43 | 0.986 | (178) | .3343 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Positive Affect | | | | | |
| Parapsych. Exp. | 11.47 | 10.01 | 2.994 | (176) | .0031 |
| Synchronicity | 11.41 | 10.29 | 2.282 | (179) | .0236 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Religious Quality | | | | | |
| Parapsych. Exp. | 11.79 | 10.05 | 2.864 | (174) | .0047 |
| Synchronicity | 11.09 | 10.17 | 1.644 | (177) | .1017 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Consequence index | | | | | |
| Parapsych. Exp. | 12.82 | 11.46 | 2.031 | (178) | .0437 |
| Synchronicity | 11.89 | 10.56 | 2.243 | (178) | .0261 |

continued...

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Attitudes towards self | | | | | |
| Parapsych. Exp. | 3.02 | 2.67 | 1.917 | (178) | .0568 |
| Synchronicity | 2.86 | 2.51 | 2.001 | (178) | .0469 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Attitudes towards others | | | | | |
| Parapsych. Exp. | 3.17 | 2.74 | 2.354 | (178) | .0196 |
| Synchronicity | 2.97 | 2.60 | 2.134 | (178) | .0342 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Meaning and purpose | | | | | |
| Parapsych. Exp. | 3.39 | 2.95 | 2.293 | (178) | .0230 |
| Synchronicity | 3.05 | 2.70 | 2.031 | (178) | .0436 |

| | ORDER 1 | ORDER 2 | t | df | p |
|---|---|---|---|---|---|
| Value and regard for experience | | | | | |
| Parapsych. Exp. | 3.22 | 3.08 | 0.710 | (178) | .4782 |
| Synchronicity | 3.00 | 2.72 | 1.504 | (179) | .1342 |

Appendix F

Gender Differences in Ratings

| Measure | Mean Rating Males | Mean Rating Females | df | F | p |
|---|---|---|---|---|---|
| Phenomenological | | | | | |
| Mystical Exp. | 57.43 | 64.66 | 1,176 | 10.94 | .0080 |
| Parapsy. Exp. | 51.22 | 59.12 | 1,175 | 7.57 | .0066 |
| Synchronicity | 48.42 | 51.85 | 1,178 | 1.89 | .1709 |
| Interpretive | | | | | |
| Mystical Exp. | 35.96 | 40.08 | 1,175 | 9.06 | .0030 |
| Parapsy. Exp. | 31.90 | 35.84 | 1,173 | 5.76 | .0175 |
| Synchronicity | 30.76 | 33.08 | 1,176 | 2.52 | .1144 |
| Unity | | | | | |
| Mystical Exp. | 11.14 | 12.71 | 1,177 | 6.69 | .0105 |
| Parapsy. Exp. | 9.70 | 11.55 | 1,178 | 7.62 | .0064 |
| Synchronicity | 9.89 | 10.93 | 1,179 | 2.57 | .1108 |
| Ego Loss | | | | | |
| Mystical Exp. | 11.43 | 13.04 | 1,179 | 10.32 | .0016 |
| Parapsy. Exp. | 10.49 | 12.59 | 1,178 | 9.56 | .0023 |
| Synchronicity | 9.13 | 10.17 | 1,178 | 3.13 | .0785 |
| Sense of Presence | | | | | |
| Mystical Exp. | 10.76 | 12.18 | 1,179 | 6.77 | .0101 |
| Parapsy. Exp. | 9.73 | 11.41 | 1,177 | 6.77 | .0101 |
| Synchronicity | 9.21 | 10.32 | 1,179 | 3.82 | .0532 |
| Time/Space | | | | | |
| Mystical Exp. | 12.03 | 13.35 | 1,179 | 4.74 | .0308 |
| Parapsy. Exp. | 11.07 | 12.01 | 1,178 | 1.67 | .1938 |
| Synchronicity | 9.64 | 9.68 | 1,179 | 0.00 | .9458 |
| Ineffability | | | | | |
| Mystical Exp. | 12.52 | 13.97 | 1,178 | 6.29 | .0131 |
| Parapsy. Exp. | 10.85 | 12.53 | 1,177 | 6.14 | .0142 |
| Synchronicity | 10.25 | 10.97 | 1,178 | 1.38 | .2414 |
| Noetic Quality | | | | | |
| Mystical Exp. | 11.82 | 12.76 | 1,176 | 2.54 | .1128 |
| Parapsy. Exp. | 10.96 | 12.45 | 1,177 | 4.88 | .0285 |
| Synchronicity | 10.09 | 11.06 | 1,178 | 2.44 | .1204 |

| Measure | Mean Rating Males | Mean Rating Females | df | F | p |
|---|---|---|---|---|---|
| Positive Affect | | | | | |
| Mystical Exp. | 12.12 | 13.44 | 1,178 | 6.36 | .0126 |
| Parapsy. Exp. | 10.32 | 10.96 | 1,176 | 1.50 | .2230 |
| Synchronicity | 10.84 | 10.84 | 1,179 | 0.00 | .9946 |
| Religious Quality | | | | | |
| Mystical Exp. | 11.64 | 13.20 | 1,177 | 7.80 | .0058 |
| Parapsy. Exp. | 9.95 | 11.42 | 1,174 | 5.29 | .2230 |
| Synchronicity | 10.20 | 10.86 | 1,177 | 1.27 | .2604 |
| Consequence Index | | | | | |
| Mystical Exp. | 12.72 | 14.53 | 1,179 | 8.39 | .0042 |
| Parapsy. Exp. | 11.15 | 12.68 | 1,178 | 4.87 | .0286 |
| Synchronicity | 10.70 | 11.51 | 1,178 | 1.65 | .2005 |
| Attitudes / Self | | | | | |
| Mystical Exp. | 3.27 | 3.61 | 1,179 | 3.34 | .0692 |
| Parapsy. Exp. | 2.61 | 2.97 | 1,178 | 3.52 | .0624 |
| Synchronicity | 2.66 | 2.70 | 1,178 | 0.05 | .8157 |
| Attitudes / Others | | | | | |
| Mystical Exp. | 3.06 | 3.56 | 1,179 | 7.93 | .0054 |
| Parapsy. Exp. | 2.66 | 3.13 | 1,178 | 6.03 | .0150 |
| Synchronicity | 2.61 | 2.88 | 1,179 | 2.26 | .1344 |
| Attitudes / Life | | | | | |
| Mystical Exp. | 3.35 | 3.78 | 1,179 | 5.39 | .0214 |
| Parapsy. Exp. | 3.01 | 3.26 | 1,178 | 1.50 | .2224 |
| Synchronicity | 2.69 | 2.98 | 1,179 | 2.60 | .1085 |
| Attitudes / Experience | | | | | |
| Mystical Exp. | 3.03 | 3.56 | 1,179 | 8.42 | .0042 |
| Parapsy. Exp. | 2.86 | 3.32 | 1,178 | 5.42 | .0210 |
| Synchronicity | 2.73 | 2.93 | 1,179 | 1.04 | .3093 |

Appendix G

Effect of Religious Background on Ratings

| Measure | Mean Ratings no religion | religion | t | df | p |
|---|---|---|---|---|---|
| Phenomenological | | | | | |
| Mystical Exp. | 62.09 | 62.00 | .0339 | 164 | .9730 |
| Parapsy. Exp. | 57.21 | 55.85 | .4132 | 164 | .6800 |
| Synchronicity | 51.45 | 49.87 | .5789 | 166 | .5634 |
| Interpretive | | | | | |
| Mystical Exp. | 36.88 | 38.95 | 1.3090 | 164 | .1920 |
| Parapsy. Exp. | 33.27 | 34.75 | .8113 | 161 | .4184 |
| Synchronicity | 31.56 | 32.07 | .3134 | 164 | .7543 |
| Unity | | | | | |
| Mystical Exp. | 12.06 | 12.18 | .1681 | 164 | .8666 |
| Parapsy. Exp. | 10.93 | 10.84 | .1115 | 166 | .9113 |
| Synchronicity | 10.61 | 10.44 | .2393 | 167 | .8111 |
| Ego Loss | | | | | |
| Mystical Exp. | 12.471 | 12.472 | .0090 | 167 | .9928 |
| Parapsy. Exp. | 11.93 | 11.83 | .1292 | 166 | .8973 |
| Synchronicity | 9.86 | 9.66 | .2989 | 166 | .7653 |
| Sense of Presence | | | | | |
| Mystical Exp. | 11.65 | 11.64 | .0311 | 167 | .9752 |
| Parapsy. Exp. | 10.86 | 10.75 | .1438 | 166 | .8858 |
| Synchronicity | 10.18 | 9.72 | .7315 | 167 | .4654 |
| Time/Space | | | | | |
| Mystical Exp. | 12.90 | 12.88 | .0301 | 167 | .9760 |
| Parapsy. Exp. | 12.18 | 11.51 | .8079 | 166 | .4203 |
| Synchronicity | 9.86 | 9.56 | .4295 | 167 | .6681 |
| Ineffability | | | | | |
| Mystical Exp. | 13.47 | 13.42 | .0745 | 166 | .9407 |
| Parapsy. Exp. | 12.02 | 11.89 | .1622 | 165 | .8713 |
| Synchronicity | 11.00 | 10.55 | .6356 | 166 | .5259 |
| Noetic Quality | | | | | |
| Mystical Exp. | 12.27 | 12.35 | .1167 | 164 | .9072 |
| Parapsy. Exp. | 11.81 | 11.89 | .0990 | 165 | .9212 |
| Synchronicity | 11.00 | 10.50 | .7159 | 166 | .4750 |

| Measure | Mean Ratings no religion | religion | t | df | p |
|---|---|---|---|---|---|
| Positive Affect | | | | | |
| Mystical Exp. | 12.61 | 12.95 | .5689 | 167 | .5701 |
| Parapsy. Exp. | 10.46 | 10.78 | .5562 | 164 | .5788 |
| Synchronicity | 10.59 | 10.76 | .3090 | 167 | .7577 |
| Consequence Index | | | | | |
| Mystical Exp. | 13.65 | 13.94 | .3924 | 166 | .6952 |
| Parapsy. Exp. | 12.06 | 12.13 | .0859 | 166 | .9316 |
| Synchronicity | 10.67 | 11.29 | .8680 | 166 | .3866 |
| Attitudes / Self | | | | | |
| Mystical Exp. | 3.31 | 3.55 | 1.1070 | 166 | .2699 |
| Parapsy. Exp. | 2.81 | 2.84 | .1310 | 166 | .8959 |
| Synchronicity | 2.39 | 2.74 | 1.7100 | 166 | .0886 |
| Attitudes / Others | | | | | |
| Mystical Exp. | 3.31 | 3.41 | .4776 | 167 | .6335 |
| Parapsy. Exp. | 2.86 | 3.00 | .6243 | 166 | .5333 |
| Synchronicity | 2.70 | 2.80 | .6161 | 167 | .5022 |
| Attitudes / Life | | | | | |
| Mystical Exp. | 3.63 | 3.61 | .0957 | 167 | .9238 |
| Parapsy. Exp. | 3.13 | 3.17 | .1803 | 166 | .8571 |
| Synchronicity | 2.86 | 2.87 | .0407 | 167 | .9676 |
| Attitudes / Experience | | | | | |
| Mystical Exp. | 3.38 | 3.36 | .1233 | 167 | .9022 |
| Parapsy. Exp. | 3.25 | 3.11 | .6073 | 166 | .5414 |
| Synchronicity | 2.70 | 2.87 | .7698 | 167 | .4424 |

Appendix H

Effect of Cultural Background on Ratings

| Measure | Mean Ratings Western | Non-Western | \| t \| | df | p |
|---|---|---|---|---|---|
| Phenomenological | | | | | |
| Mystical Exp. | 60.91 | 63.92 | 1.449 | 176 | .1491 |
| Parapsy. Exp. | 54.71 | 58.92 | 1.563 | 175 | .1191 |
| Synchronicity | 48.18 | 54.56 | 2.630 | 176 | .0090 |
| Interpretive | | | | | |
| Mystical Exp. | 38.10 | 39.42 | 1.021 | 169 | .3085 |
| Parapsy. Exp. | 34.19 | 34.85 | .427 | 169 | .6695 |
| Synchronicity | 31.36 | 33.69 | 1.610 | 176 | .1090 |
| Unity | | | | | |
| Mystical Exp. | 12.05 | 12.30 | .416 | 177 | .6774 |
| Parapsy. Exp. | 10.45 | 11.59 | 1.706 | 178 | .0897 |
| Synchronicity | 10.32 | 10.94 | 1.016 | 169 | .3110 |
| Ego Loss | | | | | |
| Mystical Exp. | 12.50 | 12.40 | .184 | 179 | .8536 |
| Parapsy. Exp. | 12.01 | 11.55 | .704 | 170 | .4822 |
| Synchronicity | 9.21 | 10.73 | 2.663 | 178 | .0080 |
| Sense of Presence | | | | | |
| Mystical Exp. | 11.20 | 12.43 | 2.283 | 179 | .0236 |
| Parapsy. Exp. | 10.30 | 11.61 | 2.042 | 177 | .0426 |
| Synchronicity | 9.29 | 10.95 | 2.999 | 179 | .0031 |
| Time/Space | | | | | |
| Mystical Exp. | 12.61 | 13.30 | 1.136 | 179 | .2574 |
| Parapsy. Exp. | 11.35 | 12.20 | 1.182 | 178 | .2385 |
| Synchronicity | 9.06 | 10.06 | 2.581 | 179 | .0106 |
| Ineffability | | | | | |
| Mystical Exp. | 13.28 | 13.71 | .762 | 178 | .4686 |
| Parapsy. Exp. | 11.71 | 12.30 | .878 | 177 | .3807 |
| Synchronicity | 10.35 | 11.30 | 1.575 | 178 | .1168 |
| Noetic Quality | | | | | |
| Mystical Exp. | 12.01 | 13.11 | 1.916 | 176 | .0569 |
| Parapsy. Exp. | 11.54 | 12.54 | 1.502 | 177 | .1349 |
| Synchronicity | 10.25 | 11.48 | 2.029 | 178 | .0439 |

| Measure | Mean Ratings Western | Mean Ratings Non-Western | \| t \| | df | p |
|---|---|---|---|---|---|
| Positive Affect | | | | | |
| Mystical Exp. | 12.83 | 13.19 | .684 | 178 | .4947 |
| Parapsy. Exp. | 10.46 | 11.15 | 1.424 | 170 | .1562 |
| Synchronicity | 10.58 | 11.27 | 1.361 | 179 | .1752 |
| Religious Quality | | | | | |
| Mystical Exp. | 12.49 | 12.89 | .759 | 165 | .4489 |
| Parapsy. Exp. | 10.89 | 10.91 | .017 | 174 | .9858 |
| Synchronicity | 10.42 | 10.95 | .924 | 177 | .3565 |
| Consequence Index | | | | | |
| Mystical Exp. | 13.73 | 14.13 | .631 | 179 | .5289 |
| Parapsy. Exp. | 11.81 | 12.65 | 1.277 | 168 | .2033 |
| Synchronicity | 10.98 | 11.61 | 1.021 | 178 | .3083 |
| Attitudes / Self | | | | | |
| Mystical Exp. | 3.46 | 3.53 | .393 | 179 | .6941 |
| Parapsy. Exp. | 2.73 | 3.01 | 1.454 | 178 | .1477 |
| Synchronicity | 2.65 | 2.75 | .541 | 178 | .5891 |
| Attitudes / Others | | | | | |
| Mystical Exp. | 3.40 | 3.36 | .217 | 179 | .8285 |
| Parapsy. Exp. | 2.90 | 3.05 | .820 | 178 | .4131 |
| Synchronicity | 2.70 | 2.92 | 1.238 | 179 | .2171 |
| Attitudes / Life | | | | | |
| Mystical Exp. | 3.53 | 3.78 | 1.334 | 179 | .1837 |
| Parapsy. Exp. | 3.09 | 3.28 | .961 | 178 | .3376 |
| Synchronicity | 2.83 | 2.94 | .574 | 179 | .5667 |
| Attitudes / Experience | | | | | |
| Mystical Exp. | 3.33 | 3.44 | .635 | 179 | .5261 |
| Parapsy. Exp. | 3.07 | 3.28 | 1.102 | 178 | .2718 |
| Synchronicity | 2.78 | 2.98 | 1.071 | 179 | .2855 |

# Appendix I

## Factor Loadings of the Modified M-Scale

Note: "#" refers to item number in questionnaire

| | | FACTORS | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Item | # | F-I | F-II | F-III | F-IV | F-V | F-VI | F-VII |
| Unity1 | (12) | .7410 | | | | | | |
| Unity2 | (19) | .6471 | | | | | | |
| Unity3 | (28) | .6686 | | | | | | |
| Unity4 | (30) | .6165 | | | | | | |
| Pres 1 | ( 8) | .6288 | | | | | | |
| Pres 2 | (10) | .5130 | | | | | | |
| Pres 3 | (29) | .6403 | | | | | | |
| Pres 4 | (31) | .5599 | | | | | | |
| Ego 1 | ( 6) | .5966 | | | | | | |
| Ineff1 | ( 2) | | .5509 | | | | | |
| Ineff2 | (21) | | .7313 | | | | | |
| Ineff3 | (23) | | .7738 | | | | | |
| Ineff4 | (32) | | .8073 | | | | | |
| Relig4 | (22) | | .5661 | | | | | |
| Time 1 | ( 1) | | | .5620 | | | | |
| Time 2 | (11) | | | .7666 | | | | |
| Time 3 | (15) | | | .8072 | | | | |
| Time 4 | (27) | | | .6807 | | | | |
| Ego 2 | ( 4) | | | .4806 | | | | |
| Noetic1 | (13) | | | | .6138 | | | |
| Noetic4 | (26) | | | | .7176 | | | |
| Affect4 | (25) | | | | .4939 | | | |
| Ego 4 | (24) | | | | .3939 | | | |
| Relig1 | ( 9) | | | | | .6846 | | |
| Relig2 | (14) | | | | | .5254 | | |
| Relig3 | (20) | | | | | .6208 | | |
| Ego 1 | ( 3) | | | | | .4822 | | |
| Noetic2 | (16) | | | | | | .7655 | |
| Noetic3 | (17) | | | | | | .7413 | |
| Affect3 | (18) | | | | | | .4705 | |
| Affect1 | ( 5) | | | | | | | .7082 |
| Affect2 | ( 7) | | | | | | | .7187 |

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FAX

Dear Steve,

Thank you very much for the completed copy of your thesis. It does appear to be a good read, and I will get on it soon.

For the record, I find your use of the M-scale both appropriate and scientifically responsible. This note confirms that you obtained my permission to use this scale.

Sincerely,

Ralph W. Hood Jr.
Professor