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The Relationship Between Individual Differences In Imaginal Ability, Christian Imaginal Frequency, And Christian Spirituality

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The relationship between individual differences
in imaginal ability, Christian imaginal frequency,
and Christian spirituality

by

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Approval

The relationship between individual differences
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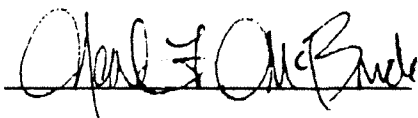
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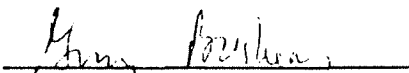
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Abstract

The relationship between the constructs of imaginal ability (vividness and control), Christian imaginal frequency, and Christian spirituality (well-being, maturity, and experience) was investigated. Eighty randomly sampled students from a private Bible college participated in the study. The measures used were the Sheehan (1967) shortened version of the Betts (1909) Questionnaire of Mental Imagery, the Gordon (1949) Test of Visual Imagery Control, updated by Richardson (1969), Ellison and Paloutzian's (Ellison, 1983) Spiritual Well-being Scale, Ellison's (Ellison, Rashid, Patla, Calica & Haberman, 1984) Spiritual Maturity Index, Hood's (1975) Mysticism Scale, and the Christian Use of Imagery Inventory that was specially designed for use in this study.

The results indicated there is a significant positive canonical correlation between the constructs of Christian imaginal frequency and Christian spirituality, and Christian imaginal frequency and imaginal ability, but no significant relationship was found between imaginal ability and Christian spirituality. It was found the instruments comprising the construct of Christian spirituality (Spiritual Well-being Scale, Spiritual Maturity Index, and Hood's Mysticism Scale) did not relate together well.

Christian imaginal frequency (as measured by the Christian Use of Imagery Inventory) only significantly related to Hood's Mysticism Scale, and not to the Spiritual Well-being Scale and the Spiritual Maturity Index. Further, it was found Christian imaginal frequency related to a particular type of imaginal vividness ability - emotive imagery. The findings support previous research in emotional control with Christian subjects. Also, the Christian Use of Imagery Inventory produced two potentially important variables not previously investigated: imaginal frequency and time orientation. The results contribute to our understanding of the role of imagery in religious experience.

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First, I acknowledge the grace of my Lord, Jesus Christ, who "gives wisdom to the wise and knowledge to the discerning," and "reveals deep and hidden things. . . a God in heaven who reveals mysteries" (Daniel 2:22,23,28).

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Fourth, I acknowledge the instruction and guidance of my dissertation committee: Dr. Gerry Breshears, Dr. Neal McBride, and particularly my chairman, Dr. Roger Bufford. These men have helped to "turn my ear to wisdom and apply my heart to understanding" (Proverbs 2:2).

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Chapter 1

INTRODUCTION

It has long been known that images - whether visions, dreams, ecstatic experiences, etc. - have been part of the lives of those deeply involved in religion. Yet, there has never been a study done to assess whether there is a relationship between imaginal ability, imaginal frequency, and spirituality. William James (1958) showed imaginal experience was legitimately a part of the life of those with religious beliefs. Various studies have shown use of religious imagery is effective for treating clients who are involved in the Christian religion (e.g. Probst, 1980). Hood (1970) found those with an intrinsic religious orientation (regard faith as a supreme value in its own right) reported more religious imagery experiences than those extrinsically religiously oriented (endorse religion for what it gives the person in return). Though it appears from this data imaginal experiences are an important dimension in a religious person's life, whether those that have greater imaginal ability are also more spiritual has not been investigated. Nor has there been a study of whether those who report themselves as highly spiritual use more imagery in their

religious practices. If either of these relationships were shown to be positive, then this would have significant implications for understanding religious involvement, and possibly deepening spiritual convictions - whether by education or counseling.

In this study, imaginal ability was operationally defined by the use of two self-report measures: the Betts (1909) Questionnaire of Mental Imagery (QMI) (Sheehan, 1967, shortened version), and the Gordon (1949) Test of Visual Imagery Control (updated by Richardson, 1969). Spirituality was operationally defined by three self-report measures: Ellison and Paloutzian's (Ellison, 1983) Spiritual Well-Being Scale, Ellison's (Ellison, Rashid, Patla, Calica & Haberman, 1984) Spiritual Maturity Scale, and Hood's (1975) Mysticism Scale. A questionnaire was developed to assess the frequency of religious imagery use - the Christian Use of Imagery Inventory. It was predicted that degree of imaginal ability is positively correlated with degree of Christian spirituality, and that both are positively correlated with frequency of using Christian imagery.

In reviewing the literature in this area, I will discuss what is imagery, and its contribution to psychotherapy, creativity, emotional control and hypnosis. I will then discuss Christian spirituality, what it is, and the scales I will use to measure it. Third, I will discuss imagery in the Bible, and the rationale of

the Christian Use of Imagery Inventory. Last, I will specify the hypotheses for this study, and further questions to be asked of the data.

Imagery

Definition. Researchers do not have as yet a clear understanding as to what constitutes the mind's imaginal process. There is currently a debate within the literature as to whether individuals do actually encode information pictorially - the pictorialization camp (e.g. Kosslyn, 1980, 1981; Kosslyn & Pomerantz, 1977), while others deny a notion of pictorial mental representations - the propositionalization camp (e.g. Pylyshyn 1973, 1981). Many hold to Pavio's "dual code theory" (Pavio 1971, 1978): we utilize two different but redundant coding systems to represent the world, a pictorial system and a linguistic system. Others argue one cannot separate the two processes, but that they are inter-related; it is difficult to separate the perception (internal or external) from the interpretation (Kolers, 1983). Kolers (1983) suggests, in his review of the literature on perception and representation, that scientists should focus on "the pragmatic rather than the ontological status of imagery," and that this "may be the richer road for the study of perception and mind" (p. 153).

In consideration of a pragmatic definition of imagery, this study will use Richardson's (1967) description of mental imagery as referring to:

(1) all those quasi-sensory or quasi-perceptual experiences of which (2) we are self-consciously aware, and which (3) exist for us in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts, and which (4) may be expected to have different consequences from their sensory or perceptual counterparts.

(p. 2-3)

This definition is general enough to include any sort of internally generated phenomenon that occurs within a person's sensory or perceptual experience. Imagery is not just "picturing" something, a "visual" process, but can include all the senses and perceptions. This is important in light of the Betts (1909) Q.M.I. Vividness of Imagery Scale used in this study, because the scale measures imaginal production in seven major sensory modalities (as delineated by Betts): auditory, kinaesthetic, gustatory, olfactory, organic, cutaneous, and visual. Spiritual experiences could be in any of, or a combination of, the above identified modalities (Ferguson, 1977). In this study, no differentiation was made between the terms "imaginal," "imagination," "imagery," "fantasy," "mental rehearsal," etc., -

all of these terms are under the definition given above; the terms can be used synonymously to describe the behavior that was under investigation in this study.

Imaginal ability involves more than just producing an internal image, it also involves the ability to manipulate, change, or control that image (Richardson, 1967). The Gordon Test of Imagery Control is often used in research in conjunction with the Betts Questionnaire of Mental Imagery (Q.M.I.) to get a more complete picture of an individual's imaginal ability. The two tests are the most widely used and best known imagery questionnaires in imagery research (White, Sheehan, and Ashton, 1977). These two tests were used in many of the studies to be reviewed below. Both of these tests were used in this study.

Imagery in Psychotherapy. For many decades, clinicians have been effectively using imagery in their therapy. Psychoanalysts since Freud have used the mind's imaginal processes to tap into the symbolic unconscious life of their patients through the techniques of free association and dream interpretation. Behaviorists have used guided imagery for systematic desensitization. Gestaltists use the client's imaginal ability in role play techniques. Cognitivists have used imaginal exercises to condition their clients toward being more assertive. Imaginal

processes are used in bibliotherapy and athletic training as well. (Beck, 1970; Cautela, 1977).

In psychotherapy with a Christian population, Probst (1980) found that therapeutic use of religious imagery had significantly greater effect in treating mild depression in religious individuals than nonreligious imagery treatment. Johnson (1982) found that biblical imagery training was effective in the lowering of anxiety. Tapscott (1975) advocates an approach that helps the Christian receive "inner healing" by visualizing the presence of Christ in the individual's past painful experiences.

Imagery plays a potentially important role in the health and well-being of an individual. It is possible that natural imagery use, as part of the practice of those in a religious system, can contribute in a healthy/productive way to an individual's spiritual conviction, maturity, and experience.

Imagery and Creativity. Richardson and Taylor (1969) in reviewing research on imagery and personality characteristics, support the notion that "imagery is more likely to manifest itself in the person who has the most creative potential" (p. 106). Barron (1958, 1963) advocates a similar position. Gardner (1978) emphasizes that imagery plays an essential role in the development of art production. Hasnain and Husain (1980) studied whether creative imagination was equivalent to visual and auditory

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imagination, and concluded that all these imagining processes do have an equal relationship to one another in creative production. If imaginal ability is characteristic of those who are creative, then imagining may contribute to the connection many are advocating between creativity and psychological well-being. Torrance (1962) stated that creativity was important for mental health, memory and intellectual functioning, problem solving, and for the future growth of our society. Czurlies (1976) contrasted those that are creative as having a zest for life, hope, feelings of meaningfulness, deep involvement, enjoyment of being, and increased self-esteem; versus the nonparticipating spectators who tend to be more apathetic, despairing, fearful, self-centered, and dissatisfied.

Imagining plays an important role in the creativity of an individual, and creativity contributes to a person's positive psychological functioning. Many artists (e.g. Michaelangelo, and Rembrandt) have claimed their art productions have come from religious inspiration; creativity for many is a "spiritual" exercise. The Biblical narrative has been a popular source of "images" which have been expressed in many masterful works. There may be a connection between imagery, particularly the good imaginal ability needed for creative production (in work, play, or art), and spirituality.

Imagery and Emotional Control. Richardson and Taylor (1982) in an experimental study concluded those with high imagery ability were able to change their mood states more easily than those with low imagery ability. Similarly, Koff, Borod and White (1983) found subjects reported visualizing an image or situation in producing emotional facial expressions. Tunner (1982), in a study of subjective distancing, reports "emotions can be intensified or weakened through interaction with imaginative cognitions" (abstract). Lang (1979, 1980) finds as well that differentiated efferent activity is associated with type and content of imaginal activity, and this gives rise to his "bio-informational theory of emotional imagery." Gold, Jarvinen and Teague (1982) found vividness of imagery correlated significantly with depression reduction. Singer (1971) finds imagery techniques within therapy is a valuable aid for relieving emotional and physical stress.

James (1958) claims "the causes of human diversity lie chiefly in our differing susceptibilities of emotional excitement, and in the different impulses and inhibitions which these bring in their train" (p. 208). James contends it is the control or inhibition of emotion that leads to a saint's asceticism, strength of soul, purity, and charity. If, as the above studies suggest, imagery is connected to emotional response, and intensity and discipline of emotional expression is characteristic of those

deeply religious, then imagery may have a role in one's spirituality.

Imagery and Hypnosis. Many investigators have found a positive relationship between vividness of imaginal ability and hypnotic susceptibility (Palmer, 1966; Palmer & Field, 1968; Sutcliff, Perry, & Sheehan, 1970; Hilgard, 1970). Sheehan (1965) argues the more vivid a hypnotic subject's mental imagery, the more easily will the subject be able to experience suggested effects. Story-telling metaphors and images are used by some hypnotists to induce trance states (Bandler & Grinder, 1975, 1981).

Within Christianity, some advocate the mystic's experience is often the result of a self-induced trance state (Mallory, 1977). Hood (1973) found persons reporting "deeper" hypnotic experiences also scored higher on mysticism. There is perhaps some hint of this in the Bible from the Apostle John. In the Book of Revelation, before John receives his famous vision, it is recorded that he was "in the Spirit." This is interpreted by Smith (1961) as being in a "trance," because it similarly compares with other Biblical passages before a vision is revealed (Ezekiel 2:2; 3:12, 14; 8:3; 11:1, 24; 37:1; 43:5; Acts 10:10, 11; 11:5; 22:17, 18). John also used the most "images" in his narrative of Christ compared to the other Gospel writers. Hence a possible connection

between imaginal ability, hypnotic susceptibility, and the spirituality of a leading figure in Christianity.

Summary. Imagery has been broadly defined as: self-conscious quasi-sensory or quasi-perceptual experiences which exist in the absence of genuine sensory or perceptual stimuli, but still have sensory or perceptual consequences. Two imagery scales will operationally define imaginal ability in this study: the Betts Q.M.I. and the Gordon Test. These scales are the most widely known and used instruments in imagery research. Imagery's relationship to psychotherapy, creativity, emotion, and hypnosis has been reviewed. It is argued that in the above areas, there may be some overlap with Christian spirituality. The purpose of this study is to begin the process of empirically testing whether there is a positive relationship between imaginal ability, Christian imaginal frequency, and Christian spirituality.

Christian Spirituality

Definition. "Spirituality" is a difficult concept to define (as is the mind's imaginal process). Though the word is currently popular, it is also relatively new; it is difficult to find the meaning of the word in Biblical or theological dictionaries (Houston, 1984). However, the concept of "spirituality" has existed throughout the church age, but usually under different

titles, like: holiness, Godliness, piety, devotion, etc. It is often associated with monasticism, asceticism, and mysticism.

O'Brien (1979), describes "spirituality" as constituting particular spiritual exercises. Prayer is most often cited, but generally any type of contemplative practice that "deepens the inner life," and helps rid the self of the "worldly" is what is meant by spirituality. Dunn (1971) in looking at what the Apostle Paul describes as a "spiritual man," states "they are possessed by and manifest the Spirit of God more than others" (p. 707). In general, he suggests that spirituality consists of a loving, selfless concern for people, and an ability to discern the will of God. Houston (1984) suggests that Christian spirituality is comprised of a lifestyle that is centered in Christ, is in relationship to the Trinity and the fellowship of believers, is characterized by obedience, and manifesting the "fruits of the Spirit." Wakefield (1983), in the "Westminster Dictionary of Christian Spirituality," defines spirituality as "those attitudes, beliefs, practices which animate people's lives and help them to reach out towards super-sensible realities" (p. 361).

In synthesizing the above definitions, I suggest "spirituality" can be conceived of as: First, a belief or attitude concerning the degree of positive involvement God has in a person's life. This is an ongoing relationship with God that

affects the individual's perception of him/herself and the world (a sense of "well-being"). Second, the degree of the person's genuine expression of that belief by convictions and acts conforming to the teachings of the religion he/she has learned. These are acts of obedience (by service, study, character changes, or participation with fellow believers) as the person grows in maturity in his/her faith. Third, the quantity or quality of the person's extraordinary experiences that is interpreted as confirming his/her belief. These are experiences unique to the person motivating him/her to continued, or deeper, religious belief and practice.

By analogy, "spirituality" might be compared to our own physiology. First, at any given period of time we will "feel" a certain way. I might have stayed up late last night, and feel lethargic today, or I might have looked in the mirror at my big nose and feel like I am an ugly person. These things affect my general sense of "well-being." Second, my body reflects characteristics that are the result of maturation, and the beliefs I have. For example, I may have greying hair, a wrinkled face, and believe it is not important to exercise that much, consequently I am old and fat. Thirdly, I have had experiences which uniquely effected my physique. I may have lost an arm during a war, or have a scar on my chin due to an accident. These

unique events affect how I feel about myself, and what I am capable of, or motivated about, in regards to my body.

The three scales used in this study, Spiritual Well-Being, Spiritual Maturity, and Mysticism, were selected to access by self-report the above three-part definition of spirituality.

Spiritual Well-Being. Ellison's and Paloutzian's Spiritual Well-Being Scale (Ellison, 1983) is used in this study to assess one particular dimension of spirituality, as defined above: a belief or attitude concerning the degree of positive involvement God has in a person's life. This is an ongoing relationship with God that affects the individual's perception of him/herself and the world (a sense of "well-being"). Campbell (1981) postulated that well-being depends on the satisfaction of three basic kinds of need: the need for having, the need for relating, and the need for being. To this Ellison (1983) adds a fourth, the need for transcendence. He defines this as referring to "the sense of well-being that we experience when we find purposes to commit ourselves to which involve ultimate meaning for life; it refers to a non-physical dimension of awareness and experience which can best be termed spiritual" (p. 330-331). Ellison (1983), citing Moberg (1971), further defines spiritual well-being as involving a vertical and a horizontal dimension - a religious component and a social-psychological (existential) component. These two

components form subscales in the test. "In order to sharpen our conceptualization," Ellison (1983) states that:

. . . spiritual well-being may not be the same thing as spiritual health. Rather it arises from an underlying state of spiritual health and is an expression of it,
Spiritual well-being also does not appear to be the same as spiritual maturity, though we would expect a spiritually mature person to have a very positive sense of well-being.
. . . Spiritual well-being should be seen as a continuous variable, rather than as dichotomous. It is not a matter of whether or not we have it. Rather it is a question of how much, and how we may enhance the degree of spiritual well-being that we have. (p. 332)

In support of the need for this construct, Ellison (1983) quotes a Gallup poll survey which found that 86 percent of Americans regard their religious beliefs as fairly or very important. Campbell, Converse and Rodgers (1976) found that for 25 percent of the American population, religious faith was highly important for their quality of life. Ellison's conceptualizations also supports the work of Moberg (1979), and Moberg and Brusek (1978). Bufford and Johnston (1982) cite evidence that the Church is a vital resource for maintaining mental health, particularly because many researchers are finding that natural social support

systems enhance an individual's ability to cope with life in an effective way. Moos (1977) found that finding purpose or meaning for the experiences in life is important for maintaining positive mental health.

In the use of his scale, Ellison and his colleagues (1983) have found significant correlations between spiritual well-being and: self-esteem, perceived quality of parent-child relationships, family togetherness, childhood peer relations, and social skills. He has found negative correlations with such value orientations as success, individualism and personal freedom. It also negatively correlates with loneliness, depression, and living in a large city. Ellison (1983) claims his conceptualizations are supported by the fact the measure correlates highly with the Purpose in Life Test (Crumbaugh & Maholick, 1969), and with intrinsic religious orientation (Allport & Ross, 1967). The scale is positively correlated with various religious variables: level of religious commitment, church attendance, devotional practice, etc. Two of Ellison's (1983) recommendations for further research are "to investigate how spiritual well-being (SWB) as we have conceived of it and measured it relates to various expressions of transcendence and mystical experience" (p. 337); secondly, "the SWB Scale might be used in connection with personality measures to more clearly determine the nature of any relationships between psychological

traits and orientations and spiritual health" (p. 337-338). The present study attempts to look at these relationships: spiritual well-being, with mysticism, imaginal ability and Christian imaginal frequency.

Spiritual Maturity. The second dimension of spirituality as defined in this study is: the degree of the person's genuine expression of his/her belief by convictions and acts conforming to the teachings of the religion he/she has learned. These are acts of obedience (by service, study, character changes, or participation with fellow believers) as the person grows in maturity in his/her faith. Ellison et al. (1984) discuss spiritual maturity along Maslow's (1971) conceptualization of a self-actualizing person. Ellison defines a spiritually mature person as being autonomous but self-principled, who is firm in his convictions without being dogmatic, he identifies his identity in terms of his relationship with God, religious beliefs are an important part of his life, and he is deeply involved with the religious practices of his faith. Ellison also suggests, quoting Kao (1981) that such an individual would include creativity in his everyday life. Table 1 gives a list of the basic conceptualizations Ellison used in constructing his questionnaire.

Ellison et al. (1984) have found that the Spiritual Maturity Index had significantly positive correlations with Spiritual

Table 1

Basic Conceptualization of Spiritual Maturity

1. Don't need institutional structure to express Christianity.
2. Religious beliefs/practices are a spontaneous part of everyday life.
3. Doesn't need social support (agreement) to maintain faith and practice.
4. Not narrow-minded/dogmatic but do have firm beliefs.
5. Giving rather than self-focused.
6. Had definite purpose for life related to spiritual life.
7. Sacrificial.
8. Close relationship with God/control identity - service to God.
9. Actively using Spiritual Gifts.
10. Lives evidence fruits of spirit, compatible with Scripture.
11. Ultimate goals - spiritually focused.
12. Able to accept "negatives" of life as part of God's plan/not bitter.
13. Forsakes self-gain if the gain violates or detracts from spiritual values/principles.
14. Spends time studying Scripture in-depth.
15. Has active desire to share personal faith.

(Table 1 continued)

16. Tries to love neighbor as self.
17. Has a live, personal prayer life.
18. Perceives movement toward spiritual maturity.

Note. From correspondence with Ellison, 1984.

Spiritual Well-Being, self-esteem, with the feeling of being valued by God, perception of the church community being warm and caring, doctrinal beliefs, worship, a sense of God given purpose for life, and devotional practice.

That the Spiritual Maturity Index correlated highly with Spiritual Well-Being and "follow similar patterns of correlation with other factors supports the idea that both are aspects of the same conceptual dimension" (p. 17), states Ellison et al. (1984). Ellison and his colleagues do not further state how the two measures may differ from one another. They state in describing the tests, that Spiritual Well-Being measures religious and existential well-being (p. 12), and that Spiritual Maturity assesses the depth of the subject's faith and his relationship with God (p. 13), but the two concepts are not contrasted with one another in discussion.

The reported correlation was .57 ($r(239)$, $p < .001$) between the Spiritual Well-being Scale and the Spiritual Maturity Index suggesting they share 32% of common variance. I believe the difference between the measures (the unaccounted variance) can best be seen in the types of questions they ask. The Spiritual Well-Being test seems to assess the degree to which an individual feels that God is a positive influence in his/her life (religious well-being subscale), or that the person believes by some existential conviction that his/her life is worthwhile (existential well-being subscale). Examples are, "I believe that God loves me and cares about me," and "I feel very fulfilled and satisfied with life." The Spiritual Maturity Index, on the other hand, seems to assess the degree to which the above impressions influence attitudes and behavior. An example is, "I find that following Christ's example of sacrificial love is one of my most important goals." (The items of the tests are given in full in appendices E and F). The latter scale is addressing general Christian principles of faith and practice, while the former scale is intentionally ambiguous concerning any specific religious or philosophical orientation. I include both measures in the study, because I am defining spirituality to include a conviction of spiritual well-being - the belief that God is positively involved in one's life and/or one's life is worthwhile, and that a

"spiritual person's" attitudes and practices will conform to their belief (spiritual maturity). A definition of "spirituality" would be incomplete without both concepts.

Mysticism. The third concept given for a definition of "spirituality," is the quantity or quality of the person's extraordinary experiences that is interpreted as confirming his/her belief. These are experiences unique to the person that motivates him/her to continued, or deeper, religious belief and practice. Images were used by "mystics" throughout church history. Holmes (1980) reviews the lives of the western "spiritualists" (another term used for mystics) and finds that "in each age, and often in each individual, the experience of God is thematized by certain key images. These images represent both the way to openness before God and the result of the experience of God" (p. 11). Holmes categorizes these images into two types: "instrumental" images pertain to an individual's walk with God - how an individual deepens their religious commitment; "terminal" images describe an individual's encounter ("union") with God.

For example, the sixteenth century mystic, Ignatius Loyola, wrote a treatise on how an individual can prepare him/herself for an experience of God using images. In the fourth of his five methods, he specifically asks the initiate to take an image (e.g. the Trial of Jesus, his Passion, the Resurrection, etc.) and apply

each of the five senses to that image. The adherent would ask him/herself, "What do I see (or hear, smell, taste, feel), as I contemplate this image," as if the individual was actually at the situation being imagined. The above is an example of the use of instrumental images. Some terminal images used by the sixteenth century Spanish mystics are: "the greater glory of God," "spiritual marriage," and "union of likeness" (Holmes, 1980).

Beyond the images used by (or revealed to) mystics are the experiences themselves. Mystics often use images to explain the experience they have had, but it is not the same as the experience itself (as the images for Christ in the Bible are not actually Christ). For example, Saint Teresa (James, 1958) writes:

One day, being in orison [a system of meditation to elevate the soul toward God] it was granted to me to perceive in one instant how all things are seen and contained in God. I did not perceive them in their proper form, and nevertheless the view I had of them was of sovereign clearness, and has remained vividly impressed upon my soul. It is one of the most signal of all the graces which the Lord has granted me. . . . The view was so subtle and delicate that the understanding cannot grasp it. (p. 315).

James (1958) comments:

She [Teresa] goes on to tell how it was as if the Deity were an enormous and sovereignly limpid diamond, in which all our actions were contained in such a way that their full sinfulness appeared evident as never before. (p. 316).

Here, Teresa has a mystical (ecstatic, visionary) experience, which cannot be fully comprehended, but still goes on to try and relate that experience by the use of an image - a diamond.

Stace (1960) studied many mystical experiences, like the one exemplified above, and found eight qualities these experiences have in common. These eight qualities are operationally defined by Hood (1975), and are used to form the conceptual framework of his Mysticism Scale (Research Form D). These eight qualities are listed in Table 2.

Hood (1975, 1977) has found in the use of this scale, that it is significantly positively correlated with intrinsic religious orientation (Hoge, 1972), Taft's (1970) Ego Permissiveness Scale, and self actualization as measured by Shostrom's (1974) Personal Orientation Inventory.

Factor analysis shows Hood's (1975) scale to be broken down into two subscales - a minimal purely experiential component, and a more religious interpretive component. This is similar to the Spiritual Well-Being Scale (Ellison, 1983) which is similarly

Table 2

Stace's Eight Qualities of Mystical Experience

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.
2. Unifying Quality: Refers to the experience of the multiplicity of objects of perception as nevertheless united. Everything is in fact perceived as "One."
3. Inner Subjective Quality: Refers to the perception of an inner subjectivity to all things, even those usually experienced in purely material forms.
4. Temporal/Spatial Quality: Refers to the temporal and spatial 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."
5. Noetic Quality: Refers to the experience as a source of valid knowledge. Emphasis is on a nonrational, intuitive, insightful experience that is nevertheless recognized as not merely subjective.

(Table 2 continued)

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 the linguistic capacity of the subject.
7. Positive Affect: Refers to the positive affective quality of the experience. Typically the experience is of joy or blissful happiness.
8. Religious Quality: 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. (p. 31-32).

Note. From Hood (1975).

divided into an existential subscale, and a religious subscale. Hood's measure also seems to correlate significantly with many of the same concepts as the Spiritual Well-Being and Spiritual Maturity measures, for example intrinsic religious orientation (Hoge, 1972). Hood (1976) also found reported mystical experience is associated with strong, not weak, ego strength. Spilka, Hood, and Gorsuch (1985) concluded "mystical experience has been shown to correlate positively with measures of health and psychological

strength" (p. 192). These findings seem to match those found for the Spiritual Well-being Scale. The Spiritual Maturity Index seems to be designed so as to tap the strength and maturity of an individual's commitment to Christianity without relying upon a formal institution. Similarly, Hood (1973) has noted less institutionally oriented individuals are more likely to report mystical experiences than institutionally oriented persons. These three measures (Spiritual Well-being Scale, Spiritual Maturity Index, and Hood's Mysticism Scale) have not been previously correlated with each other. It is predicted from this study that Hood's Mysticism Scale will significantly correlate with the other two measures being used to assess Christian spirituality in this study.

Christian Use of Imagery

Imagery, Scripture, and Theology. In the Bible, God gave Joseph various dreams through which God communicated His will for Joseph's life, and the lives of many others (Genesis, chapters 37-45). Daniel is another example (the Book of Daniel). Many characters in the Bible had visions, the most famous of which is "Ezekiel's wheels" (Ezekiel, chapters 1 and following), and the vision of the "tribulation" by John (the Book of Revelation). Many at various times heard the voice of God. Others felt God's presence (or were filled with His Spirit).

God is seen as communicating to his creation via images, for example, "'Come now, let us reason together,' says the Lord. 'Though your sins are like scarlet, they shall be as white as snow; though they are red as crimson, they shall be like wool'" (Isaiah 1:18). Man is seen as communicating to God by use of images (e.g. Psalms). The Book of the Songs of Solomon, is seen by many as one elaborated image (the love between a bride and the groom) of Solomon's relationship with God. Many images are given that are descriptive of God, for example: Christ is described as a cornerstone (Isaiah. 28:16), a door (John 10:19), as high priest (Hebrews 4:14), as a lamb (Rev. 5:5), as light (John 8:12), as a serpent (John 3:14), as a thief (Rev. 3:3), etc. The Bible is filled with illustrations, parables, analogies, and metaphors that are intricately connected to the spiritual belief and practice of those embracing its message.

Imagery is an important part of the understanding of the Bible and Christianity in general. Many theologians and other writers are currently advocating that imagery, or the use of the imagination, is also essential for Christian practice (e.g., Brown, 1980; Hazelton, 1979; Moffett, 1975; Owens, 1983; Shaw, 1981; Warnock, 1980; and others). These writers suggest that Christianity for various reasons, since the Reformation, has neglected an emphasis on the imaginative. The church, except in

its hymnody, has become coldly rational and analytic. What is needed is a greater emphasis on "creativity," "encounter," "emotional participation," "symbolism," "imagination," and in general worship that extends beyond hearing and voice to all the senses.

McIntyre (1961) argues, first, in reaching out to others, in "rejoicing with those that rejoice, and mourning with those that mourn" (Romans 12:15), the imagination is needed if we are to place ourselves in the shoes of others. McIntyre (1961) states:

. . . Love could well be said to be three parts imagination, for imagination is the medium of ethical intuition and emphatic penetration into the situation of the other, who confronts us in the encounters of ordinary life. (p. 19).

Second, in devotions the imagination is needed to "picture" the Biblical narrative and understand its context, and further apply those revealed principles to present reality. Third, in man's anticipation of the eternal state, of Heaven and the rewards therein, Christians use their imaginations for motivation and encouragement. Paul writes in II Corinthians 4:17-18, "For our light and momentary troubles are achieving for us an eternal glory that far out weighs them all. So we fix our eyes not on what is seen, but on what is unseen."

Scale Construction of the Christian Use of Imagery Inventory.

An analysis of Scripture passages involving imagery suggested ten areas a Christian could exercise his/her imagination in his/her religious practice. The Christian Use of Imagery Inventory surveys by self-report how frequently an individual utilizes his/her imagination in each of the tasks specified. Because there may be a difference between belief and behavior, this scale was formulated to assess whether those who have a high degree of imaginal ability, and have high scores on the Christian spirituality measures, actually perform Christian religious imagery tasks. It is predicted the Christian Use of Imagery Inventory will significantly positively correlate with the other measures used in this study.

The ten questions on the inventory, and the justification for each, is given below (all Scripture quotations in this study are from the New International Version of the Holy Bible, 1978):

1) "How frequently do you imagine heaven, the eternal state, or future spiritual rewards?" Matthew 6:19-21 states:

Do not store up for yourselves treasures in earth, where moth and rust destroy, and where thieves break in and steal. But store up for yourselves treasures in heaven, where moth and rust do not destroy, and where thieves do not break in and

steal. For where your treasure is, there your heart will be also.

In the Bible are numerous passages that discuss either the splendor of heaven or heavenly rewards. "Heaven," "heavens," or "heavenly" is mentioned over 700 times in the Bible, and numerous different "treasures" are mentioned - "crowns" for example (James 1:12; I Corinthians 9:24-27; I Thessalonians 2:19-20; II Timothy. 4:8; I Peter. 5:2-4). God is seen as a rewarder to those who seek Him (Hebrews 11:6). Heaven and rewards are mentioned to motivate Christians to obedience, and to encourage them in times of suffering. It is natural the contemplation of future rewards would be part of the Christian's imaginative experience (II Corinthians. 4:17-18).

2) "How frequently do you imagine Christ or the Holy Spirit to be present with you as go about your usual activities?" Jesus stated (John 14:16-17):

I will ask the Father, and he will give you another Counselor, the Spirit of truth, to be with you forever. The world cannot accept this Counselor, because it neither sees him nor knows him. But you know him, for he lives with you and will be in you.

The omnipresence of God is a major doctrine of the Church. The Bible teaches that Christians have the presence of God with them,

both in the Holy Spirit (I Corinthians 3:16) and in Christ (Matthew 28:20). The Holy Spirit is talked of in the Bible as regenerating, indwelling, baptizing, sealing, filling, guiding, empowering, and teaching believers (Thiessen, 1981). The believer is also talked of as being in union with Christ (Thiessen, 1981). With God so intimately involved in the believer's life, it is reasoned that this also would be a part of the Christian's imaginative experience.

3) "How frequently do you imagine what it would be like to be a particular Bible character, or a participant in a Scripture narrative, as you study a Bible passage?" Psalm 119:148-149 states:

My eyes stay open through the watches of the night, that I may meditate on your promises. Hear my voice in accordance with your love; renew my life, O Lord, according to your laws.

Part of the enjoyment of a novel is the experience of vicariously imagining yourself as one of the characters. Most of the Bible is a narrative by which God communicates His truth through the lives of hundreds. I argue part of the normative experience for a Christian who reads, studies, or "meditates" over, the Bible is the imaginative exercise of placing oneself in the context. Such an exercise deepens a Christian's understanding and appreciation

of the information studied. Such an exercise also enables the reader to take information over 1800 years old, and apply it to present day circumstance. In this regard, James (1:22-25) describes the Scriptures as a mirror, by which one can look into and see him/herself.

4) "How frequently do you imagine yourself engaged in spiritual warfare against the forces of evil?" Ephesians 6:10-12 states:

Finally, be strong in the Lord and in his mighty power. Put on the full armor of God so that you can take your stand against the devil's schemes. For our struggle is not against flesh and blood, but against the rulers, against the authorities, against the powers of this dark world and against the spiritual forces of evil in the heavenly realms. There are numerous passages in the Bible that remind its readers there is a sphere of evil influence upon the world that includes Satan and his demons. Beyond the hassles of day to day living, the Christian is exhorted to, "be self controlled and alert. Your enemy the devil prowls around like a roaring lion looking for someone to devour" (I Peter 5:8).

5) "How frequently do you imagine what it would be like to actually see God, hear His voice, feel His presence, etc.?"

Blessed are the pure in heart, for they will see God.
(Matthew 5:8). No longer will there be any curse. The throne of God will be in the city, and his servants will serve him. They will see his face, and his name will be on their foreheads (Revelation 22:3-4).

As was mentioned previously, the Bible is filled with images descriptive of God. Jesus Christ is the most portrayed figure in art work, though no actual physical description of him exists (Thomas, 1979). Christians are said to be in a personal relationship to God, it is natural then to expect they would form "pictures in their minds" of the object of their affections. Not that these "images" are God, but they represent the characteristics of God, with the hope that one day Christians will see Him as He actually is (I John 3:2-3).

6) "How frequently do you imagine God is teaching you particular truths through circumstances or nature?"

The heavens declare the glory of God; the skies proclaim the work of his hands. Day after day they pour forth speech; night after night they display knowledge" (Psalm 19:1-2).
Wisdom calls aloud in the street, she raises her voice in the public squares; at the head of the noisy streets she cries out, in the gateways of the city she makes her speech"
(Proverbs 1:20-21).

God has not only revealed His truth through the Bible, but the Christian believes God also reveals truth through "general revelation" - nature and providence. All of life, in a sense, is a lesson by which God teaches people His will and glory. This question asks the frequency to which the subject imagines, or attributes, his circumstances as being from divine intervention.

7) "How frequently do you imagine what it would be like to be in your Christian brother's or sister's shoes, and experience their burdens, persecutions, or joys? The Apostle Paul writes:

. . . there should be no division in the body, but that its parts should have equal concern for each other. If one part suffers, every part suffers with it; if one part is honored, every part rejoices with it. Now you are the body of Christ, and each one of you a part with it (I Corinthians 12:25-27).

It was previously quoted from McIntyre (1961) that ". . . love could well be said to be three parts imagination" (p. 19). One imagines what it would be like to be another person, so that they may best know how to empathize with them, and meet their need. Moffett (1975) argues that the "golden rule" (Matthew 7:12) is best interpreted as, "do unto every individual as you imagine you would want to be done unto if you really were that individual" (p. 1177). The Apostle Paul commands, "Carry each other's burdens, and in this way you will fulfill the law of Christ" (Galatians

6:2), and "rejoice with those who rejoice; mourn with those who mourn" (Romans 12:15).

8) "How frequently do you imagine what it would be like to evangelize in a culture not familiar to you?"

Therefore go and make disciples of all nations, baptizing them in the name of the Father and of the Son and of the Holy Spirit" (Matthew 28:19).

The justification for this question is much like the previous: the imagination helps the Christian to "see" the "lost souls" of the world (those without knowledge and acceptance of Christ), and be motivated to save them, as they themselves were saved. The Bible presents many images of hell and the "judgement day," that serve to describe the horror of someone not being saved by Christ. Paul writes in Romans that all are lost unless they hear the gospel message and accept it, and the only way the message can be heard is if it is preached (Romans 10:13-17). There has been throughout the Church age an emphasis on evangelization. Part of the appeal the Church has made for more missionaries is to graphically describe the plight of those in foreign cultures who have not heard "the good news" (the redemptive work of Christ). The Christian relating to the mission of the Church, missionaries, or probing him/herself whether he/she can be a cross-cultural missionary, involves the use of the imagination.

9) "How frequently do you imagine that the return ("second coming") of Christ will happen during your lifetime?"

For the Lord Himself will come down from heaven, with a loud command, with the voice of the archangel and with the trumpet call of God, and the dead in Christ will rise first. After that, we who are still alive and left will be caught up with them in the clouds to meet the Lord in the air. And so we will be with the Lord forever. Therefore encourage each other with these words (I Thessalonians 4:16-18).

The return of Christ is a major doctrine of the Church, one which the Bible speaks of often. Christ gives many images as to what this event will be like (e.g. Matthew 24 & 25). Almost the entire book of Revelation prophetically describes what will occur before and after the second coming of Christ. This fact is one which fills the Church with hope and joy as Christians anticipate and imagine whether this will be the age Christ will return.

10) "How frequently do you imagine God healing yourself or others, or working a miracle?"

Heal me, O Lord, and I will be healed; save me and I will be saved, for you are the one I praise (Jeremiah 17:14). And the prayer offered in faith will make the sick person well; the Lord will raise him up. If he has sinned, he will be forgiven (James 5:15).

Another important doctrine in the Church is that God is omnipotent, able to do anything. He can heal people of incurable diseases, he can save people from seemingly impossible situations. God's leading of the Israel nation through the Sinai dessert, and the Galilean ministry of Jesus Christ are exemplary of God's miraculous power. Many Christians throughout the Church age have claimed that God has miraculously answered their prayers. Matthew 7:7-11 affirms that God wants to do good things for His children if they would ask Him. Imagining the request fulfilled by God, attests to the belief the Christian has in God to perform the desired action. This is not to say that just an act of the imagination is needed to have one's request granted by God, but that the imagination is involved in the process of "picturing" who God is and what He can do.

Whether all the above ten areas are actually a part of the Christian's imaginative practice, and whether these areas are related to imaginal ability and Christian spirituality, is a question this study is designed to investigate.

Hypotheses and Questions

Rationale. The research question of this study was: Is there a significantly positive relationship among imaginal ability, Christian spirituality, and Christian imaginal frequency? The

literature was reviewed concerning these constructs, and justification for such a relationship was made by:

1) The positive role imagery has played in psychotherapy, creativity, emotional control and hypnosis. It was observed and reasoned that these areas may possibly be involved in spirituality.

2) Studies which showed that imagery has already been used in a Christian population with significant effect.

3) Examples from the Bible that showed it abundantly uses imagery, and that it advocates imaginal use.

4) Many theologians who are calling for the imagination to be used in spiritual practice.

5) Many "mystics" have had imaginal experiences, and advocate imaginal practice in their spiritual exercises.

Justification for the study is also made on the basis that Ellison (1983) has called for such variables to be studied, the relationships have not been previously empirically explored, and the findings of the study may contribute significantly to our understanding of religious experience and hopefully generate further research.

Hypothesis 1. There is a significant positive correlation between a linear combination of imaginal ability as measured by the Betts Q.M.I. and the Gordon Test, and a linear combination of

spirituality as measured by the Spiritual Well-Being, Spiritual Maturity Index and the Mysticism Scale.

Hypothesis 2. There is a significant positive correlation between a linear combination of imaginal ability as measured by the Betts Q.M.I. and the Gordon Test, and the Christian Use of Imagery Inventory.

Hypothesis 3. There is a significant positive correlation between a linear combination of spirituality as measured by the Spiritual Well-Being, Spiritual Maturity Index and the Mysticism scale, and the Christian Use of Imagery Inventory.

In addition to the above three hypotheses, five questions will be asked of the data. These questions will help clarify the findings from the hypotheses by looking at more specific relationships among the variables. The constructs will be broken down into their component measures, and the subscales of three of the measures will be correlated with the other variables to further clarify the results of the study. In addition, a demographic questionnaire was constructed to describe the sample, and to look at how some attitudes and behaviors relate to the hypotheses and the measures used in the study.

Question 1. Do each of the six scales used in this study, when considered individually, significantly positively correlate with each other?

Question 2. Does the Religious Well-Being subscale of the Spiritual Well-Being Scale have a greater positive correlation with Spiritual Maturity, Mysticism, and Religious Use of Imagery measures (considered individually), than the Existential Well-Being subscale?

Question 3. Does the more religious interpretive component of the Mysticism Scale correlate more positively with Spiritual Well-Being, Spiritual Maturity, and Religious Use of Imagery measures (considered individually), than the minimal purely experiential component?

Question 4. Do any of the subscales of the Betts QMI Vividness of Imagery Scale correlate more positively than the other subscales to Spiritual Well-being, Maturity, Mysticism, and Christian Use of Imagery measures?

Question 5. What relationship do the following demographic variables have to measures of imaginal ability, spirituality, and Christian imaginal use? The variables are: sex, age, marital status, amount of religious and secular education, type of Christian (born again, ethical, or both), years a Christian, frequency of church attendance, church attended, frequency and duration of personal devotions, average amount of time spent ministering to Christians and non-Christians, years spent in a

leadership position, position on charismatic practices, and position on the importance of the imagination in spirituality.

Chapter 2

METHOD

Subjects

A sample of 140 names were randomly drawn from the 1984-1985 student directory of a private Bible college. This was done by assigning each student a number alphabetically, then using a computer generated random numbers sequence to draw the sample. The subjects were contacted by letter to their school mail box one week before testing (appendix A). The subjects were then reminded by a second letter 2 days before testing (appendix B). A reminder was also printed in the school bulletin on the days of testing. A reminder was also announced in chapel on the first day of testing. If a student did not show up for the first two testing days, s/he was called until reached or a phone message was left. Also, a third letter was sent one day before the last testing session (appendix C). Testing took place on April 25, 26, and 30, 1985. The time (3:30 p.m.) and place of testing (a campus classroom) was the same for each of the three testing dates.

The goal of the study's subject selection was for 100 students. This was determined on the basis that Gay (1981)

suggests 10% of a population is the minimum for a sample, and for a smaller population, 20% may be required. The undergraduate students at the Bible college used numbered 546 the quarter the study was conducted. 100 subjects is close to the 20% standard suggested by Gay. Thirty subjects are the absolute minimum needed for correlational studies, but the more subjects used, the smaller the chance of a Type 1 error (Gay, 1981). The 80 students that actually participated accounted for 15% of the undergraduate population.

Of the 140 selected, it was subsequently found that 17 did not attend school that quarter and therefore were not informed about the study. Of the 123 actually contacted, 80 (65%) individuals participated in the study. Follow-up of those who did not participate revealed that 16 (13%) had to work, 5 (5%) had prearranged appointments that could not be cancelled, 3 (2%) had medical excuses, 6 (5%) could not be reached due to a disconnected phone, or having moved with no forwarding number, and 13 (10%) were unaccounted for - could not be reached by phone despite several attempts.

Materials

Betts Questionnaire of Mental Imagery. The Sheehan (1967) shortened version of the Betts (1909) QMI Vividness of Imagery Scale was selected because it is the most widely used measure of

imagery vividness (White, Sheehan, & Ashton, 1977). The scale measures seven major sensory modalities: visual, auditory, cutaneous, kinaesthetic, gustatory, olfactory, and organic, and gives separate and total scores. The scale has 35 questions (5 questions per modality), and respondents answer via a seven point Likert-type scale that measures the extent to which a subject reports how vividly s/he can imagine the stimulus question. The questionnaire items are scored from 1 to 7 - from "no image at all," to the image being "perfectly clear and as vivid as the actual experience." Possible subscale scores range from 5 to 35. Total possible score ranges from 35 to 245. (See Appendix H for the instructions and test items of the scale. See Table 3 for reliability information on the total scale. See Table 4 for reliability information on the subscales. See Table 5 for validity information on the total scale.)

Gordon Test of Imagery Control. A second imagery scale was chosen to measure another aspect of a subject's imagining ability. Whereas the Betts QMI measures imaginal vividness, the Gordon Test (1949) measures imagery control. White, Sheehan, and Ashton (1977) summarized, in a review of factor analytic and correlational studies on these two imagery tests, that "the Gordon and the QMI tests tap different aspects of imaginal ability

Table 3Reliability of the Betts Questionnaire of Mental Imagery Scale

Investigator	<u>n</u>	Sample	Estimate/ Interval	Results
Internal Consistency				
Juhasz (1972)	67	Undergrads	Alpha	.95
	12	Professors	Alpha	.99
Test-Retest				
Sheehan (1967)	62	Male students	7 months	.78
Evans & Kamemoto (1973)	53	Students	6 weeks	.91
White, Ashton, & Brown (1977)	251	Australian students	1 year	.59

Note. From White, Sheehan, and Ashton (1977).

Table 4

Reliability of the Modality Subscales of the Betts QMI

	Investigator				
	Sheehan (1967)	Evans & Kamemoto (1973)	White, Ashton & Brown (1977)		
Subjects	American students	American students	Australian students		
<u>n</u>	62	35	Male 89	Female 162	Combined 251
Test/retest interval	7 mos.	6 wks.	12 months		
Modality:					
Visual	.78	.67	.58	.42	.52
Auditory	.78	.74	.49	.44	.46
Cutaneous	.78	.82	.53	.42	.51
Kinesthetic	.78	.74	.29	.32	.32
Gustatory	.78	.75	.51	.42	.46
Olfactor	.78	.72	.60	.58	.59
Organic	.78	.61	.49	.48	.51
Total	.78	.91	.63	.54	.59

Note. All coefficients are significant at $p < .01$.

Table 5Validity of the Betts QMI Vividness of Imagery Scale

Investigator	Results
Factor Analysis	
Sheehan (1967)	1 large factor, 7 smaller modality specific factors.
Leibovitz et. al. (1972)	7 smaller modality specific factors
White, Ashton & Law (1972)	1 large factor, and a collapsed structure into chemical and mechanical modalities
Correlates of Function	
Sheehan (1966)	Intentional recall
Morris & Gale (1974)	Incidental recall
Broadway (1971)	Various personality characteristics
Walker (1974)	Improvement in spelling ability
Ashton et al. (1976)	Improvement in discriminative reaction time
Calvano (1974)	Aids paired associate learning

(control and vividness) and these could represent different facets of the same process (image evocation)" (p. 154).

In imagery research, the test is the best known measure of visual control (White, Sheehan, & Ashton, 1977). It consists of 12 items to be answered "yes," "no," or "unsure." A "yes" response is given 2 points, an "unsure" response is given 1 point, and a "no" response is given 0 points. Possible scores range from 0 to 24. Richardson (1967) updated the language of the test, and it was his revision that was used in this study. (See Appendix I for the instructions and test items of the scale. See Table 6 for reliability information. See Table 7 for validity information.)

Spiritual Well-Being Scale. Ellison's and Paloutzian's Spiritual Well-Being Scale (Ellison, 1983) is used as was discussed previously in the introduction. The test consists of two sub-scales: Religious Well-Being, and Existential Well-Being. The test has 20 items with a six point Likert-type answer format. The items are scored from 1 to 6, from "strongly agree" to "strongly disagree." Possible subscale scores range from 10 to 60. Possible total scores range from 20 to 120. See Appendix E for the instructions and test items of the scale.

Ellison (1983) found that the test had test-retest coefficients above .85 and internal consistency coefficients in excess of .75. Religious Well-Being and Existential Well-Being

Table 6

Reliability of the Gordon Test of Imagery Control

Investigator	n	Sample	Estimate/ Interval	Results
Internal Consistency				
Juhasz (1972)	67	Undergrads	alpha	.88
	12	Professors	alpha	.95
McKelvie & Gingras				
(1974)	87	Students 16-17	split-half	.76
White, Ashton, &	939m	Undergrads	split-half	.66
Law (1976)	1628f			.64
	938m		alpha	.72
	1628f			.72
Test-Retest				
McKelvie & Gingras				
(1974)	33	Students 16-17	3 weeks	.84
White & Ashton				
(1976b)	82m	Undergrads	1 year	.60
	153f			.64

Table 7

Validity of the Gordon Test of Imagery Control

Investigator	Results
Factor Analysis	
Ashton & White (1974)	1 general factor
Correlates of Function	
Morris & Gale (1974)	Other pencil and paper measures of imagery
Starker (1974b)	(same as above)
White & Ashton (1976a)	(same as above)
Gordon (1949)	Stereotyped imagery
Gordon (1950)	Reversal rates on the Necker Cube
Costello (1956,1957)	Mental disorder
Start & Anderson (1964)	Mental practice
Morelli & Lang (1971)	Paired associate learning
Price (1973)	Extra-sensory perception
Hiscock & Cohen (1973)	Frequency of dream recall
Rawlings & Rawlings (1974)	Success in mental rehearsal
Khatena (1975b)	Creative self perceptions

are positively correlated to a moderate degree, ranging from 10-30% of common variance.

Spiritual Maturity Index. Ellison's (Ellison et al., 1984) Spiritual Maturity Index is used as was previously discussed in the introduction. The test has 30 items, with the same six point Likert-type format as the Spiritual Well-Being Scale. The index is scored in the same way as the Spiritual Well-being Scale. (See Appendix F for the items of the scale.) The instructions are the same as that used for the Spiritual Well-Being Scale.

Reliability and further validity (other than face validity and the correlations discussed in the introduction) information is not presently available for this version of the test. Coefficient alpha and split-half reliability will be used to analyze the scale after data collection. Also, factor analysis will be used to determine construct validity after the data collection.

Hood's Mysticism Scale. Hood's (1975) Mysticism Scale was used because it is the only scale presently available in the literature that adequately addresses intense subjective spiritual experiences. As was previously discussed in the introduction, the scale measures religious experience along Stace's (1960) eight conceptual categories. The test has 32 questions, four for each category. Of the four questions in each category, two are stated in the negative, and two in the positive. The person rates

him/herself along a 5 point Likert-type format, from "+2" to "-2" on how definite the stated experiences are for the respondent. The items are scored from "this description is definitely true of my own experience(s)" to "this description is definitely not true of my own experience(s)." A score of 5 is given if the answer is in the direction of definitely having the experience, a score of 1 is given if the subject definitely did not have the experience. Possible scores on the religious subscale range from 12 to 60. Possible scores on the minimally experiential subscale range from 20 to 100. Total possible scores range from 32 to 160. (See Appendix G for the instructions and test items of this scale.)

Hood (1975) found through correlational matrices and factor analysis that the measure is internally consistent and reliable. Hood found the scale had concurrent validity with his earlier "Religious Experiences Episodes Measure" (Hood, 1970). The scale has predictive validity with: intrinsic religious orientation (Hoge, 1972); Taft's (1970) Ego Permissiveness Scale; and self-actualization as measured by Shostrom's (1974) Personal Orientation Inventory.

Christian Use of Imagery Inventory. As was discussed in the introduction, a measure was created to assess whether individuals who reported to have high imaginal ability, and a high degree of Christian spirituality, actually used their imagining processes in

various Christian practices. Ten areas were identified where the Christian could exercise their imaginations in their religious experience. The subjects are asked to report the frequency with which they imagine these situations along a six point Likert type format, ranging from almost daily, to no more than once a year, if at all. The frequency of imagining behavior was asked in this type of format, rather than the more traditional, "infrequently, sometimes, often, very frequently," type format, because what is "often" for one person, may be totally different for another.

The scale (Appendix L) was administered to eleven individuals, approximately the same ages and background of those used in this study. This formed a pilot study to assess how easily the test was understood, and whether there was enough variability of responses on each individual item, and across the test as a whole. Descriptive statistics are presented in Table 8.

Though the subjects were few, it can be seen that there was a good range of responses within items, and totally. There was an interesting break in responses between the scores of 31 and 41. This was perhaps indicative of subject group differences: low Christian imaginal users vs. high Christian imaginal users. Correlational analysis was performed on the items, the results of which indicated that all the items significantly ($p < .05$) correlated with the total score except item 2.

Table 8

Descriptive Statistics from a Pilot Study Using the Christian Use
of Imagery Inventory

Variable	Obs. Range	Mean	Standard Deviation	
			Sample	Pop. Est.
Q1	1 - 5	3.09	1.37	1.45
Q2	1 - 6	4.73	1.48	1.56
Q3	1 - 5	2.55	1.37	1.44
Q4	1 - 5	4.09	1.24	1.30
Q5	2 - 6	4.64	1.30	1.36
Q6	3 - 6	4.64	1.07	1.12
Q7	1 - 6	3.55	1.31	1.37
Q8	1 - 5	2.82	1.34	1.40
Q9	2 - 5	3.46	1.08	1.13
Q10	2 - 5	3.64	1.07	1.12
TOT	24 - 48	37.18	9.09	9.54

Note. N = 11.

The subject sample was too small to yield accurate statistics, but the pilot study encouraged the use of the test in the actual study. Feedback from the respondents necessitated rewording some of the items - being more specific in what was asked for. Also, an example was added to the directions so the respondents had a better idea as to what it means to imagine the particular items. No difficulty was reported in the use of the rating scale. (See Appendix J for instructions and test items of the revised scale used in the study.)

Validity and reliability information is not available for this scale, but will be compiled from this study using coefficient alpha, split-half, and factor analysis statistics.

Demographic Questionnaire. A demographic questionnaire was formulated to provide normative information and to assess various biographical data that might further interpret the results of the study.

Besides age, sex, and marital status, questions were asked in six areas: First, how much, and what kind, of education had the subject received? Education in general may correlate with imaginal ability, and religious education might correlate with the degree of a subject's spirituality. Two questions were asked: one, assessed number of years of education since high school; the

second assessed how many years of formal religious education the respondent had.

Second, what type of Christian are the subjects, and for how long? A subject's commitment to Christianity may correlate with the degree to which s/he considers him/herself spiritual. Two questions were asked: one which assessed what "type" of Christian the respondent professed to be (follows Christ's ethical teachings, has taken Christ as Savior of his/her life, or both); and the second asking how many years s/he considered him/herself to have been a Christian.

Third, what church did the subject affiliate with, how often did s/he attend church related activities, and how many years had s/he been in a Christian leadership position? Brother Dominic (1975) found imagery differences among different groups of Christian denominations. Some churches incorporate more visual stimuli into their worship than others (e.g compare a typical Greek Orthodox church with a typical Baptist church). Church attendance would effect exposure to visual stimuli. Studies previously quoted already link church attendance with Spiritual Well-Being and Maturity.

Fourth, how often did the subject have personal devotions, and for how long? Devotional experience is relevant to the variables under investigation because the practice should, by

Christian doctrine, lead to a healthy relationship with God and promote spiritual growth. McIntyre (1961) believes the imagination is essential in Christian devotional exercises.

Fifth, on the average, how many hours a week did the respondent minister (serve, give of his/her time) to Christians and/or non-Christians? Christian service is an expected result from someone who was highly spiritual. Correlation with these two items may further substantiate the spirituality measures.

Sixth, two survey questions were asked: the first assessed the subject's belief and practice concerning charismatic gifts: "baptism in the Holy Spirit," and "speaking in tongues;" the second assessed the subject's attitude concerning the importance of his/her imagination to his/her spirituality. Van Leeuwen (1975) hypothesized that there might be a difference between "Word" Christians and "Spirit" Christians - those more rational in their processing of Christian information, vs. those more experientially oriented. Bressem, Waller, and Powers (1985) empirically found that there was such a processing difference among Christian evangelicals. Are Charismatics more open to ecstatic, imaginal, experiences? The second question will simply survey how the sample feels concerning the role of the imagination

in their spirituality. It will be of interest to see if this question correlates with the variables used in the study.

Other than questions asking for age and years of education, all items are multiple-choice. The demographic questionnaire was created following the principles given in Isaac and Michael (1982), and using the format suggested by Dillman (1978). (See Appendix K for the instructions and a copy of the demographic questionnaire.)

Design and Procedure

Administration. The subjects were administered a test booklet and asked not to start taking the tests until the experimenter had read through the directions found on the booklet's cover (see Appendix D). The subjects were asked if there were any questions and then were asked to begin. All the subjects completed the tests within one hour. The presentation of the tests was in the following order: Spiritual Well-Being Scale, Spiritual Maturity Scale, Mysticism Scale, Betts Q.M.I., Gordon Test, Religious Use of Imagery Inventory, then the Demographic Questionnaire. This was reasoned to be the best order in which to present the materials, so as to lessen the bias previous tests would have on later tests. There are a total of 155 items in the test packet. (The actual materials administered, except for being

broken up for individual appendices, is given in Appendices E through K.)

After completion of the test booklet, all subjects came up to the experimenter and gave him their name, test booklet ID number, and indicated whether they wanted their results back. The above procedure was the same for each of the three testing days.

Analysis. To test the hypotheses, canonical correlation was used. This is a procedure for correlating derived variables, each representing a weighted combination of other variables (Kachigan, 1982). In this study, the constructs of Christian spirituality and imaginal ability are the derived variables, with various instruments comprising these constructs. Canonical correlation analysis assumes the variables are interval in level of measurement, that the relationships among the variables are linear, and that the basic aim in data analysis is to account for as much variance in certain variables as possible. It makes no difference which variable is considered the independent variable and which the dependent. A unique problem associated with canonical correlation is that the weights for each variable in the construct are strictly formed on a mathematical basis, when judgment might dictate variable A is really more important than variable B or C in comprising the derived variable. Consequently, one variable within the construct may actually be accounting for

all the variance in a significant canonical correlation, to the exclusion of the other variables comprising that construct. The problem then is naming what that construct is actually measuring. The construct may not be measuring what it was descriptively intended to measure. As a safe guard against the above problem, sequential multiple regression analysis will be performed on hypotheses 2 and 3, since one of the variables (Christian imaginal frequency) is not a construct or a derived variable, but only comprised of one measure (the Christian Use of Imagery Inventory). The sequential multiple regression analysis will help determine what variable(s) in the derived variable is accounting for most of the common variance. Additionally, question 1 addresses what relationships exist among all the individual measures used in the study, when considered individually.

Questions 1 through 4 will be examined using a Pearson-r correlation coefficient. This statistic measures the degree of correspondence between two or more variables. The correlation is positive or negative according to whether one variable changes in the same way as the other or in an opposite way. It gives evidence of a relationship but does not necessarily indicate a cause-and-effect relationship.

Question 5 will be examined by a combination of statistics depending upon what type of scale a particular demographic

questionnaire item used. A Pearson-r correlation coefficient was used if the item had an interval scale. The Tau C statistic was used when one of the measures related had an ordinal scale. The contingency coefficient, C, was used when one of the measures being related had a nominal scale. The last two statistics are measures of association which indicate how strongly two variables are related to one another. They are considered to be more accurate than using a Pearson-r correlation coefficient for those types of scales. There is no significance test for the contingency coefficient, but the strength of the association can be estimated by considering its χ^2 . The χ^2 is a test for statistical significance of nominal data, but since it does not tell how strongly variables are related, the contingency coefficient is used.

Because the Spiritual Maturity Index and the Christian Use of Imagery Inventory did not have previously published reliability and validity information, these measures were analyzed post-hoc by factor analysis, coefficient alpha, and Guttman split-half statistics. Discussion of these statistics, results, and interpretation of the findings are presented in appendices P and Q.

Chapter 3

RESULTS

In this section of the paper, the statistical results of the study will be documented. First, the sample will be described in relationship to the instruments used in the study, particularly to the individual questions in the demographic survey. Second, the findings of each of the three hypotheses and each of the five questions will be statistically summarized. (Results of the post hoc statistical analysis of the reliability and construct validity of the Spiritual Maturity Index and the Christian Use of Imagery Inventory are found in appendixes P and Q.)

Description of the Sample

There were 80 Bible college undergraduates that participated in the study, 42 (52.5%) were male, 38 (47.5%) were female. Of the total undergraduate student body available for the study, 80 subjects represent 15% of the school's population. Each of the three student classes at the school were fairly equally represented: 40 (14%) freshman, 21 (14%) juniors, 19 (17%) seniors. Mean age of the students was 22.71, with most of them reporting they were unmarried (77.5%). The sample had a mean of

2.84 years of education since High School, with a mean of 3.45 total years involved in formal religious education.

All but two (97.5%) subjects reported that they follow Christ's moral and ethical teachings, and have accepted Him as Lord and Savior of their lives. Consequently this demographic variable was dropped for statistical comparisons of the data. Mean number of years the subjects considered themselves to have been a Christian was 10.48.

Most subjects either attended an Interdenominational, Community and Bible church (40%), or a Baptist church (33.8%). Most subjects reported that they attend church either once a week (41.3%), or between 2-4 times a week (45%). Most (42.5%) have devotions 5-7 times a week, for 15-29 minutes per occasion (53.8%). Mean number of years in a church leadership role was 2.3.

Responses on average number of hours per week subjects minister to Christians varied between 2-4 hours (35%), 5-10 hours (28.8%), and 10-20 hours (20%). On the average, fewer hours were spent ministering to non-Christians with 30% reporting less than one hour per week, and 33.8% reporting 2-4 hours per week.

On the question of the subject's position on charismatic practices, most (55%) reported that they were tolerant of the practices in others but it was not part of their own belief or

experience. On the question of the subject's attitude concerning the role their imagination plays in their spirituality, most subjects reported that it tended to have a positive role: 30% had no opinion, while 31.3% stated it helped more than it hindered, and 27.5% said their imagination positively affected their spirituality. (Summary descriptive statistics are presented in Tables 9, 10, and 11.)

Hypotheses

Hypothesis 1. No significant relationship was found between imaginal ability as measured by a linear combination of the Betts QMI and the Gordon test, and Christian spirituality as measured by a linear combination of the Spiritual Well-being, Spiritual Maturity Index and the Mysticism Scale. The Christian spirituality canonical variable set yielded an eigenvalue of .01, with $R(6, N = 80) = .12, p = .98$. The imaginal ability canonical variable set yielded an eigenvalue of .00, with $R(2, N = 80) = .03, p = .98$. Thus, no support was found for hypothesis 1.

Hypothesis 2. In confirmation of the hypothesis, a significant positive relationship was found between imaginal ability as measured by a linear combination of the Betts QMI and the Gordon Test, and the Christian Use of Imagery Inventory. Canonical correlation yielded an eigenvalue of .11, with $R(2, N = 80) = .33, p = .013$. Sequential multiple regression analysis

Table 9Descriptive Statistics for Research Variables

Variable	Range	Mean	Standard Deviation	
			Sample	Pop. Est.
Spiritual Well-being	77 - 120	106.59	10.15	10.21
Religious	40 - 60	55.55	4.68	4.71
Existential	33 - 60	50.91	6.25	6.29
Spiritual Maturity	106 - 179	147.26	12.28	12.36
Mysticism	46 - 147	101.75	21.36	21.49
Religious	21 - 60	49.21	8.37	8.42
Experiential	22 - 87	52.54	15.30	15.40
Imagery Vividness	138 - 245	200.08	22.58	22.72
Visual	18 - 35	30.56	3.77	3.79
Auditory	17 - 35	29.21	4.19	4.22
Cutaneous	16 - 35	27.94	4.57	4.60
Kinesthetic	12 - 35	29.43	4.21	4.24
Gustatory	11 - 35	27.04	5.48	5.52
Olfactory	10 - 35	26.38	5.52	5.56
Organic	17 - 35	29.59	3.96	3.98

(Table 9 continued)

Variable	Range	Mean	Standard Deviation	
			Sample	Pop. Est.
Imagery Control	4 - 24	20.04	3.84	3.87
Christian Imagery Use	14 - 57	43.38	8.73	8.79

Note. N = 80.

Table 10

Descriptive Statistics for Interval Demographic Data

Variable	Range	Mean	Standard Deviation	
			Sample	Pop. Est.
Age	18 - 40	22.71	4.57	4.60
Education	1 - 7	2.84	1.47	1.48
Religious Education	0 - 14	3.45	3.23	3.25
Years a Christian	0 - 22	10.48	5.29	5.32
Years a Church Leader	0 - 10	2.30	2.57	2.59

Note. N = 80.

Table 11

Descriptive Statistics for Non-Interval Demographic Data

Variable	<u>n</u>	Percent	Variable	<u>n</u>	Percent
Sex			Church		
Male	42	52.5	Interdenom.	32	40.0
Female	38	47.5	Baptist	27	33.8
Marital Status			Evan. Free	2	2.5
Never	62	77.5	Foursquare	1	1.3
Married	17	21.3	Brethren	3	3.8
Widowed	1	1.3	Missionary Alli.	1	1.3
Christian "Type"			Presbyterian	1	1.3
Moral & Ethical	1	1.3	Christian	4	5.0
Savior & Lord	1	1.3	Mennonite	1	1.3
Both	78	97.5	Other	8	10.0
Devotional Frequency			Devotional Duration		
Less than 1 a mo.	1	1.3	Less than 5 min.	1	1.3
1-3 times a mo.	3	3.8	5-9 minutes	5	6.3
Weekly	10	12.5	10-14 minutes	14	17.5
2-4 times a wk.	24	30.0	15-29 minutes	43	53.8
5-7 times a wk.	34	42.5	30-59 minutes	14	17.5
More than 1 a day	8	10.0	More than 59 min.	3	3.8

(Table 11 continued)

Variable	<u>n</u>	Percent	Variable	<u>n</u>	Percent
Church Frequency			Favors	6	7.5
2-3 times a mo.	5	6.3	Favors & does it	6	7.5
Weekly	33	41.3	Imagination & Spirituality		
2-4 times a wk.	36	45.0	Neg. affects	6	7.5
5-7 times a wk.	6	7.5	Hinders mostly	3	3.8
Ministry to non-Christians			No opinion	24	30.0
Not applicable	9	11.3	Helps mostly	25	31.3
Less than 1 hour	24	30.0	Pos. affects	22	27.5
2-4 hours a wk.	27	33.8	Ministry to Christians		
5-9 hours a wk.	11	13.8	Not applicable	2	2.5
10-19 hours a wk.	6	7.5	Less than 1 hour	7	8.8
20-39 hours a wk.	2	2.5	2-4 hours a wk.	28	35.0
More than 39 hrs.	1	1.3	5-9 hours a wk.	23	28.8
Charismatic Practices			10-19 hours a wk.	16	20.0
Opposed	8	10.0	20-39 hours a wk.	4	5.0
Tolerant	44	55.0			
Undecided	16	20.0			

Note. N = 80.

showed that most of the common variance between imaginal ability and the Christian Use of Imagery Inventory was due to the Betts QMI, $F = 8.17$, $p = .006$, with proportion of common variance equal to .09. With the Betts QMI variance removed, the Gordon Test was not significantly related to the Christian Use of Imagery Inventory, $F = .99$, $p > .10$, with proportion of variance equal only to .01.

Hypothesis 3. In confirmation of the hypothesis, a significant positive relationship was found between Christian spirituality as measured by a linear combination of the Spiritual Well-being, Spiritual Maturity Index and the Mysticism Scale, and the Christian Use of Imagery Inventory. Canonical Correlation yielded an eigenvalue of .26, with $R(3, N = 80) = .51$, $p < .001$. Sequential Multiple Regression Analysis showed that most of the common variance was due to the Mysticism Scale, $F = 22.38$, $p = .001$, with proportion of variance equal to .22. The Spiritual Well-being Scale and the Spiritual Maturity Index were not significantly correlated to the Christian Use of Imagery Inventory with the Mysticism Scale variance removed. The Spiritual Well-being Scale showed $F = 3.53$, $p = .061$, with proportion of variance equal to .03. The Spiritual Maturity Index showed $F = .96$, $p > .10$, with proportion of variance equal to .01. (Note, all Multiple Regression significance levels were two-tailed).

Questions

Question 1. It was asked whether each of the six scales used in the study, when considered individually, significantly and positively correlate with each other. It was found the Spiritual Well-being and Spiritual Maturity significantly positively correlated with each other, $r(N = 80) = .64, p < .001$ (see Table 12). The Betts QMI and the Gordon Test of Visual Control significantly positively correlated with each other, $r(N = 80) = .28, p < .05$ (see Table 13). The Christian Use of Imagery Inventory significantly positively correlated with Hood's Mysticism Scale, $r(N = 80) = .47, p < .001$ (see Table 12), and with Betts QMI Vividness of Imagery Scale, $r(N = 80) = .31, p < .01$ (see Table 13).

Question 2. It was asked which of the two Spiritual Well-being subscales had a greater positive correlation with the other measures of the study. The only research variable that the Spiritual Well-being subscales correlated significantly with was the Spiritual Maturity Index (see Table 14). The Religious Well-being subscale, $r(N = 80) = .67, p < .001$, correlated to a greater degree than the Existential Well-being subscale, $r(N = 80) = .52, p < .001$, on the Spiritual Maturity Index. Religious Well-being, $r^2 = .45$, shared almost twice as much common variance with the Spiritual Maturity Index as with Existential Well-being, $r^2 = .27$.

Table 12

Spirituality Variables Correlated with Research Variables

Variable	SWB	SMI	HMS
Spiritual Well-being (SWB)		.64***	-.04
Religious	.89***	.67***	-.03
Existential	.93***	.52***	.00
Spiritual Maturity Index (SMI)	.64***		.09
Hood's Mysticism Scale (HMS)	-.04	.09	
Religious	-.01	.16	.82***
Experiential	-.05	.04	.95***
Betts QMI Vividness of Imagery Scale	.04	.03	.02
Visual	.12	.18	.04
Auditory	.18	.10	-.12
Cutaneous	-.08	.06	.08
Kinesthetic	-.08	-.09	-.04
Gustatory	.02	-.03	-.06
Olfactory	-.04	-.05	.18
Organic	.12	.04	.01

(Table 12 continued)

Variable	SWB	SMI	HMS
Gordon Test of Visual Imagery Control	-.10	-.06	.01
Christian Use of Imagery Inventory	.19	.19	.47***

Note. All statistics are Pearson-r Correlation Coefficients.

* $p < .05$, ** $p < .01$, *** $p < .001$. $N = 80$.

Table 13Imagery Variables Correlated with Research Variables

Variable	QMI	GIC	CUI
Spiritual Well-being	.04	-.10	.19
Religious	-.02	-.12	.13
Existential	.10	-.07	.21
Spiritual Maturity Index	.03	-.06	.19
Hood's Mysticism Scale	.02	.01	.47***
Religious	.07	-.05	.47***
Experiential	.00	.04	.33**
Betts Vividness of Imagery Scale (QMI)		.28*	.31**
Visual	.67***	.06	.14
Auditory	.69***	.16	.20
Cutaneous	.78***	.21	.15
Kinesthetic	.62***	.13	.02
Gustatory	.74***	.29**	.28**
Olfactory	.77***	.20	.39***
Organic	.69***	.28*	.28**

(Table 13 continued)

Variable	QMI	GIC	CUI
Gordon Test of Imagery Control (GIC)	.28*		.19
Christian Use of Imagery Inventory (CUI)	.31**	.19	

Note. All statistics are Pearson-r Correlation Coefficients.

* $p < .05$, ** $p < .01$, *** $p < .001$. $N = 80$

Table 14Spirituality Subscales Correlated with Research Variables

Variable	RWB	EWB	RMS	EMS
Spiritual Well-being Scale	.89***	.93***	-.01	-.05
Religious (RWB)		.69***	-.02	-.03
Existential (EWB)	.69***		.06	-.03
Spiritual Maturity Index	.67***	.52***	.16	.04
Hood's Mysticism Scale	-.03	.00	.82***	.95***
Religious (RMS)	-.02	.06		.59***
Experiential (EMS)	-.03	-.03	.59***	
Betts QMI Vividness of Imagery	-.02	.10	.07	.00
Visual	.07	.15	.06	.02
Auditory	.16	.16	-.10	-.11
Cutaneous	-.14	-.01	.18	.01
Kinesthetic	-.14	.00	.05	-.08
Gustatory	-.03	.07	-.05	-.06
Olfactory	-.06	.01	.20	.15
Organic	.08	.15	.00	.02

(Table 14 continued)

Variable	RWB	EWB	RMS	EMS
Test of Visual Imagery Control	-.12	-.07	-.05	.04
Christian Use of Imagery	.13	.21	.33**	.47***

Note. All statistics are Pearson-r Correlation Coefficients.

* $p < .05$, ** $p < .01$, *** $p < .001$. $N = 80$.

Question 3. It was asked which of the two Mysticism Scale subscales had a greater positive correlation with the other measures of the study. The only research variable that the Mysticism subscales correlated with significantly was the Christian Use of Imagery Inventory (see table 14). The religious subscale component, $r(N = 80) = .47$, $p < .001$, correlated to a greater degree than the minimal experiential subscale component, $r(N = 80) = .33$, $p < .01$ with the Christian Use of Imagery Inventory. The religious subscale component, $r^2 = .22$, shared twice as much common variance as the minimal experiential subscale component, $r^2 = .11$, with the Christian Use of Imagery Inventory.

Question 4. It was asked which of the seven Betts QMI subscales had a greater positive correlation with the other measures of the study. Only three of the Betts QMI Vividness of Imagery subscales correlated significantly with any of the other research variables (see Table 15). The Gustatory, $r(N = 80) = .29$, $p < .01$, and Organic, $r(N = 80) = .28$, $p < .05$ subscales significantly correlated with Gordon's Test of Visual Imagery Control. The Gustatory, $r(N = 80) = .28$, $p < .01$, Olfactory, $r(N = 80) = .39$, $p < .001$, and Organic, $r(N = 80) = .28$, $p < .001$, subscales, significantly correlated with the Christian Use of Imagery Inventory. The Olfactory subscale, $r^2 = .15$, shared almost twice as much common variance than the

Table 15

Betts QMI Subscales Correlated With Research Variables

Variable	Vis.	Aud.	Cut.	Kin.	Gus.	Olf.	Org.
Well-being	.12	.18	-.08	-.08	.02	-.04	.12
Rel.	.07	.16	-.14	-.14	-.03	-.06	.08
Exis,	.15	.16	-.01	.00	.07	.01	.15
Maturity	.18	.10	.06	-.09	-.03	-.05	.04
Mysticism	.04	-.12	.08	-.04	-.06	.18	.01
Rel.	.06	-.10	.18	.05	-.05	.20	.00
Exp.	.02	-.11	.01	-.08	-.06	.15	.02
Imag. Vivid	.67***	.69***	.78***	.62***	.74***	.77***	.69***
Vis.		.43***	.50***	.31**	.33**	.39***	.50***
Aud.	.43***		.43***	.35**	.38***	.42***	.49***
Cut.	.50***	.43***		.40***	.60***	.56***	.32***
Kin.	.31**	.35**	.40***		.29**	.34**	.47***
Gus.	.33**	.38***	.60***	.29**		.56***	.34**
Olf.	.39***	.42***	.56***	.34**	.56***		.42***
Org.	.50***	.49***	.32**	.47***	.34**	.42***	

(Table 15 continued)

Variable	Vis.	Aud.	Cut.	Kin.	Gus.	Olf.	Org.
Imag. Con.	.06	.16	.21	.13	.29**	.20	.28*
Chr. Imag.	.14	.20	.15	.02	.28**	.39***	.28**

Note. All statistics are Pearson-r Correlation Coefficients.

* $p < .05$, ** $p < .01$, *** $p < .001$. $N = 80$.

Gustatory, or Organic subscales, $r^2 = .08$, on the Christian Use of Imagery Inventory.

Question 5. It was asked what relationship do the demographic variables have to the other measures used in the study. The Spiritual Well-being Scale was significantly positively associated with frequency of devotions, $\text{Tau } C(N = 80) = .23$, $p < .01$, and duration of devotions, $\text{Tau } C(N = 80) = .23$, $p < .01$ (see Table 16). Both of the subscales significantly contributed to the association. The Religious Well-being subscale also significantly positively associated with attitude toward charismatic practices, $\text{Tau } C(N = 80) = .24$, $p < .01$ (see Table 17).

The Spiritual Maturity Index significantly positively correlated with age, $r(N = 80) = .25$, $p < .05$. It significantly associated with frequency of devotions, $\text{Tau } C(N = 80) = .36$, $p < .001$, and duration of devotions, $\text{Tau } C(N = 80) = .27$, $p < .001$. The Spiritual Maturity Index also significantly positively associated with average hours spent per week ministering to Christians, $\text{Tau } C(N = 80) = .18$, $p < .05$, and to non-Christians, $\text{Tau } C(N = 80) = .17$, $p < .05$ (see Table 16).

Hood's Mysticism Scale significantly positively associated with average hours spent per week ministering to Christians, $\text{Tau } C(N = 80) = .25$, $p < .01$. Both of the subscales significantly

Table 16

Spirituality Variables Associated With Demographic Variables

Variable	Statistic	SWB	SMI	HMS
Age	<u>r</u>	.00	.25*	.09
Education	<u>r</u>	.10	.15	.15
Religious Education	<u>r</u>	.12	.02	-.17
Years Christian	<u>r</u>	.16	.09	-.03
Years Christian Leader	<u>r</u>	.16	.20	.07
Church Frequency	<u>Tau C</u>	.10	.10	.05
Devotional Frequency	<u>Tau C</u>	.23**	.36***	.05
Devotional Duration	<u>Tau C</u>	.23**	.27***	.07
Christian Ministry	<u>Tau C</u>	.13	.18*	.25**
Non-Christian Ministry	<u>Tau C</u>	.12	.17*	.03
Charismatic Attitude	<u>Tau C</u>	.14	.09	.20*
Imagery Attitude	<u>Tau C</u>	.07	.16	.05
Class Level	<u>Tau C</u>	-.02	.05	.06

(Table 16 continued)

Variable	Statistic	SWB	SMI	HMS
Sex	<u>C</u>	.52	.57	.64
Marital Status	<u>C</u>	.66	.69	.62
Church	<u>C</u>	.88	.89	.92

Note. Probability level for Contingency Coefficients (C) are based on the χ^2 .

* $p < .05$. ** $p < .01$ *** $p < .001$. N = 80.

Table 17

Spirituality Subscales Associated with Demographic Variables

Variable	Statistic	RWB	EWB	RMS	EMS
Age	<u>r</u>	-.01	.00	.19	.02
Education	<u>r</u>	.02	.13	.21	.10
Rel. Education	<u>r</u>	.05	.15	.04	-.25*
Yrs. Christian	<u>r</u>	.13	.13	-.03	-.03
Yrs. Chr. Leader	<u>r</u>	.08	.21	.20	-.01
Church Frequency	<u>Tau C</u>	.10	.10	.10	.01
Devotional Freq.	<u>Tau C</u>	.22**	.18*	.16	-.05
Devotional Dura.	<u>Tau C</u>	.22**	.23**	.07	.05
Chr. Ministry	<u>Tau C</u>	.08	.12	.25**	.19*
Non-Chr. Ministry	<u>Tau C</u>	.16	.06	.14	-.03
Charismatic Att.	<u>Tau C</u>	.24**	.12	.19*	.16
Imagery Attitude	<u>Tau C</u>	.00	.09	.11	.04
Class Level	<u>Tau C</u>	-.04	.02	.25*	-.05

(Table 17 continued)

Variable	Statistic	RWB	EWB	RMS	EMS
Sex	<u>C</u>	.44	.50	.47	.57
Marital Status	<u>C</u>	.56	.52	.60	.66
Church	<u>C</u>	.76	.80	.85	.91

Note. Probability level for Contingency Coefficients (C) are based on the χ^2 .

* $p < .05$, ** $p < .01$, *** $p < .001$. N = 80.

contributed to the association. The scale also significantly positively associated with attitude toward charismatic practices, $\tau C(N = 80) = .20, p < .05$ (see Table 16), but only the Religious Mysticism subscale significantly positively contributed to the association, $\tau C(N = 80) = .19, p < .05$. The Religious Mysticism subscale also significantly associated with class level, $\tau C(N = 80) = .25, p < .05$. The Existential Mysticism subscale significantly negatively associated with religious education, $\tau C(N = 80) = -.25, p < .05$ (see Table 17).

The Betts Questionnaire of Mental Imagery significantly positively associated with attitude toward the role of the imagination in one's spirituality, $\tau C(N = 80) = .24, p < .01$ (see Table 18). The questionnaire also strongly associated with marital status, $C(N = 80) = .78$. The Visual, Cutaneous, Kinesthetic, and Olfactory subscales significantly positively associated with attitude toward the role of the imagination in one's spirituality (see Table 19 for values). The Cutaneous subscale significantly positively associated with class level, $\tau C(N = 80) = .22, p < .05$. The Kinesthetic subscale significantly negatively associated with average number of hours per week spent ministering to non-Christians, $\tau C(N = 80) = -.19, p < .05$. The Gustatory subscale significantly positively associated with average number of hours per week spent ministering

Table 18

Imagery Variables Associated With Demographic Variables

Variable	Statistic	QMI	GIC	CUI
Age	<u>r</u>	-.15	-.14	-.11
Education	<u>r</u>	.02	-.09	-.12
Religious Education	<u>r</u>	.12	.07	-.01
Years Christian	<u>r</u>	.04	.11	-.05
Years Christian Leader	<u>r</u>	.02	-.05	.02
Church Frequency	<u>Tau C</u>	-.08	-.03	.00
Devotional Frequency	<u>Tau C</u>	-.09	-.08	.07
Devotional Duration	<u>Tau C</u>	.08	.14	.19*
Christian Ministry	<u>Tau C</u>	.15	.06	.25**
Non-Christian Ministry	<u>Tau C</u>	-.03	-.05	.12
Charismatic Attitude	<u>Tau C</u>	.06	.06	.03
Imagery Attitude	<u>Tau C</u>	.24**	.14	.12
Class Level	<u>Tau C</u>	.12	-.02	-.03

(Table 18 continued)

Variable	Statistic	QMI	GIC	CUI
Sex	<u>C</u>	.59	.29	.57
Marital Status	<u>C</u>	.78*	.51	.77***
Church	<u>C</u>	.92	.74	.90*

Note. Probability level for Contingency Coefficients (C) are based on the χ^2 .

* $p < .05$, ** $p < .01$, *** $p < .001$. $N = 80$.

Table 19

Betts QMI Subscales Associated with Demographic Variables

Variable	Statistic	Vis.	Aud.	Cut.	Kin.
Age	<u>r</u>	-.08	-.13	.01	-.21
Education	<u>r</u>	.05	.10	.08	-.09
Rel. Education	<u>r</u>	.15	.08	.00	.13
Yrs. Christian	<u>r</u>	-.04	.00	.03	.16
Yrs. Chr. Leader	<u>r</u>	-.06	.11	-.01	.16
Church Frequency	<u>Tau C</u>	.04	-.09	-.15	-.08
Devotional Freq.	<u>Tau C</u>	.01	-.11	-.04	-.13
Devotional Dura.	<u>Tau C</u>	.12	.00	.07	-.04
Chr. Ministry	<u>Tau C</u>	.07	.01	.13	-.03
Non-Chr. Ministry	<u>Tau C</u>	-.13	-.01	-.05	-.19*
Charismatic	<u>Tau C</u>	.01	.02	.05	.03
Imagery	<u>Tau C</u>	.19*	-.02	.29**	.21*
Class Level	<u>Tau C</u>	.20*	.08	.22*	.03

(Table 19 continued)

Variable	Statistic	Vis.	Aud.	Cut.	Kin.
Sex	<u>C</u>	.30	.40	.43	.36
Marital Status	<u>C</u>	.53	.52	.60	.45
Church	<u>C</u>	.84***	.80	.86**	.80

Variable	Statistic	Gus.	Of.	Org.
Age	<u>r</u>	-.05	-.03	-.34**
Education	<u>r</u>	.00	.02	-.08
Religious Education	<u>r</u>	.08	.05	.11
Years Christian	<u>r</u>	.07	-.05	.03
Years Christian Leader	<u>r</u>	-.06	.01	-.06
Church Frequency	<u>Tau C</u>	-.01	-.09	.05
Devotional Frequency	<u>Tau C</u>	-.07	-.12	-.10
Devotional Duration	<u>Tau C</u>	.07	.05	.07
Christian Ministry	<u>Tau C</u>	.20*	.12	.10
Non-Christian Ministry	<u>Tau C</u>	-.09	.15	-.06
Charismatic Attitude	<u>Tau C</u>	-.01	.09	.10
Imagery Attitude	<u>Tau C</u>	.09	.22*	.15
Class Level	<u>Tau C</u>	.04	.10	.08

(Table 19 continued)

Variable	Statistic	Gus.	Olf.	Org.
Sex	<u>C</u>	.53	.49	.43
Marital Status	<u>C</u>	.49	.56	.50
Church	<u>C</u>	.87**	.88***	.79

Note. Probability level for Contingency Coefficients (C) are based on the χ^2 .

* $p < .05$, ** $p < .01$, *** $p < .001$. N = 80.

to Christians, $\text{Tau } C(N = 80) = .20, p < .05$. The Organic subscale significantly negatively associated with age, $\text{Tau } C(N = 80) = -.34, p < .01$ (see Table 19). There was also a strong association between what particular church a subject attended and the Visual, Cutaneous, Gustatory, and Organic subscales, $C(N = 80) = .84$ to $.88$.

The Gordon Test of Imagery Control did not significantly correlate with any of the demographic survey questions.

The Christian Use of Imagery Inventory significantly positively associated with devotional duration, $\text{Tau } C(N = 80) = .19, p < .05$, and with average amount of time spent ministering to Christians, $\text{Tau } C(N = 80) = .25, p < .01$. There was also a strong association between the Christian Use of Imagery Inventory and marital status, $C(N = 80) = .77$, and church attended, $C(N = 80) = .90$.

Chapter 4

DISCUSSION

Before an interpretation of the results is made, it is important that the limitations of this study are stated in order that the findings are understood in proper perspective. In this section of the paper, I will first discuss the limitations of this study; second, interpret the results; and third, speculate as to the implications this study's results might have for our understanding of imagery and religion. Suggestions for further research will also be made.

Limitations

Sample. The results of this study are limited to the relatively narrow subject population used. The subjects were enrolled and attending a small private Bible college. They were all Christians as measured by their response to the demographic question asking whether they accepted Jesus Christ as Lord and Savior and follow His moral and ethical teachings. Further, the subjects were predominantly of a particular subset of Christians: those who attend churches considered "evangelical" in doctrinal orientation. Of these evangelical, bible college students, most

were between the ages of 18 and 26, and most have never been married. The results may also be limited to other demographic variables peculiar to the school, its location, and the time period the research data was gathered. Therefore, confident generalizability of these results is confined to those with similar circumstances.

In defense of the narrow population used, the sample was selected because it was a homogeneous group so extraneous variables affecting the results could be kept to a minimum. Second, the sample was selected because it is a Christian religious group appropriate for the measures used in the study. Third, the sample was available for testing.

A further caution is the consideration that the sample was not fully random but was comprised of volunteers. Though the sample was carefully selected by random procedures, only 65% of those available actually participated. Another 20% of the sample had legitimate excuses for not attending, but still 15% of the sample is not accounted for. Therefore, the results of the study may be restricted to characteristics unique to those interested in taking the tests compared to those who did not. However, in support of the validity of the study, there was a fairly equal representation of the sexes, and also of the classes in the school - as would be expected from a random sample.

There may be several reasons why the subjects of this study wanted to participate: (1) they were invited to participate by recommendation of the dean of students on official school stationary; (2) they were told the results of the study may help to benefit "man's understanding of himself and his relationship to God" and contribute to a "growing body of literature in the psychology of religion"; (3) because their school would receive a copy of the overall results and so contribute to the school's understanding of the student body; and/or (4) because students would confidentially receive their results, if they so requested, to help them understand themselves. (See Appendixes A-C).

Statistics. The study is correlational and not causal. Though there were significant positive relationships found between imaginal ability and Christian imaginal frequency, and between Christian imaginal frequency and Christian spirituality, it is not known if any of the variables studied causes in any degree any other variable. What is known is that as one measure goes up in score so does the other, and vice-versa. Therefore, it is difficult to state what accounts for the results found. It is also difficult to apply the results toward making positive changes in behavior. What the results do indicate is that a relationship exists, which gives support for doing experimental studies

with these variables to define what is the nature of the relationship.

Another statistical problem that limits the generalizability of the results is the size of the sample. This issue was addressed more fully in the method section of this paper. The problem is the less subjects in a study, the greater likelihood there will be a Type 1 error - saying there is an effect found when really there was not (Gay, 1981). Though, the sample was reasonably representative of the school's population, it is still fairly small statistically in comparison to all the unmarried, 18-26 year old, Bible student, Christian evangelicals that presently exist in the world.

Finally, because of the numerous correlations (or correlation-type associations) used in the study, it is likely that a small percentage of the significant findings of the study are actually due to chance. This is particularly true of those findings with smaller significant correlations (or associations).

Instruments. A couple of the scales, Spiritual Maturity Index and the Christian Use of Imagery Inventory, did not have previously established reliability and validity information, thus factor analysis, split-half, and coefficient alpha statistics were used post hoc (see appendices P and Q). These instruments need more use in other research projects before their reliability and

validity can be confidently asserted. Validity is particularly important for the interpretation of what the results mean. The Christian Use of Imagery Inventory had the most important role in the positive findings of this study in comparison to the other five measures used. Unfortunately, the inventory was newly created for this study, and lacks validation apart from this study.

The instruments were selected because they appeared to measure the defined constructs. The construct of imaginal ability has been used in the literature with the two scales used in this study (White, Sheehan, & Ashton, 1977). However, Christian spirituality has not been used as a construct before, nor have the three scales used ever been put together before to define such a construct. There is both the problem of whether Christian spirituality exists as is defined in this study, and whether the scales used actually measure it. There is some indication from the results of this study that the spirituality construct may not hold together well, as will be further discussed below.

Finally, the study is limited by the measures being self-report, and the possibility of demand characteristics. Unfortunately, it is the nature of the variables studied (imagery and spirituality) that it is very difficult to measure these variables without relying on self-report instruments. Both

variables are fairly invisible as traits, though potentially affecting a wide range of behavior. These variables are also hard to define and therefore difficult to experimentally manipulate without use of survey type questionnaires.

Ellison (1983) concludes that the Spiritual Well-being scale "does not appear to be seriously affected by artifacts such as social desirability," but adds "this has yet to be demonstrated empirically" (p. 337). There is also no published social desirability information on the Spiritual Maturity Scale. One of Hood's Mysticism Scale subscale components did correlate with the MMPI Lie scale (Hathaway & McKinley, 1951) suggesting falsifying scores to present oneself in a favorable social light (Hood, 1975). However, Hood interprets this as meaning those who take the test are more conventionally socialized (due to religious commitments), and hence the behaviors of the Lie scale are in fact less frequently found in these individuals.

Research done on the social desirability of the Betts QMI and the Gordon Test, is contradictory and inconclusive. Divesta, Ingersoll, and Sunshine (1971), and Durndell and Wetherick (1975) found the scales to significantly correlate with the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964). However, the correlations were small (see White, Sheehan & Ashton, 1977 for a review of the findings). Using the same scale

Rossiter (1976) did not find a significant correlation with the two imagery measures. Lane (1974) used Tellegen's (1972) Validity 1 Scale and did not find a significant correlation between the measures.

In regards to the Christian Use of Imagery Inventory, one would not expect Christians to bias themselves one way or the other in regards to their imagination. The imagination, as reported earlier in the introduction section, is not a quality to which attention is paid in Christianity. Few books are written on the subject, and it is rare to find anyone teaching the subject. If a bias existed it would be negative rather than positive (because of the protestant church's emphasis on the verbal and rational, rather than on the visual and imaginative), which is not in keeping with the findings of this study.

Findings

With the above limitations in mind, the study's results and their importance will be interpreted. The three hypotheses will be considered together, then each of the questions in the study will be discussed individually. (Discussion of the Spiritual Maturity Index and the Christian Use of Imagery Inventory regarding their reliability and construct validity is in appendixes P and Q).

Hypotheses. The thesis of this paper is that imaginal experiences are significantly related to a person's spirituality. To test this relationship three variables were used: (1) imaginal ability as measured by the Betts Questionnaire of Mental Imagery and the Gordon Test of Visual Imagery Control; (2) Christian imaginal frequency as measured by the Christian Use of Imagery Inventory; and (3) Christian spirituality as measured by the Spiritual Well-being Scale, the Spiritual Maturity Index, and Hood's Mysticism Scale.

Overall, it was found while no significant relationship existed between the constructs of imaginal ability and Christian spirituality (hypothesis 1), there did exist a significant positive relationship between Christian imaginal frequency and imaginal ability (hypothesis 2) and between Christian imaginal frequency and Christian spirituality (hypothesis 3). Conceptually, Christian imaginal frequency can be viewed as the bridge between the two seemingly unrelated concepts of imaginal ability and Christian spirituality.

The above findings are reasonable in light of what the Bible reports about gifts and their use. In the "Parable of the Talents," in the Biblical book of Matthew, chapter 25, Jesus Christ tells the story about how a man about to go on a journey entrusted his property to three servants. Each servant was given

a different sum of "talents" (a talent was a monetary measure used in ancient Judea and Palestine during the time of Christ). When the master returns, he finds that two of the servants invested their talents, and doubled their investment. To these two servants the master says, "Well done, good and faithful servant! You have been faithful with a few things; I will put you in charge of many things. Come and share your master's happiness! (verse 21)." One servant however, did not invest it, but instead hid it. To this servant the master says, "...throw that worthless servant outside, into the darkness, where there will be weeping and gnashing of teeth (verse 30)." The parable is in the context of Christ addressing his disciples and warning them (and the future church) about being productive in their ministry, for they will be eventually judged for how they used their time and resources (see I Corinthians 3:10-15). The principle that is relevant to this study is it does not matter how much "talent" one has been given, but what one does with it. Similarly, it does not matter how much imaginal ability one has, as much as what one does with their imagination - how much, or to what end, they frequently put it to use or "invest" it.

The reward for both the wise servants in the parable, and those who use their imaginations may be similar: being able to share in their master's (God's) happiness (though it is reminded

that the present study does not prove causation). In the present study, there appears to be a strong relationship between the subject's report of their mystical experiences, and their frequency of using their imagination on Christian situations. Could it be that those Christians who exercise, "invest," their imaginations on Christian subjects more frequently are rewarded with the mystical rapture of sharing God's presence? This would be in keeping with the Biblical illustration presented above.

This paper's thesis was found to be upheld: imaginal experience is significantly related to a person's spirituality. However, it is Christian imaginal frequency, not imaginal ability, that is related to a person's spirituality (though imaginal ability is significantly related to Christian imaginal frequency). Additionally, as will be further discussed below, Christian imaginal frequency is more specifically related to mystical experience (as measured by Hood's Mysticism Scale) than the other defined dimensions of Christian spirituality (the Spiritual Well-being Scale and the Spiritual Maturity Index).

Question 1. It was asked whether the six scales used in the study, when considered individually, significantly positively correlate with each other. This was asked in order that the relationships within and between the constructs could be observed. It was to find out if the six measures adequately constitute the

defined constructs of imaginal ability, Christian imaginal frequency and Christian spirituality.

First, it was found the Spiritual Well-being Scale and the Spiritual Maturity Index significantly positively correlated with each other. This was in keeping with previous research done on the two measures. Ellison et al. (1984) found that the two scales share 32% common variance. The present study found that the scales shared 41% common variance.

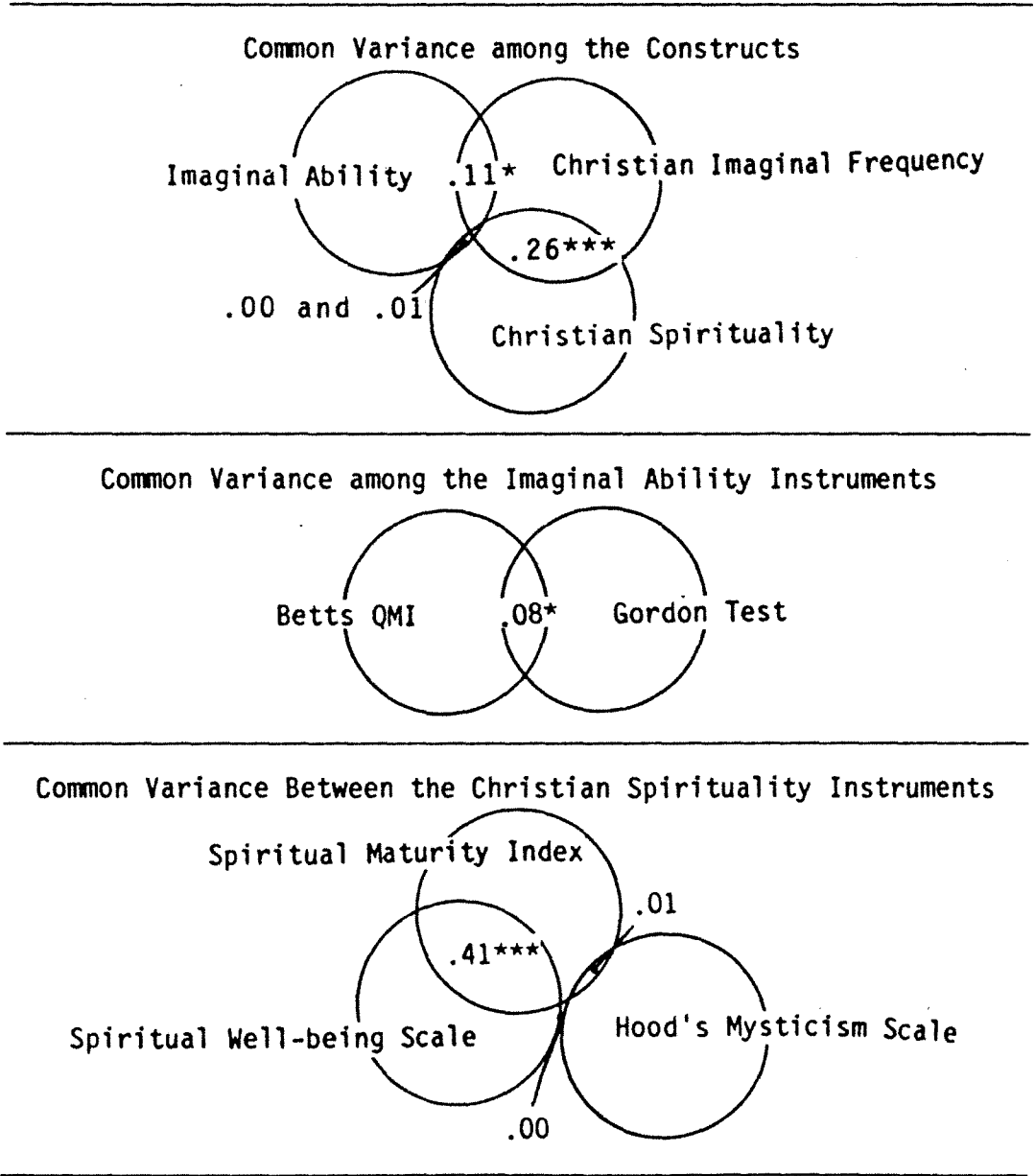
Second, the Betts QMI and the Gordon Test of Visual Control, as in past research studies, significantly positively correlated with each other, though they only showed 8% common variance.

Third, the Christian Use of Imagery Inventory significantly positively correlated with Hood's Mysticism Scale, sharing 22% common variance, and with Betts QMI Vividness of Imagery Scale, sharing 10% common variance.

The relationships among the scales did raise a question about the adequacy of the Christian spirituality construct. Figure 1 depicts the canonical correlation eigenvalues (which can be interpreted in the same way as common variance, or r^2) between the constructs of imaginal ability, Christian imaginal frequency, and Christian spirituality. The common variance among the measures comprising the constructs of imaginal ability and Christian spirituality are also shown. The imaginal ability

Figure 1

Common Variance among the Constructs and Instruments



Note. * $p < .05$, ** $p < .01$, *** $p < .001$. N = 80

inventories show barely enough significant shared variance (8%) to associate them as measuring some characteristic common to both. This has been interpreted as "imaginal ability" by past researchers, and this appears to be validated by the present study.

In looking at the construct of Christian spirituality, it can be seen (refer to Figure 1) that two of the measures overlap greatly while the third is not significantly related to either; Hood's Mysticism Scale is not significantly related to either the Spiritual Well-being Scale or the Spiritual Maturity Index. Sequential multiple regression analysis of hypothesis 3 showed that the Christian Use of Imagery Inventory shared most common variance with Hood's Mysticism Scale, and did not correlate significantly with the other two measures. In actuality then, it appears more appropriate to assert from the findings of hypothesis 3, that Christian imaginal frequency positively relates to "mysticism" rather than "spirituality." It was hoped the three measures would overlap some (sharing about 10-20% common variance) so as to indicate a common bond, that of Christian spirituality, among the measures. Too much overlap would indicate the instruments were measuring the same thing (duplicating one another). Too little overlap would indicate the instruments do not have anything in common with one another. In consideration

of the findings of question 1, the proposed construct of Christian spirituality (as operationally defined by the Spiritual Well-being Scale, the Spiritual Maturity Index and Hood's Mysticism Scale) does not appear to adequately hold together by the measures and sample used.

"Spirituality" was defined in this paper as: (1) the belief or attitude concerning the degree of positive involvement God has in a person's life; (2) the degree of the person's genuine expression of that belief by convictions and acts conforming to the teachings of the religion s/he has learned; and (3) the quantity or quality of the person's extraordinary experiences that is interpreted as confirming his/her belief. The Spiritual Well-being Scale, the Spiritual Maturity Index, and Hood's Mysticism Scale were chosen to construct the above definition so as to test a Christian's spirituality. The results of this study may be interpreted in one of the following ways: (1) the above definition is not adequate in explaining what constitutes Christian spirituality; (2) the measures used do not adequately fit the above definition (what they say they measure, and what they actually do measure is not the same thing); (3) mysticism has nothing to do with one's spirituality, and therefore Christian imaginal frequency is not related to spirituality; or (4) the

problem is not the measures used or the definition but the sample used.

The above definition is reasonable in light of how others in the past have defined spirituality as reviewed in the introduction section of this paper. It is reasonable to expect that a believer's spirituality would be comprised of the strength of their relationship with God, their mature expression of that faith, as well as their supernatural experiences. A long tradition of Western mystics, and scholars of mysticism, would disagree that the problem is with mysticism defining part of what constitutes spirituality. The only way to know if the problem was the sample is to validate the study with other sample populations. It is very possible there is a problem with two of the measures used - the Spiritual Well-being Scale and the Spiritual Maturity Index. It is possible these two scales do not measure "spirituality" as much as they measure the appropriateness (doctrinal soundness) of a person's beliefs. The problem is whether the individuals actually behaviorally act in a way that supports their responses on these two measures, or if it is just an attitude the respondents have. Note the two scales use an "agree" to "disagree" rating system rather than whether the items are actually true of the respondents experience or not. What is

needed are ways to behaviorally measure a person's spirituality rather than rely upon self-report instruments.

In summary, question 1 contributes to the thesis of this study by clarifying the nature of the hypothesized relationships. Christian imaginal frequency relates not to the construct of Christian spirituality, but to mystical experiences as measured by the Hood's Mysticism scale. The construct of imaginal ability continues to find some support by this study, but the construct of Christian spirituality may need to be redefined or measured by different scales in future research.

Question 2. It was asked which of the two Spiritual Well-being subscales had a greater positive correlation with the other instruments used in the study. This was asked to assess how the present sample defined their experience of well-being, religiously or existentially, and whether this would help further clarify the results of the study.

The Spiritual Well-being subscales significantly correlated with the Spiritual Maturity Index, though not significantly with any other instrument. That the Religious Well-being subscale shared almost twice the common variance of the Existential Well-being subscale is likely due to the strong religious bias of the sample. This is also in accordance with the Religious Well-being subscale having a higher mean score than the Existential Well-

being subscale. In scoring the test, it was observed that many of the subjects in answering items 6 and 14 of the Spiritual Well-being Scale ("I feel unsettled about my future," and "I feel good about my future" - both Existential Well-being items) responded they did not feel good or settled about their future. This is likely due to the population being Bible college students and wondering what occupational use their education will serve. Further, it was noticed that many students agreed that "life is full of conflict and unhappiness" (item 16, Existential Well-being subscale). This is perhaps due to the strong Christian evangelical belief that mankind's sin nature adversely affects life (see the Biblical book of Romans chapter 1, verses 18-32).

Because the Spiritual Well-being Scale and its subscales only related to the Spiritual Maturity Index, and neither of them related to any of the other measures, question 2 does not contribute much to understanding the main thesis of the study. Neither scale significantly contributed to the findings of the hypotheses. Their exclusion from the results is suspicious, particularly why the two instruments did not relate to Hood's Mysticism Scale. It perhaps suggests mystical experiences are not contingent upon the spiritual well-being or maturity of an individual. Another interpretation would be that while evangelicals have mystical experiences (it is estimated 35% of the

general population do have them; Spilka, Hood & Gorsuch, 1985), they may not attribute them as part of their religious belief or practice. Many churches do not facilitate intense religious experiences as normative demands upon their congregations (Dittes, 1969). However, as the following question demonstrates, the subjects in this study were attributing their experiences as part of their religious commitment.

Question 3. Similar to question 2, it was asked which of the two Hood's Mysticism subscales had a greater positive correlation with the other instruments used in the study. This was asked to assess how the present sample defined their experience of mysticism, religiously or minimal experiential, and whether this would help further clarify the results of the study.

The Mysticism subscales significantly correlated with the Christian Use of Imagery Inventory though not significantly with any other instrument. That the religious subscale correlated more to the Christian Use of Imagery Inventory than the minimal experiential subscale component may be due to the subjects attributing their experiences as part of their religious commitment. Because of the strong religious bias of the sample, they have what Spilka, Hood and Gorsuch (1985) refer to as a "set or setting" by which to interpret their experiences. Question 3 contribute to the thesis of this paper by showing Christian

imaginal frequency significantly correlates to mystical experience that is primarily interpreted by the subjects as being religious.

Question 4. It was asked what Betts QMI subscales significantly correlated with any of the other research variables. Again, this was asked to better understand the sample, and to further clarify the overall results.

It was found only two or three (out of the seven) subscales significantly correlated with any of the other measures. There was no correlations found with any of the spirituality construct measures. The gustatory and organic subscales significantly correlated with the Gordon Test for Imagery Control, and the gustatory, olfactory, and organic subscales correlated with the Christian Use of Imagery Inventory. The finding is surprising. The Gordon Test is almost exclusively a visual-imaginal exercise - the instructions describe the test as "the ease which you can control visual images" - yet the visual subscale of the Betts QMI did not significantly correlate with the Gordon Test. Similarly, the Christian Use of Imagery Inventory would appear to tap visual or auditory modes of imagining, yet neither the visual nor auditory subscales significantly correlated with the inventory.

A possible explanation why the auditory and visual modes of the Betts QMI were neglected, while the other modes were significantly and positively correlated with the Christian Use of

Imagery Inventory is while subjects have more ability to vividly imagine in these two modes, they may not apply these faculties to religious matters. As has been discussed previously, the Protestant church has a bias against "picturing" God as this may be some form of idolatry. Most Protestant Christians also believe that God has completely revealed himself through Scripture, therefore there is no need for any other verbal revelations, and so no need to hear His voice. At the same time, Christians do somehow "sense" God's presence and his influence in their lives. It is of interest to note these same three subscales of the Betts QMI (Gustatory, Olfactory, and Organic) have the highest significant correlations with what Guy and McCarter (1978) statistically delineated as comprising "emotive imagery." It is conceivable Christians imaginably experience religious matters in subjective emotionally dependent ways, rather than in ways more objectively sensorial.

However, none of the Betts QMI subscales significantly correlated with Hood's Mysticism Scale which suggests that while the subjects of this study frequently, vividly and emotionally imagine spiritual matters, they may not be actually mystically experiencing spiritual realities via these same modes.

Question 4 contributes to the findings of this study in that it further delineates the type of imagery the subjects are using

in imagining Christian spiritual realities - that of emotive imagery.

Question 5. It was asked what associations exist between the six measures used in the study and the survey-demographic questionnaire. This was asked not only to understand the sample used, but to also assess whether some of the surveyed items associate with the six measures in ways that would be theoretically expected.

The Spiritual Well-being Scale significantly positively associated with frequency and duration of personal devotions which supports past findings on the measure (Ellison & Economos, 1981; Bufford, 1984). The Religious Well-being subscale significantly positively associated with attitude toward charismatic practices. Those more tolerant of the practice of Baptism of the Holy Spirit, and Speaking in Tongues reported that they felt a greater sense of religious well-being. "Charisma" comes from the Greek language and means "to favor, grace, a divine gift." It is reasonable those Christians who practice or are "open to" charismatic practices feel a greater sense of grace, or divine favor. This has been reported by those in the charismatic movement (Quebedeaux, 1976).

The Spiritual Maturity Index, in support of what one would reasonably expect of a mature Christian (in accordance with

Biblical exhortations), significantly and positively associated with age, frequency and duration of personal devotions, and average hours spent per week ministering to Christians and non-Christians. However, and like the Spiritual Well-being Scale, the index did not associate with years of education, years a Christian, years a Christian leader, or church attendance. It can be argued that spiritual maturity is not necessarily dependent upon these experiences and practices, though one usually associates a mature Christian as having had these experiences (church leadership opportunities, and many years of knowing and learning about God.) This finding could be explained by the limitations of the sample. There would not likely be a wide range of years of education, years a Christian, or years a Christian leader from a college sample. They may also not have as much time, and therefore choice, as to how often they attend church.

Hood's Mysticism Scale significantly positively associated with average hours per week spent ministering to Christians. Though "mystics" are often viewed as reclusive, this study and others (e.g., Mallory, 1977) show that the opposite tends to be true. The overall scale and the Religious mysticism subscale component significantly and positively associated with attitude toward charismatic practice. This is reasonable in light of the fact that charismatic practices are religiously "experiential" in

nature. The Religious subscale component also significantly positively associated with class level, while the Existential subscale significantly but negatively associated with religious education. This suggests (in keeping with the "set/setting" attributions discussed previously) the more religious education one has, the more there is a tendency to define one's supernatural experiences in religious terms.

The Betts QMI significantly and positively associated with the role of the imagination in one's spirituality. Those who rated their imagination played an important role in their spirituality also tended toward being able to imagine more vividly. This was significantly true for the Visual, Cutaneous, Kinesthetic, and Olfactory subscales of the Betts QMI.

The Gordon Test did not significantly correlate with any of the the demographic-survey measures used in the study.

The Christian Use of Imagery Inventory significantly positively correlated with duration of Christian devotions, and time spent ministering to Christians. This finding is in keeping with McIntyre's (1961) assertion that the imagination is needed in devotions to better picture the Biblical narrative. McIntyre also stated the imagination was necessary in acts of love, which is confirmed in finding those reporting a greater frequency in the

use of their imaginations on Christian subjects also spend more time ministering to Christians.

It is interesting to speculate what the results of this would have been if a more charismatic religious population was used. It was found a positive attitude toward charismatic practices significantly associated with mystical experience (as measured by Hood's Mysticism Scale). The present sample, while tolerant of charismatic practices, did not engage in them themselves (only 15% favored the practice, and only 7.5% actual practised it). It is likely more charismatic subjects would report more mystical experiences because they are in a setting where such attributions are more acceptable (Spilka, Hood & Gorsuch, 1985). However attitude toward charismatic practice did not significantly correlate with imaginal ability or Christian imaginal frequency among this sample.

It was also of interest to find most subjects (58.8%) endorsed the imagination as playing a significant role in their spirituality. The finding only significantly correlated with imaginal ability (as measured by the Betts QMI). It did not, as would be expected, relate to any of the Christian spirituality measures. There is perhaps a difference in the attitude the respondents have regarding their imagination and their actual use of it (since it did not relate to Christian imaginal frequency

either). It would seem that while the Christian evangelical church is warming up to the idea of the imagination in their religious commitments, it still has a way to go in actually incorporating the imagination in their spiritual practices.

Question 5 primarily contributes to the thesis of this study by affirming that mystical experience and Christian imaginal use may be important variables in the believer's life. Both Hood's Mysticism Scale and the Christian Use of Imagery Inventory significantly associated with time spent ministering to other believers. Additionally, the Christian Use of Imagery Inventory significantly associated with devotional duration. It may be Christian imaginal use and supernatural experiences contribute to deepening the religious commitment of an individual (this would be in keeping with a study by Downing and Wygant, 1964).

Implications

From the introduction of this paper, this study's task was to explore whether there was a relationship between imaginal ability, Christian imaginal use, and Christian spirituality. It was found in support of the hypotheses there are significant relationships between imagery, and religious practice and experience. In this sample, those using their imaginations on Christian subject matter had more vivid imaginations than those who did not, and also reported more mystical-type experiences.

The research questions of the study showed the imagery subjects were using was more subjectively emotive than objectively sensorial. Also, the experiences the subjects were having were attributed as part of their religious commitment.

The following are possible implications as to what these findings could mean to our understanding of man's behavior and to future directions in research. It is speculative because the results of this study need replication and verification, and because the results are correlational and not causal.

Contribution to Imagery Research. It was found that those who scored highly on the Christian Use of Imagery Inventory also scored highly on the Betts QMI, particularly on the gustatory, olfactory, and organic subscales. This was interpreted in light of Guy and McCarter's (1978) finding of these subscales constituting "emotive imagery." Other studies have confirmed imagery can be successfully used to control emotions (e.g, Richardson & Taylor, 1982; Koff et al., 1983; Tunner 1982; Gold et al., 1982). This study appears to confirm people use emotional imagery, and may direct this type of imagery toward spiritual matters. It is possible Christians frequently imagine particular spiritual truths or situations in order to control how they feel in their present circumstances. Imagining God to be with one, for example, may comfort that individual in times of hardship. This

principle has been used by some Christian counselors-writers who advocate visualizing Christ to be with one in past experiences in order to relieve the pain of those events (e.g. Tapscott, 1975). This finding may support studies that showed the use of Christian imagery with Christian subjects to have effectively lowered anxiety (Johnson, 1982) and relieved mild depression (Probst, 1980).

The Christian Use of Imagery Inventory appears to be a reliable and valid instrument (see appendixes P and Q) in this sample, and key in the positive findings of this study. The instrument may contribute to future studies in imagery in two ways: first, the instrument measures frequency of imaginal use, a variable which has not been paid much attention to in past imagery research. Imagery has been assessed in the past solely by instruments that measure the type, content, vividness or control of the respondents imaginings (White, Sheehan, & Ashton, 1977). Number of imaginings in a particular content domain may be as important as quality of imaginings for future understanding of imagery and its influence on man.

Second, the Christian Use of Imagery Inventory revealed by factor analysis two subscales which conceptually may be of use to imagery researchers. The inventory appears to assess a difference between future and present imaginal orientations. The influence

of time orientation in the content of an individual's imaginings is not a variable which has been addressed in imagery research. It is likely people imagine events that could be happening in the present, for example: news events in other parts of the world, or how a friend is doing in the hospital. Present imaginings may also relate to wish fulfillment. For example, if the individual was at work, he/she may imagine: being at a vacation resort right now, or imagine someone in the office flirting with him/her. Future imaginings may relate to what it will be like when the person transfers to another city, or what will happen when he/she returns home from work. Obviously one could imagine things in the past as well, as in what it would be like to have been in ancient Rome, or to have done something differently than what one did do. Occasionally we naturally identify people as being "dreamers," "idealists," or "living in the past." Individuals using one particular imaginal time-orientation over the others may consequently be different in their personality and behavior.

Contributions to Religious Research. The Christian Use of Imagery Inventory was found to correlate with Hood's Mysticism Scale. Unfortunately from this study, we do not presently know if Christian imaginal use causes mystical experience or vice-versa, or if some unknown factor accounts for an increase in both. It seems likely from the historical reports of mystics the

relationship between images and experience can go in both directions: the images can "represent both the way to openness before God" and is the "result of the experience of God" (Holmes, 1980, p. 11). There are many reports (Goleman, 1978; Larson, 1976; Naranjo & Ornstein, 1971; Pelletier & Garfield, 1976) that meditative practices, such as prayer, facilitate a mood of consciousness with a variety of characteristics, one of which is imagery. Furthermore, "it is the case that persons well practiced in prayer come to anticipate such imagery and define their occurrence as one major category of religious experience" (Hood & Morris, 1981, p. 263). This study supports the previously observed close relationship between imagery and religious experience.

It may be erroneously concluded by some these results support Freud's (1964) claim that religion is illusional. Man imaginally creates a God, imagines God's personality and behavior, as a fulfillment of a wish for meaning, order, hope, security, etc., in man's otherwise troubled and confused existence. This conclusion would be wrong for several reasons: First, the present study does not show causality; the study does not show that the imagination causes a belief in, or an experience of, God. Even if causality were demonstrated, imagining a relationship with a God that already exists and consequently

experiencing such a being, does not mean God was "created" by that individual. The imagination may be used to make clearer - more sensually, emotionally and psychologically real - situations or things that already exist. The imagination does not solely exist for just creative or problem-solving purposes.

Second, it was found by this study that imaginal use, imaginal vividness and control, or mystical experience did not significantly relate to Spiritual Well-being or Spiritual Maturity as measured by those scales. It is reasonable to expect if man can create his own God, then he could create his own well-being with such a creation - he would have the security and hope he had wished for. That such is not the case from this study, may mean the experience of God is not necessarily always pleasant but may be disturbing. Christians believe in a righteous God, which may make people uncomfortable with themselves and their own sin. The Bible describes not only a loving God, but one who has and will judge the earth and mankind (see the Book of Revelation), and who painfully disciplines even those He loves (Hebrews, chapter 12, verses 7-11). The Christian God may create as many problems as He relieves, particularly as a Christian tries to obediently practice what s/he believes.

Third, in reviewing research using Freud's assertion, Spilka, Hood and Gorsuch (1985) found there was no evidence religious

movements were formulated out of "deprivation." They contend religion can fulfill the needs of the individual and society, but religion also has helped to define what those needs are. There is more evidence that religion establishes a set of values or solutions that will formulate the individual and society rather than the other way around (the individual's values formulating a religion). These values, far from being illusional (or delusional), actually help the individual and society psychologically, relationally, emotionally, etc., and so are valid. Religion is not just the "opium of the masses" (Marx, 1964), but is often a practical solution and motivator for personal, and collective change and growth.

Hood (1973) found intense religious experience strengthens religious commitments, and it leads to psychological strength (Hood, 1974) as measured by Stark's (1971) Index of Psychic Inadequacy. It may be, as St. Ignatius de Loyola and others have advocated, frequently exercising the imagination upon religious subjects will lead to experiences that will strengthen the personality of the believer, make his/her beliefs more meaningful, resulting in a greater commitment to his/her God.

Suggestions for Future Research. First, the results of this study should be verified with other sample populations. For example, it was asked what results would be found if the

instruments were used with a charismatic population. The instruments also need to be further used to contribute to their reliability and validity. The Christian Use of Imagery Inventory particularly needs more research before its reliability and validity is confidently asserted. Of particular usefulness is whether the scale is affected by demand characteristics. For example, the inventory could be correlated with the Marlowe-Crown Social Desirability Scale (Crowne & Marlowe, 1964).

Second, a new battery of tests may need to be constructed to define Christian spirituality as the tests used in this study did not appear to adequately do the job. It is particularly suggested instruments be developed that would better assess an individual's religious behavior, rather than perhaps just their attitude. The Spiritual Maturity Index appears to need revision so as to make it more of a one dimensional scale (see appendix P). It is suggested an instrument of spiritual maturity more objectively measure a subject's knowledge and practice of Christian principles. There were too many items on the Spiritual Maturity Index related to the individual's relationship to God, which may explain the index's high common variance with the Spiritual Well-being Scale. It is reasonable to expect that a person could be very knowledgeable and live morally in accord with the Bible and yet not have a

comfortable relationship with God, or feel okay in relationship to the world and the individual's purpose therein.

Third, research needs to be done to examine the causal directionality of the relationships found in this study. Does exercising the imagination produce greater imaginal ability? Does exercising the imagination cause mystical experiences? Further research could be directed toward finding out what personality characteristics are common to those who do frequently use their imaginations upon religious subjects, or who receive mystical experiences. How do these variables effect their behavior?

Fourth, the variable of time-orientation needs to be explored in imagery research. How would imagining future events effect a person's behavior as compared to present events? Is it true that someone can be "so heavenly minded as to be of no earthly good?"

As has been reviewed in this paper, imagery is a powerful part of a person's life - widely used in counseling to change an individual's feelings and behavior. Religion, as well, has a strong influence upon a person's existence. From preliminary research and observations, it is likely future research directed at the relationship of these two variables will yield techniques used to develop greater personal growth, responsibility, and sanity.

Conclusion.

This study was undertaken to empirically validate a relationship among imaginal ability, Christian imaginal use, and Christian spirituality. Though significant relationships were found, they were more specific than the constructs defined in the study: Christian imaginal frequency positively relates to vividness of imagery production, and to mysticism. Further, Christian imaginal frequency relates to imagery vividness that is more emotional in nature than sensorial. The experiences the subjects had were also interpreted in terms relating to their religious commitments. These findings validate the teaching of western mystics, are congruent with the Bible, and support past religious-imaginal research conclusions.

A problem arose in the study why two of the Christian spirituality measures (the Spiritual Well-being Scale and the Spiritual Maturity Index) did not relate to Christian imaginal frequency, while mysticism did. The findings suggest more study needs to be done assessing what specifically these instruments measure, and/or further work needs to be done clarifying what constitutes "spirituality."

The results of this study encourages further research into the variables of spirituality, imaginal ability, and imaginal frequency. There are preliminary indications from this study that

these variables may have important ramifications for understanding man, and man's relationship to God.

The disciples came to him and asked, "Why do you you speak to the people in parables?" He replied, "The knowledge of the secrets of the kingdom of heaven has been given to you, but not to them. Whoever has will be given more, and he will have an abundance. Whoever does not have, even what he has will be taken away from him. This is why I speak to them in parables: 'Though seeing, they do not see; though hearing, they do not hear or understand.' In them is fulfilled the prophecy of Isaiah: 'You will be ever hearing but never understanding; you will be ever seeing but never perceiving. For this people's heart has become calloused; they hardly hear with their ears, and they have closed their eyes. Otherwise they might see with their eyes, hear with their ears, understand with their hearts and turn, and I would heal them.'" (Matthew 13:10-15).

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SA = Strongly Agree D = Disagree
MA = Moderately Agree MD = Moderately Disagree
A = Agree SD = Strongly Disagree

ID# _____

- | | | | | | | |
|---|----|----|---|---|----|----|
| 17. I feel most fulfilled when I'm in close communion with God. | SA | MA | A | D | MD | SD |
| 18. Life doesn't have much meaning. | SA | MA | A | D | MD | SD |
| 19. My relationship with God contributes to my sense of well-being. | SA | MA | A | D | MD | SD |
| 20. I believe there is some real purpose for my life. | SA | MA | A | D | MD | SD |

Appendix F
Spiritual Maturity Index

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10# _____

For each of the following statements circle the choice that best indicates the extent of your agreement or disagreement as it describes your personal experience:

SA = Strongly Agree D = Disagree
 MA = Moderately Agree MD = Moderately Disagree
 A = Agree SD = Strongly Disagree

- | | | | | | | |
|--|----|----|---|---|----|----|
| 21. My faith doesn't primarily depend on the formal church for its vitality. | SA | MA | A | D | MD | SD |
| 22. The way I do things from day to day is often affected by my relationship with God. | SA | MA | A | D | MD | SD |
| 23. I seldom find myself thinking about God and spiritual matters during the day. | SA | MA | A | D | MD | SD |
| 24. Even if the people around me opposed my Christian convictions, I would still hold fast to them. | SA | MA | A | D | MD | SD |
| 25. The encouragement and example of other Christians is essential for me to keep on living for Christ. | SA | MA | A | D | MD | SD |
| 26. I feel like I need to be open to consider new insights and truths about my faith. | SA | MA | A | D | MD | SD |
| 27. I am convinced that the way I believe spiritually is the right way. | SA | MA | A | D | MD | SD |
| 28. People that don't believe the way I do about spiritual truths are hard hearted. | SA | MA | A | D | MD | SD |
| 29. I feel that a Christian needs to take care of his (her) <u>own</u> needs first in order to help others. | SA | MA | A | D | MD | SD |
| 30. My faith doesn't seem to give me a definite purpose in my daily life. | SA | MA | A | D | MD | SD |
| 31. I find that following Christ's example of sacrificial love is one of my most important goals. | SA | MA | A | D | MD | SD |
| 32. My identity (who I am) is determined more by my personal or professional situation than by my relationship with God. | SA | MA | A | D | MD | SD |
| 33. Walking closely to God is the greatest joy of my life. | SA | MA | A | D | MD | SD |
| 34. I feel that identifying and using my spiritual gifts is not really important. | SA | MA | A | D | MD | SD |

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ID# _____

SA = Strongly Agree D = Disagree
 MA = Moderately Agree MD = Moderately Disagree
 A = Agree SD = Strongly Disagree

- | | | | | | | |
|--|----|----|---|---|----|----|
| 35. I don't seem to be able to live in such a way that my life is characterized by the fruits of the spirit. | SA | MA | A | D | MD | SD |
| 36. When my life is done I feel like only those things that I've done as part of following Christ will matter. | SA | MA | A | D | MD | SD |
| 37. I believe that God has used "negative" or difficult times in my life to draw me closer to him | SA | MA | A | D | MD | SD |
| 38. I feel like God has let me down in some of the things that have happened to me. | SA | MA | A | D | MD | SD |
| 39. I have chosen to forego various gains when they have detracted from my spiritual witness or violated spiritual principles. | SA | MA | A | D | MD | SD |
| 40. Giving myself to God regardless of what happens to me is my highest calling in life. | SA | MA | A | D | MD | SD |
| 41. I don't regularly study the Bible in depth on my own. | SA | MA | A | D | MD | SD |
| 42. I actively look for opportunities to share my faith with non-Christians. | SA | MA | A | D | MD | SD |
| 43. My relationships with others are guided by my desire to express the love of Christ. | SA | MA | A | D | MD | SD |
| 44. I don't regularly have times of deep communion with God in personal (private) prayer. | SA | MA | A | D | MD | SD |
| 45. More than anything else in life I want to know God intimately and to serve him. | SA | MA | A | D | MD | SD |
| 46. Worship and fellowship with other believers is a significant part of my Christian life. | SA | MA | A | D | MD | SD |
| 47. It seems like I am experiencing more of God's presence in my life than I have previously. | SA | MA | A | D | MD | SD |
| 48. I feel like I am becoming more Christ-like. | SA | MA | A | D | MD | SD |
| 49. I seem to have less consistent victories over temptation than I used to. | SA | MA | A | D | MD | SD |
| 50. On the whole, my relationship with God is alive and growing. | SA | MA | A | D | MD | SD |

Appendix G
Hood's Mysticism Scale

10# _____

The following items are brief descriptions of a number of experiences. Some descriptions refer to phenomenon that you may have experienced while others refer to phenomenon that you may not have experienced. In each case note the description carefully and then circle the mark in the right margin according to how the description applies to your experience. Circle +1, +2, or -1, -2, or ? depending on how you feel in each case.

- +2 = This description is definitely true of my own experience(s)
- +1 = This description is probably true of my own experience(s)
- ? = I cannot decide
- 1 = This description is probably not true of my own experience(s)
- 2 = This description is definitely not true of my own experience(s)

Please circle a response for each item trying to avoid if at all possible marking any item with a ?. In responding to each item, please understand that the items may be considered as applying to one experience or as applying to several different experiences. Make sure all items have been marked - leave no items unanswered.

- | | | | | | |
|---|----|----|---|----|----|
| 51. I have had an experience which was both timeless and spaceless. | +2 | +1 | ? | -1 | -2 |
| 52. I have had an experience which was incapable of being expressed in words. | +2 | +1 | ? | -1 | -2 |
| 53. I have had an experience in which something greater than myself seemed to absorb me. | +2 | +1 | ? | -1 | -2 |
| 54. I have had an experience in which everything seemed to disappear from my mind until I was conscious only of a void. | +2 | +1 | ? | -1 | -2 |
| 55. I have experienced profound joy. | +2 | +1 | ? | -1 | -2 |
| 56. I have had an experience in which I felt myself to be absorbed as one with all things. | +2 | +1 | ? | -1 | -2 |
| 57. I have experienced a perfectly peaceful state. | +2 | +1 | ? | -1 | -2 |
| 58. I have never had an experience in which I felt as if all things were alive. | +2 | +1 | ? | -1 | -2 |
| 59. I have never had an experience which seemed holy to me. | +2 | +1 | ? | -1 | -2 |
| 60. I have never had an experience in which all things seemed to be aware. | +2 | +1 | ? | -1 | -2 |
| 61. I have had an experience in which I had no sense of time or space. | +2 | +1 | ? | -1 | -2 |

ID# _____

- +2 = This description is definitely true of my own experience(s)
 +1 = This description is probably true of my own experience(s)
 ? = I cannot decide
 -1 = This description is probably not true of my own experience(s)
 -2 = This description is definitely not true of my own experience(s)
- | | | | | | |
|--|----|----|---|----|----|
| 62. I have had an experience in which I realized the oneness of myself with all things. | +2 | +1 | ? | -1 | -2 |
| 63. I have had an experience in which a new view of reality was revealed to me. | +2 | +1 | ? | -1 | -2 |
| 64. I have never experienced anything to be divine. | +2 | +1 | ? | -1 | -2 |
| 65. I have never had an experience in which time and space were non-existent. | +2 | +1 | ? | -1 | -2 |
| 66. I have never experienced anything that I could call ultimate reality. | +2 | +1 | ? | -1 | -2 |
| 67. I have had an experience in which ultimate reality was revealed to me. | +2 | +1 | ? | -1 | -2 |
| 68. I have had an experience in which I felt that all was perfection at that time. | +2 | +1 | ? | -1 | -2 |
| 69. I have had an experience in which I felt everything in the world to be part of the same whole. | +2 | +1 | ? | -1 | -2 |
| 70. I have had an experience which I knew to be sacred. | +2 | +1 | ? | -1 | -2 |
| 71. I have never had an experience which I was unable to express adequately through language. | +2 | +1 | ? | -1 | -2 |
| 72. I have had an experience which left me with a feeling of awe. | +2 | +1 | ? | -1 | -2 |
| 73. I have had an experience that is impossible to communicate. | +2 | +1 | ? | -1 | -2 |
| 74. I have never had an experience in which my own self seemed to merge with something greater. | +2 | +1 | ? | -1 | -2 |
| 75. I have never had an experience which left me with a feeling of wonder. | +2 | +1 | ? | -1 | -2 |
| 76. I have never had an experience in which deeper aspects of reality were revealed to me. | +2 | +1 | ? | -1 | -2 |
| 77. I have never had an experience in which time, place or distance was meaningless. | +2 | +1 | ? | -1 | -2 |

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- ID# _____
- +2 = This description is definitely true of my own experience(s)
+1 = This description is probably true of my own experience(s)
? = I cannot decide
-1 = This description is probably not true of my own experience(s)
-2 = This description is definitely not true of my own experience(s)
78. I have never had an experience in which I became
aware of a unity to all things. +2 +1 ? -1 -2
79. I have had an experience in which all things
seemed to be conscious. +2 +1 ? -1 -2
80. I have never had an experience in which all things
seemed to be unified into a single whole. +2 +1 ? -1 -2
81. I have had an experience in which I felt nothing
is ever really dead. +2 +1 ? -1 -2
82. I have had an experience that cannot be expressed
in words. +2 +1 ? -1 -2

Appendix H

Bett's Questionnaire of Mental Imagery

10# _____

The aim of the following test questions is to determine the vividness of your imagery. The items of this test will bring certain images to your mind. You are to rate the vividness of each image by reference to the accompanying rating scale, which is shown on the bottom of this page. Circle your answers on the right margin of each question. Before you start answering the items, familiarize yourself with the different categories on the rating scale. Throughout the test, refer to the rating scale when judging the vividness of each item. A copy of the rating scale will be printed on the top of every page. Complete each page before moving on to the next page. Try to do each item separately independent of how you may have done other items. An image aroused by an item of this test may be:

- 7 = Perfectly clear and as vivid as the actual experience.
- 6 = Very clear and comparable in vividness to the actual experience.
- 5 = Moderately clear and vivid.
- 4 = Not clear or vivid.
- 3 = Vague and dim.
- 2 = So vague and dim as to be hardly discernible.
- 1 = No image present at all, you only 'knowing' that you are thinking of the object.

Think of some relative or friend whom you frequently see, considering carefully the picture that rises before your mind's eye. Classify the images suggested by each of the following questions as indicated by the degrees of clearness and vividness specified on the Rating Scale.

- 83. The exact contour of face, head, shoulders and body. 7 6 5 4 3 2 1
- 84. Characteristic poses of head, attitudes of body, etc. 7 6 5 4 3 2 1
- 85. The precise carriage, length of step, etc. in walking. 7 6 5 4 3 2 1
- 86. The different colors worn in some familiar costume. 7 6 5 4 3 2 1

Think of seeing the following, considering carefully the picture which comes before your mind's eye; and classify how vividly you can imagine the item.

- 87. The sun as it is sinking below the horizon. 7 6 5 4 3 2 1

Think of each of the following sounds, considering carefully the image that comes to the mind's ear, and classify how vividly you can imagine the items.

- 88. The whistle of a locomotive. 7 6 5 4 3 2 1
- 89. The honk of an automobile. 7 6 5 4 3 2 1
- 90. The mewling of a cat. 7 6 5 4 3 2 1

ID# _____

- 7 = Perfectly clear and as vivid as the actual experience.
- 6 = Very clear and comparable in vividness to the actual experience.
- 5 = Moderately clear and vivid.
- 4 = Not clear or vivid.
- 3 = Vague and dim.
- 2 = So vague and dim as to be hardly discernible.
- 1 = No image present at all, you only 'knowing' that you are thinking of the object.

91. The sound of escaping steam. 7 6 5 4 3 2 1

92. The clapping of hands in applause. 7 6 5 4 3 2 1

Think of 'feeling' of touching the following, considering carefully the image which comes to the mind's touch, and classify how vividly you can imagine the items.

93. Sand. 7 6 5 4 3 2 1

94. Linen. 7 6 5 4 3 2 1

95. Fur. 7 6 5 4 3 2 1

96. The prick of a pin. 7 6 5 4 3 2 1

97. The warmth of a tepid bath. 7 6 5 4 3 2 1

Think of performing each of the following acts, considering carefully the image that comes to your mind's arms, legs, lips, etc., and classify how vividly you can imagine the items.

98. Running upstairs. 7 6 5 4 3 2 1

99. Springing across a gutter. 7 6 5 4 3 2 1

100. Drawing a circle on paper. 7 6 5 4 3 2 1

101. Reaching up to a high shelf. 7 6 5 4 3 2 1

102. Kicking something out of your way. 7 6 5 4 3 2 1

Think of tasting each of the following, considering carefully the image which comes to your mind's mouth, and classify how vividly you can imagine the items.

103. Salt. 7 6 5 4 3 2 1

104. Granulated (white) sugar. 7 6 5 4 3 2 1

105. Oranges. 7 6 5 4 3 2 1

106. Jelly. 7 6 5 4 3 2 1

10# _____

- 7 = Perfectly clear and as vivid as the actual experience.
- 6 = Very clear and comparable in vividness to the actual experience.
- 5 = Moderately clear and vivid.
- 4 = Not clear or vivid.
- 3 = Vague and dim.
- 2 = So vague and dim as to be hardly discernible.
- 1 = No image present at all, you only 'knowing' that you are thinking of the object.

107. Your favorite soup. 7 6 5 4 3 2 1

Think of smelling each of the following, carefully considering the image which comes to the mind's nose, and classify how vividly you can imagine the items.

108. An ill-ventilated room. 7 6 5 4 3 2 1

109. Cooking cabbage. 7 6 5 4 3 2 1

110. Roast beef. 7 6 5 4 3 2 1

111. Fresh paint. 7 6 5 4 3 2 1

112. New leather. 7 6 5 4 3 2 1

Think of each of the following sensations, considering carefully the image which comes before your mind, and classify how vividly you can imagine the items.

113. Fatigue. 7 6 5 4 3 2 1

114. Hunger. 7 6 5 4 3 2 1

115. A sore throat. 7 6 5 4 3 2 1

116. Drowsiness. 7 6 5 4 3 2 1

117. Repletion as from a full meal. 7 6 5 4 3 2 1

Appendix I

Gordon Test of Imagery Control

ID# _____

You have just completed a items which was designed to measure the vividness of different kinds of imagery. On the following items some additional aspects of your imagery are being studied.

The questions are concerned with the ease which you can control or manipulate visual images. For some people this task is relatively easy and for others relatively hard. One subject who could not manipulate his imagery easily gave this illustration. He visualized a table, one of whose legs suddenly began to collapse. He then tried to visualize another table with four solid legs, but found it impossible. The image of the first table with its collapsing legs persisted. Another subject reported that when he visualized a table the image was rather vague and dim. He could visualize it briefly but it was difficult to retain by any voluntary effort. In both these illustrations the subjects had difficulty in controlling or manipulating their visual imagery. It is perhaps important to emphasize that these experiences are in no way abnormal and are as often reported as the controllable type of image.

Read each question, then close your eyes while you try to visualize the scene described. Record your answer by circling "Yes", "No", or "Unsure", whichever is the most appropriate. Remember that your accurate and honest answer to these questions is most important for the validity of this study. If you have any doubts at all regarding the answer to a question, circle "Unsure". Please be certain that you answer each of the twelve questions.

- | | | | |
|---|-----|--------|----|
| 118. Can you see a car standing in the road in front of a house? | Yes | Unsure | No |
| 119. Can you see it in color? | Yes | Unsure | No |
| 120. Can you now see it in a different color? | Yes | Unsure | No |
| 121. Can you now see the same car lying upside down? | Yes | Unsure | No |
| 122. Can you now see the same car back on its four wheels again? | Yes | Unsure | No |
| 123. Can you see the car running along the road? | Yes | Unsure | No |
| 124. Can you see it climb up a very steep hill? | Yes | Unsure | No |
| 125. Can you see it climb over the top? | Yes | Unsure | No |
| 126. Can you see it get out of control and crash through a house? | Yes | Unsure | No |
| 127. Can you now see the same car running along the road with a handsome couple inside? | Yes | Unsure | No |
| 128. Can you see the car cross a bridge and fall over the side into the stream below? | Yes | Unsure | No |
| 129. Can you see the car all old and dismantled in a car-cemetery. | Yes | Unsure | No |

Appendix J

Christian Use of Imagery Inventory

ID# _____

For each of the following questions, circle the choice that best indicates the frequency of your imagining these situations. Do not mark how often you recognize or remember these "truths" or situations, but mark how often you visually, aurally, emotionally, etc., imagine these "truths" or situations. Example, if I said the word "hamburger" you would probably recognize what I was referring to. But this is different from imagining a hamburger: seeing a charbroiled patty, smelling the bar-b-qued aroma, tasting the hot juicy beef, etc. For the following items, estimate how often you imagine the situation described. Circle each choice item by the following rating scale:

- D = Almost every Day.
- W = 1 or 2 times a Week.
- M = 1 or 2 times a Month.
- Q = 1 or 2 times a Quarter (season, three months).
- Y = 1 or 2 times a Year.
- R = Rarely, more than once a year, if at all.

- 130. How frequently do you imagine heaven, the eternal state, or future spiritual rewards? D W M Q Y R
- 131. How frequently do you imagine Christ or the Holy Spirit to be present with you as you go about your usual activities? D W M Q Y R
- 132. How frequently do you imagine what it would be like to a particular Biblical character, or a participant in the Scripture narrative, as you study a Bible passage? D W M Q Y R
- 133. How frequently do you imagine yourself engaged in spiritual warfare against the forces of evil? D W M Q Y R
- 134. How frequently do you imagine what it would be like to actually see God, hear His voice, etc.? D W M Q Y R
- 135. How frequently do you imagine that God is teaching you particular truths through circumstances, or nature? D W M Q Y R
- 136. How frequently do you imagine what it would be like to be in your Christian brother's or sister's shoes, and experience their burdens persecutions, or joys? D W M Q Y R
- 137. How frequently do you imagine what it would be like to evangelize in a culture not familiar to you? D W M Q Y R
- 138. How frequently do you imagine that the return (second coming) of Christ will happen during your life time? D W M Q Y R

ID# _____

- D = Almost every Day.
- W = 1 or 2 times a Week.
- M = 1 or 2 times a Month.
- Q = 1 or 2 times a Quarter (season, three months).
- Y = 1 or 2 times a Year.
- R = Rarely, more than once a year, if at all.

139. How frequently do you imagine God healing
yourself or others, or working some miracle? D W M Q Y R

Appendix K
Demographic Questionnaire

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10# _____

For the following items, place the number which most accurately describes you in the blank provided to the left of each question. Answer all items; mark each blank. Mark a "0" in the blank if it does not apply to you.

140. _____ What is your age? (in number of years)
141. _____ What is your sex? (1 = MALE, 2 = FEMALE)
142. _____ What is your current marital status? (Pick the number from below that best describes you).
- 0 = NEVER MARRIED
 - 1 = MARRIED
 - 2 = DIVORCED
 - 3 = WIDOWED
 - 4 = SEPARATED
 - 5 = LIVING AS MARRIED
143. _____ How many years of education have you had since High School? (Total number of years in college, trade school, and graduate school).
144. _____ How many years of formal religious education have you had? (Total number of years in a religious grade school, religiously affiliated liberal arts or technical college, Bible school, Bible college, and Seminary).
145. _____ Do you profess to be a Christian? (Pick the number from below that best describes you).
- 0 = NO.
 - 1 = YES, I RESPECT AND ATTEMPT TO FOLLOW THE MORAL AND ETHICAL TEACHINGS OF CHRIST.
 - 2 = YES, I HAVE RECEIVED JESUS CHRIST INTO MY LIFE AS MY PERSONAL SAVIOR AND LORD.
 - 3 = YES, I HAVE RECEIVED JESUS AS MY PERSONAL SAVIOR AND LORD, AND I SEEK TO FOLLOW THE MORAL AND ETHICAL TEACHINGS OF CHRIST.
146. _____ How many years have you been a professing Christian? (mark "0" if does not apply).
147. _____ How frequently do you attend church, or church related activities? (Pick the number from below that best describes you).
- 0 = NOT APPLICABLE
 - 1 = LESS THAN ONCE A YEAR
 - 2 = ONCE OR TWICE A YEAR
 - 3 = 3-12 TIMES A YEAR
 - 4 = 2-3 TIMES A MONTH
 - 5 = WEEKLY
 - 6 = 2-4 TIMES A WEEK
 - 7 = 5-7 TIMES A WEEK

ID# _____

148. _____ Which of the following best describes the church you customarily attend?
- 0 = DO NOT ATTEND CHURCH
 - 1 = INTERDENOMINATIONAL, COMMUNITY AND BIBLE
 - 2 = BAPTIST
 - 3 = EVANGELICAL FREE
 - 4 = FOURSQUARE
 - 5 = BRETHREN
 - 6 = CHRISTIAN AND MISSIONARY ALLIANCE
 - 7 = PRESBYTERIAN
 - 8 = CHRISTIAN
 - 9 = MENNONITE BRETHREN
 - 10 = OTHER (PLEASE SPECIFY _____)
149. _____ How often do you have personal devotions? (Pick the number from below which best describes you).
- 0 = NEVER
 - 1 = LESS THAN ONCE A MONTH
 - 2 = 1-3 TIMES A MONTH
 - 3 = WEEKLY
 - 4 = 2-4 TIMES A WEEK
 - 5 = 5-7 TIMES A WEEK
 - 6 = MORE THAN ONCE A DAY
150. _____ What is the average duration of your personal devotions? (Pick the number from below which best describes you).
- 0 = NOT APPLICABLE
 - 1 = LESS THAN 5 MINUTES PER OCCASION
 - 2 = 5-9 MINUTES
 - 3 = 10-14 MINUTES
 - 4 = 15-29 MINUTES
 - 5 = 30-59 MINUTES
 - 6 = 60 MINUTES OR MORE
151. _____ How many hours a week, on the average, do you spend in activities that directly serves or ministers to Christians? (Pick the number from below which best describes you).
- 0 = NOT APPLICABLE
 - 1 = 1 HOUR OR LESS A WEEK
 - 2 = 2-4 HOURS A WEEK
 - 3 = 5-9 HOURS A WEEK
 - 4 = 10-19 HOURS A WEEK
 - 5 = 20-39 HOURS A WEEK
 - 6 = 40 HOURS OR MORE

Imagery & Spirituality - 173

ID# _____

152. _____ How many hours a week, on the average, do you spend in activities that directly serves or ministers to non-Christians? (Pick the number from below which best describes you).
- 0 = NOT APPLICABLE
 - 1 = 1 HOUR OR LESS A WEEK
 - 2 = 2-4 HOURS A WEEK
 - 3 = 5-9 HOURS A WEEK
 - 4 = 10-19 HOURS A WEEK
 - 5 = 20-39 HOURS A WEEK
 - 6 = 40 HOURS OR MORE
153. _____ How many total years have you served in a leadership position in a church, and/or a para-church organization?
154. _____ Which of the following best describes your position on charismatic practices: Baptism of the Holy Spirit, and Speaking in Tongues?
- 1 = OPPOSED TO THE PRACTICES.
 - 2 = TOLERANT OF THE PRACTICES IN OTHERS, BUT IT IS NOT PART OF MY BELIEF OR EXPERIENCE.
 - 3 = UNDECIDED.
 - 4 = IN FAVOR OF THE PRACTICES, BUT IT IS NOT PART OF MY EXPERIENCE.
 - 5 = IN FAVOR OF THE PRACTICES, AND IT IS PART OF MY EXPERIENCE.
155. _____ Which of the following best describes your attitude concerning the importance of your imagination to your spirituality.
- 1 = IT ADVERSELY AFFECTS MY SPIRITUALITY.
 - 2 = IT HINDERS MY SPIRITUALITY MORE THAN IT HELPS IT.
 - 3 = I DO NOT HAVE AN OPINION.
 - 4 = IT HELPS MY SPIRITUALITY MORE THAN IT HINDERS IT.
 - 5 = IT POSITIVELY AFFECTS MY SPIRITUALITY.

END OF QUESTIONNAIRE

Please go back through the questionnaire and make sure you have answered every item. Thank you for your time and cooperation.

Appendix L

First Draft of the Christian Use of Imagery Inventory

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For each of the following questions, circle the choice that best indicates the frequency of your imagining these situations. Do not mark how often you recognize or remember these "truths" or situations, but mark how often you visually, aurally, emotionally, etc., imagine these "truths" or situations.

- D = Almost every Day.
- W = 1 or 2 times a Week.
- M = 1 or 2 times a Month.
- Q = 1 or 2 times a Quarter (season, three months).
- Y = 1 or 2 times a Year.
- R = Rarely, more than once a year, if at all.

- | | |
|---|-------------|
| 130. How frequently do you imagine heaven, the eternal state, or future spiritual rewards? | D W M Q Y R |
| 131. How frequently do you imagine Christ to be present with you as you go about your usual activities? | D W M Q Y R |
| 132. How frequently do you imagine yourself, as yourself or some other character, in the Bible as you are studying or meditating on a Scripture passage? | D W M Q Y R |
| 133. How frequently do you imagine yourself engaged in spiritual warfare against the forces of darkness? | D W M Q Y R |
| 134. How frequently do you imagine what God is like? | D W M Q Y R |
| 135. How frequently do you imagine that God is teaching you particular truths through circumstances, or nature? | D W M Q Y R |
| 136. How frequently do you imagine what it would be like to be in your Christian brother's or sister's shoes, and experience their burdens persecutions, or joys? | D W M Q Y R |
| 137. How frequently do you imagine what it would be like to evangelize in a culture not familiar to you? | D W M Q Y R |
| 138. How frequently do you imagine the return (second coming) of Christ, or the "last days?" | D W M Q Y R |
| 139. How frequently do you imagine God healing yourself or others, or working some miracle? | D W M Q Y R |

Appendix M

Data

Appendix N

Spiritual Maturity Data for Item Analysis

1 3 5 6 6 4 4 6 4 4 6 6 5 6 5 6 6 6 6 4 6 5 5 6 2 6 4 6 6 5 6 131
2 6 4 4 6 3 5 4 3 3 4 5 3 6 5 4 6 6 5 5 5 3 4 4 3 6 4 4 4 4 4 133
3 4 4 6 6 1 6 3 4 3 4 4 4 4 4 2 2 2 5 4 5 4 4 4 4 4 3 4 4 115
4 5 6 6 6 4 4 4 6 6 4 5 6 6 6 6 5 5 6 6 6 5 6 5 3 6 3 6 5 6 5 6 157
5 6 5 4 6 1 6 6 5 3 6 5 6 6 5 5 6 6 6 6 6 5 3 5 3 6 6 5 6 2 6 152
6 3 4 6 5 1 5 5 6 1 6 6 4 6 6 5 6 6 5 5 6 3 4 6 2 6 5 4 4 4 4 139
7 4 4 5 4 2 4 4 5 5 5 5 6 4 5 4 3 6 4 4 4 3 4 3 4 6 5 5 4 4 5 130
8 5 5 6 5 5 5 5 6 2 5 6 6 6 5 5 6 1 6 5 6 3 3 2 6 6 6 6 6 6 6 151
9 6 6 6 6 5 5 5 5 5 3 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 172
10 3 5 3 5 1 6 5 5 2 6 6 4 5 6 6 6 5 6 6 6 6 6 5 5 5 5 5 5 5 142
11 4 6 6 4 1 6 5 5 4 6 6 6 6 6 4 5 6 6 4 6 6 6 4 4 3 3 6 6 6 5 149
12 6 6 6 6 4 6 6 4 3 6 5 6 6 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6 166
13 6 6 3 6 1 6 5 5 5 5 6 5 6 6 6 6 2 6 5 5 6 2 2 6 1 6 6 3 6 6 5 141
14 5 6 4 5 3 4 5 6 5 5 6 4 5 4 4 4 6 5 4 5 4 4 5 5 5 4 6 4 4 5 141
15 6 6 6 5 2 6 6 3 5 6 6 6 6 4 5 6 6 6 4 6 6 6 3 5 5 6 6 6 4 5 148
16 4 4 2 3 1 6 3 6 1 2 4 3 4 4 1 6 5 6 6 4 6 1 1 1 6 6 1 3 3 3 106
17 6 6 4 5 5 5 5 4 2 6 6 6 6 6 6 5 5 5 6 6 6 5 4 2 2 6 4 6 2 5 5 143
18 6 5 5 6 2 5 5 5 1 4 4 3 6 6 5 4 5 6 3 6 6 6 4 5 5 5 6 6 6 6 143
19 5 6 5 5 3 5 4 3 3 5 5 5 6 4 4 6 5 3 5 6 5 4 4 4 5 5 4 5 4 5 138
20 6 6 6 6 5 6 5 5 2 4 4 6 6 2 5 4 6 4 4 6 5 5 5 3 6 6 6 6 5 4 144
21 4 6 4 6 2 3 5 4 4 6 5 6 6 4 4 4 6 6 4 5 5 4 4 5 6 4 3 4 4 4 137
22 5 4 5 5 3 4 4 6 6 6 6 5 6 5 5 1 6 6 2 6 2 2 4 6 6 6 6 6 5 6 145
23 6 6 4 6 3 6 6 4 4 4 6 4 6 6 4 6 6 6 4 6 5 4 6 6 6 6 6 5 4 6 158
24 6 6 6 6 4 5 5 2 6 5 4 5 5 4 4 6 6 6 6 6 6 6 4 4 6 6 5 6 6 6 158
25 5 6 5 5 2 3 5 3 5 5 6 5 6 4 4 6 6 4 5 6 5 5 4 5 6 3 4 5 5 5 143
26 6 5 4 6 2 4 5 4 6 5 6 6 6 6 4 6 6 4 4 6 4 2 4 6 5 5 5 5 5 147
27 6 5 6 6 3 5 6 3 4 6 6 6 6 3 3 6 6 6 6 6 5 4 5 5 6 6 6 6 5 6 158
28 5 4 4 5 3 5 5 4 5 4 3 6 6 6 3 4 6 6 6 4 6 3 1 5 6 6 6 4 4 2 5 136
29 5 5 4 5 1 6 5 4 2 6 5 6 5 5 5 6 5 5 6 5 3 4 2 6 6 5 5 4 4 140
30 6 6 5 5 3 4 6 5 3 5 5 5 6 5 5 6 6 6 5 6 3 3 5 6 6 6 6 6 6 153
32 6 6 5 6 1 6 6 4 2 6 6 5 6 4 5 6 6 6 4 6 4 4 4 5 6 6 6 5 5 6 150
33 4 5 6 6 2 3 4 5 4 6 6 5 6 6 4 6 6 6 3 4 3 3 3 4 5 6 6 5 4 5 141
34 6 4 1 6 5 6 6 3 3 6 6 6 6 4 5 6 6 6 3 6 6 2 5 6 6 5 6 5 5 6 152
35 6 5 5 6 5 4 4 4 4 3 6 5 4 6 4 4 6 6 6 5 6 5 4 4 4 6 4 5 4 5 145
36 6 5 5 6 2 6 5 5 5 5 3 5 6 6 2 6 4 3 3 6 6 4 3 2 6 4 1 4 5 4 133
37 6 6 6 6 2 6 4 6 3 6 5 6 6 6 5 6 6 6 6 5 2 6 6 6 6 5 5 6 162
38 5 6 6 5 3 6 6 6 6 6 6 4 5 5 3 6 6 6 2 5 3 2 4 2 6 6 6 4 5 146
39 4 6 1 6 5 5 6 3 4 5 4 6 6 2 4 6 6 5 4 6 6 5 4 6 2 5 6 2 6 6 6 140
40 5 5 1 6 3 5 6 2 2 6 6 6 6 6 5 6 6 6 6 6 5 5 6 5 6 6 4 4 5 151
41 6 6 6 6 1 6 6 4 4 6 4 6 6 6 5 3 6 6 6 6 6 3 6 6 6 6 6 6 6 162
42 6 5 5 6 4 6 5 5 5 6 2 4 6 5 5 5 5 6 5 5 3 2 3 3 5 5 5 4 3 139
43 6 6 5 6 2 6 3 6 2 5 6 6 3 6 2 6 6 6 4 6 5 1 6 4 6 6 3 4 5 4 142
44 6 6 5 6 2 6 5 4 2 6 5 6 6 4 4 6 6 5 6 5 5 6 5 6 6 5 6 4 5 155
45 6 3 6 6 3 5 5 5 6 4 6 4 5 6 4 6 6 5 5 6 6 5 6 6 5 5 4 4 5 153
46 6 6 5 6 3 5 5 4 4 4 6 4 5 6 4 6 6 3 4 6 3 3 4 4 5 6 6 6 6 147
47 5 5 4 6 2 5 4 4 2 6 6 6 6 6 5 6 6 6 6 6 3 3 3 5 6 6 6 5 6 151
48 6 6 6 6 6 2 6 4 6 6 6 5 5 5 6 5 6 6 3 2 5 5 6 6 6 6 6 6 6 151
49 4 6 5 5 4 4 5 5 3 6 6 6 6 5 3 4 6 4 6 6 3 4 5 3 6 6 5 4 3 4 142
50 6 6 5 5 2 6 5 5 3 5 2 6 5 1 4 2 6 6 5 2 5 2 2 1 5 5 5 4 4 5 135
51 6 5 6 6 2 6 5 6 5 6 6 6 6 6 5 6 6 6 5 6 6 5 6 6 6 6 6 6 6 170
52 6 6 1 6 1 6 6 6 6 6 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 5 6 167
53 6 6 6 6 3 6 176
54 6 6 1 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 6 6 5 4 3 4 6 5 5 5 5 159
55 4 4 5 6 3 6 6 5 3 5 6 6 5 4 4 6 6 6 6 6 6 3 4 5 6 6 6 5 6 152
56 6 5 5 6 1 5 5 3 4 5 6 6 6 5 5 6 6 6 5 5 4 5 5 6 6 5 5 6 154
57 5 6 5 5 3 5 5 4 4 5 6 4 6 4 4 5 6 6 4 5 5 5 6 5 6 6 4 5 5 149
58 4 4 6 6 2 6 4 4 5 6 4 6 6 4 4 4 6 6 6 5 4 2 4 2 4 6 6 6 4 6 142
59 5 6 6 6 3 6 4 5 5 6 6 6 6 4 5 6 6 6 6 5 5 6 6 6 4 5 5 6 163
60 3 4 4 4 1 5 4 6 3 1 6 6 5 6 4 6 6 5 5 6 3 4 3 3 6 5 5 4 4 132
61 6 5 1 6 1 6 6 6 2 6 6 6 6 5 4 6 6 6 5 6 6 3 6 6 6 6 4 3 6 153
62 5 6 6 6 5 4 6 5 4 6 5 5 6 5 6 6 6 5 6 6 5 6 6 5 6 6 6 5 5 164
63 4 5 5 6 2 5 5 5 3 6 5 5 6 6 4 6 5 6 5 5 5 6 4 3 6 6 3 4 6 5 147
64 6 6 6 6 2 5 6 5 5 6 6 5 4 4 4 6 6 6 6 2 2 3 3 6 6 6 4 4 6 146
65 6 6 6 6 4 6 6 6 5 6 6 6 4 6 3 6 6 6 6 6 4 6 6 6 4 6 4 5 6 165
66 6 6 5 5 4 6 5 6 1 5 6 6 6 3 4 4 6 6 4 6 4 3 3 6 6 4 5 5 6 147
67 4 4 5 4 3 4 3 5 5 5 5 5 4 5 5 6 6 5 6 3 3 4 5 6 6 4 4 4 5 138
68 4 4 5 4 3 4 4 5 3 5 4 4 5 4 4 4 6 4 4 4 4 3 4 5 6 5 6 5 4 5 128
69 6 6 4 6 3 6 6 4 5 5 4 2 5 6 4 5 6 3 4 5 5 3 3 3 5 6 3 4 2 5 134
70 4 6 6 6 2 6 5 6 2 6 6 6 6 3 6 5 6 6 6 5 6 5 6 5 6 6 6 3 6 159
71 6 4 3 5 4 6 4 5 5 4 5 3 4 4 4 5 5 6 4 5 3 3 4 3 6 5 6 5 4 4 134
72 6 6 6 6 3 6 4 6 6 6 5 6 6 2 6 6 6 6 6 4 6 6 4 1 4 5 6 6 3 6 146
73 4 6 4 6 2 6 3 5 1 6 6 6 6 6 3 5 6 6 4 6 4 2 3 4 6 6 3 5 5 4 139
74 6 6 6 6 4 6 6 6 3 6 6 6 6 4 5 6 6 6 6 6 6 4 6 6 6 6 4 5 6 165
75 4 4 5 5 2 5 4 5 6 5 5 5 5 4 5 5 6 5 5 5 5 4 5 6 5 6 4 5 6 146
76 5 6 6 5 1 5 6 4 2 6 6 6 6 6 5 6 6 6 6 6 6 5 6 6 6 6 5 6 163
77 6 6 5 5 5 4 5 5 5 6 6 4 6 4 5 6 6 6 4 5 2 5 5 4 6 5 5 4 6 151
78 5 6 3 5 2 6 6 6 6 6 6 6 6 4 6 6 6 4 6 3 4 4 6 6 4 6 5 5 153
79 5 4 6 3 6 6 5 5 5 6 6 4 6 2 6 6 4 4 6 3 5 5 2 6 5 6 5 3 4 143
80 5 4 5 4 4 4 6 4 4 3 4 3 4 3 4 5 5 2 4 4 2 2 3 4 4 6 6 4 3 4 119
81 5 4 6 4 4 6 4 4 4 5 4 5 5 4 3 6 6 4 6 2 5 4 3 6 6 6 6 6 6 144

Appendix 0

Christian Use of Imagery Data for Item Analysis

1 5 6 4 6 6 6 5 4 5 6 53
2 6 6 1 4 4 5 3 2 6 6 43
3 6 6 6 6 6 6 5 5 5 3 54
4 3 4 3 4 3 5 4 2 5 5 38
5 2 1 3 1 3 5 5 1 1 2 24
6 3 3 5 5 5 4 6 3 5 5 44
7 5 5 3 4 4 5 2 3 3 2 33
8 4 1 1 1 4 3 1 3 4 4 26
9 5 6 6 6 6 6 6 5 5 6 57
10 5 6 5 5 4 5 5 5 3 4 47
11 5 6 3 5 5 5 3 2 4 4 42
12 3 4 4 5 5 6 5 5 4 3 44
13 1 5 1 5 4 6 5 4 1 5 37
14 4 5 4 5 2 6 6 5 3 3 43
15 5 6 4 5 5 5 5 5 5 5 50
16 5 4 4 4 3 4 5 3 6 5 43
17 4 5 3 6 6 6 5 4 1 5 47
18 4 4 5 5 4 5 5 3 3 3 41
19 5 4 4 6 5 5 6 5 5 4 49
20 2 2 1 1 1 2 1 2 1 1 14
21 2 1 2 4 3 5 3 4 4 3 31
22 5 4 1 4 5 6 6 4 4 3 42
23 4 5 1 3 5 5 5 5 4 4 41
24 4 4 5 1 4 4 2 2 4 4 34
25 6 6 5 5 5 6 6 6 5 4 54
26 5 5 2 5 3 6 3 4 4 3 40
27 4 5 4 5 4 6 4 5 6 5 48
28 6 6 4 4 3 5 3 6 3 2 42
29 5 6 5 5 5 6 5 6 5 4 52
30 3 6 2 4 2 5 3 3 3 4 35
32 5 5 3 6 4 6 4 4 4 5 46
33 3 4 1 2 1 5 2 1 3 1 23
34 3 4 3 4 5 5 5 5 4 3 41
35 4 6 6 6 6 6 6 2 4 4 50
36 5 4 5 3 5 5 5 5 4 4 46
37 5 6 5 4 5 6 6 6 5 6 54
38 4 6 6 6 6 6 6 3 5 5 53
39 4 5 5 5 5 6 5 2 5 5 47
40 5 6 4 6 5 5 5 4 6 5 51
41 3 6 2 1 5 4 1 1 4 4 31
42 4 6 5 5 4 5 4 3 3 4 43
43 5 5 5 3 4 6 6 6 5 4 49
44 4 6 4 6 5 5 5 4 4 4 47
45 5 6 5 6 5 6 5 5 4 4 51
46 5 4 4 4 5 6 6 1 5 5 45
47 4 6 3 3 3 5 4 4 3 4 39
48 4 6 5 5 6 6 5 3 3 3 46
49 5 6 4 4 1 6 5 6 1 2 40
50 1 5 3 3 4 4 3 2 2 1 28
51 4 6 6 5 5 6 4 4 5 4 49
52 4 4 6 1 1 6 2 4 2 5 35
53 6 6 6 6 6 5 6 6 5 5 57
54 5 6 6 5 5 6 6 5 4 4 52
55 4 6 6 5 3 6 5 4 4 2 45
56 3 6 4 5 5 6 5 6 4 4 48
57 4 6 4 5 5 6 6 6 5 4 51
58 5 6 5 6 5 6 6 5 6 6 56
59 6 6 6 6 6 6 5 5 6 5 57
60 2 4 5 4 7 5 4 5 3 1 35
61 5 6 6 6 6 6 6 6 5 3 55
62 5 6 5 5 3 6 5 5 4 4 48
63 5 5 3 3 4 5 3 3 3 3 37
64 4 2 5 3 3 5 5 2 4 4 37
65 5 6 1 6 6 6 1 4 5 6 46
66 4 6 5 5 5 6 4 4 5 5 49
67 4 5 4 5 5 6 6 5 5 4 49
68 4 5 5 4 3 5 4 3 2 4 39
69 4 6 5 5 6 5 5 4 3 3 46
70 5 6 4 6 5 6 4 6 3 3 48
71 5 3 4 2 3 5 3 3 5 3 37
72 5 6 6 5 5 6 5 1 6 6 51
73 6 6 5 6 6 6 5 1 6 6 53
74 2 6 1 3 1 6 5 5 3 3 35
75 3 3 4 2 3 5 1 2 4 1 28
76 6 6 5 6 5 6 4 5 5 4 53
77 3 5 3 2 4 6 5 3 3 2 36
78 3 3 2 1 4 6 5 4 4 3 35
79 5 5 6 4 4 5 5 4 6 5 49
80 5 4 6 5 5 6 3 1 5 2 42
81 1 4 5 4 5 6 6 6 3 3 43

Appendix P

Spiritual Maturity Index Reliability and Validity

Analysis

The Spiritual Maturity Index and the Christian Use of Imagery Inventory used in this study lacked reliability and validity information. Therefore, factor analysis, Guttman split-half, and coefficient alpha statistics were used to analyze the data of the study post hoc.

Factor analysis' single most distinctive characteristic is its data-reduction capability. Factor analytic techniques enable one to see whether some underlying pattern of relationships exist so the data may be rearranged or reduced to a smaller set of components that may account for the observed interrelations in the data. Factor analysis contributes to what is described by Anastasi (1982) as the "factorial validity" of a test to understand an instrument's composition. Principle components factor analysis was used to help establish the construct validity of the Spiritual Maturity Index and the Christian Use of Imagery Inventory. This type of factor analysis is used over other types because it extracts as many factors as there are variables (items), and is recommended as a preliminary step to help decide how many factors should be used in developing subscales of the instrument (Kachigan, 1982). Additionally, the two instruments were analyzed by a forced factor solution using oblique rotation. This rotation was chosen in order to maximize the values between

the factors. This would help decide which of the factor solutions produced the most independent subscales, while still retaining all the items of the test. The pattern matrix is represented because it delineates more clearly the grouping or clustering of variables than the structure matrix.

Coefficient alpha and Guttman split-half statistics measure the internal consistency of a test, and hence contribute to an instrument's reliability. Coefficient alpha takes many various samples from the test's items and correlates them with many other samples of the same test's items. The average correlations of these samples is the coefficient alpha statistic. Coefficient alpha is particularly used for Likert-type scales (whereas a Kuder-Richardson formula is used for all-or-none scoring systems). The Guttman split-half statistic simply divides the instrument in half and then estimates the internal consistency based on the entire test. The correlation between forms is also given, but this only gives the reliability of half the test. The difference between the coefficient alpha and split-half reliability coefficients may serve as a rough index of the heterogeneity of a test (Anastasi, 1982).

Validity

Principle Components Factor Analysis of the Spiritual Maturity Index revealed ten different factors with an eigenvalue

greater than 1, accounting for 66.4 % of the variance. Estimated communality, eigenvalues, percentage of variance, and cumulative percent are given in Table P-1. The analysis was done by Varimax Rotation, sorted values are presented in Table P-2. The factor correlations are presented in Table P-3.

On the basis of a scree plot, the Spiritual Maturity Index was analyzed for a four, three, and two factor solution. Eigenvalues, percentage of variance, and cumulative percent are given in Table P-4. The factor correlations are given in Table P-5. The four factor solution offered the greatest distances between factors by oblique rotation (has less factorial complexity), and is the solution that more equally divided the items of the index among factors. Sorted factors for the four factor analysis by oblique rotation is given in Table P-6. However, factor 1 consistently accounted for the most variance of the test, suggesting the test is perhaps unidimensional.

Reliability

Coefficient Alpha yielded a value of .82 on the Spiritual Maturity Index. Guttman Split-Half reliability yielded a value of .78, with a correlation between forms equal to .66.

Interpretation

The Spiritual Maturity Index, when Guttman Split-Half and Coefficient Alpha statistics were used, showed that the test was

Table P-1

Spiritual Maturity Index Statistical Values by Principle
Components Factor Analysis

Factor	Est. Communality	Eigenvalue	% of Variance	Cum. %
1	.58	6.12	20.4	20.4
2	.53	2.29	7.6	28.0
3	.36	1.93	6.4	34.5
4	.56	1.80	6.0	40.5
5	.37	1.53	5.1	45.6
6	.47	1.46	4.9	50.5
7	.40	1.37	4.6	55.0
8	.35	1.26	4.2	59.2
9	.35	1.15	3.8	63.1
10	.51	1.00	3.3	66.4
11	.56	.97	3.2	69.6
12	.47	.90	3.0	72.6
13	.56	.86	2.9	75.5
14	.47	.82	2.7	78.2
15	.56	.72	2.4	80.7
16	.41	.71	2.4	83.0
17	.44	.66	2.2	85.2

(Table P-1 continued)

Factor	Est. Communality	Eigenvalue	% of Variance	Cum. %
18	.54	.60	2.0	87.2
19	.40	.55	1.8	89.1
20	.60	.51	1.7	90.8
21	.52	.43	1.4	92.2
22	.46	.37	1.2	93.4
23	.48	.36	1.2	94.6
24	.56	.33	1.1	95.7
25	.53	.29	1.0	96.7
26	.32	.25	.8	97.5
27	.62	.22	.7	98.2
28	.51	.20	.7	98.9
29	.53	.17	.6	99.5
30	.65	.16	.5	100.0

Note. N = 80.

Table P-2

10 Factor Sorted Varimax Rotation of the Spiritual Maturity Index

Ques- tion	Factors									
	1	2	3	4	5	6	7	8	9	10
	Factor 1									
10	.72	.16	.09	.03	.07	-.02	.13	.02	-.06	.05
13	.66	.17	.12	.06	.01	-.08	.01	.15	.19	-.25
2	.48	.01	.08	.28	.05	.09	.13	.11	-.05	.06
15	.47	.44	-.01	.05	-.03	-.04	.07	.26	.01	.01
12	.47	.18	.09	-.13	.14	.17	.11	-.04	.19	.03
4	.46	.04	.21	.30	.18	.17	-.02	.12	-.18	-.24
18	.43	.16	.07	.03	.12	.06	.33	-.17	.31	.26
23	.31	.15	.29	.11	.12	.05	.31	.30	.01	-.14
	Factor 2									
27	.08	.76	-.06	.08	-.11	.05	.17	.09	-.03	-.07
30	.32	.72	.15	.11	.21	.06	.14	-.02	-.06	.10
28	.31	.51	.20	.08	-.22	.19	.01	.09	.04	.01
24	.12	.45	.34	.21	.32	-.17	.05	-.05	.12	-.08
3	.07	.35	-.04	-.00	.05	-.11	-.19	.11	-.14	.26

(Table P-2 continued)

Ques- tion	Factors									
	1	2	3	4	5	6	7	8	9	10
Factor 3										
14	.04	-.11	.66	-.05	-.01	.07	-.02	.04	-.05	.04
20	.13	.16	.65	.14	.01	.14	.03	.10	.22	-.24
11	.17	.24	.59	-.06	.07	-.07	.35	-.03	.04	.10
29	.29	.26	.48	.20	-.03	-.11	-.12	.06	.02	.31
Factor 4										
1	.14	.10	.05	.88	.12	.17	.08	-.09	-.12	-.06
5	.04	.20	-.04	.39	-.10	-.31	.00	.02	.07	.00
Factor 5										
21	.20	-.03	-.01	.08	.84	.15	.01	.22	.11	.00
Factor 6										
6	.11	-.10	-.03	.20	.09	.71	-.08	.06	.12	.12
26	.00	.25	.12	-.09	.02	.46	.11	-.12	.01	.01
Factor 7										
17	.18	.09	.03	.03	-.01	.01	.67	.01	-.03	-.02
Factor 8										
22	.16	.14	.11	-.07	.19	-.05	.01	.78	-.03	-.09

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(Table P-2 continued)

Ques- tion	Factors									
	1	2	3	4	5	6	7	8	9	10
	Factor 9									
25	.09	-.03	.41	.07	-.00	-.04	.33	.09	.64	.09
9	-.00	.08	.03	.09	-.09	-.08	.18	.06	-.41	.08
19	.27	.17	-.01	-.02	.20	.27	.09	.18	.28	.05
	Factor 10									
8	-.00	.03	.06	-.03	.02	.18	.03	-.04	.01	.54
7	.21	.12	.07	.17	.09	.12	.28	.19	-.03	-.33
16	.02	-.07	.28	-.06	.29	.13	.02	.08	.16	-.31

Note. N = 80.

Table P-3

Spiritual Maturity Index Correlations by 10 Factor Solution

Fac- tors	Factors									
	1	2	3	4	5	6	7	8	9	10
1		.01	-.15	-.08	-.27	-.24	.24	.28	.10	.38
2	.01		.07	-.05	.01	.00	-.10	.24	-.18	-.03
3	-.15	.07		-.02	.10	.17	-.10	-.10	-.15	-.12
4	-.08	-.05	-.02		-.05	-.04	-.11	-.06	.02	.10
5	-.27	.01	.10	-.05		.11	-.11	-.12	.00	-.19
6	-.24	.00	.17	-.04	.11		-.13	-.12	-.09	-.09
7	.24	-.10	-.10	-.11	-.11	-.13		.09	.09	.17
8	.28	.24	-.10	-.06	-.12	-.12	.09		-.01	.27
9	.10	-.18	-.15	.02	.00	-.09	.09	-.01		.01
10	.38	-.03	-.12	.10	-.19	-.09	.17	.27	.01	

Note. N = 80.

Table P-4

Spiritual Maturity Index Statistical Values by Two, Three, and Four Factor Analysis

Factor	Eigenvalue	% of Variance	Cum. %
Four Factor Solution			
1	5.50	57.8	57.8
2	1.64	17.2	75.0
3	1.30	13.6	88.7
4	1.08	11.3	100.0
Three Factor Solution			
1	5.48	65.5	65.5
2	1.62	19.3	84.8
3	1.27	15.2	100.0
Two Factor Solution			
1	5.43	77.5	77.5
2	1.57	22.5	100.0

Note. N = 80.

Table P-5

Spiritual Maturity Index Correlations by Two, Three, and Four
Factor Solutions

Fac-	Factors			
tors	1	2	3	4

Four Factor Solution

1		.16	.31	-.22
2	.16		.12	-.06
3	.31	.12		-.21
4	-.21	-.06	-.22	

Three Factor Solution

1		.11	-.33
2	.11		-.17
3	-.33	-.17	

Two Factor Solution

1		.07
2	.07	

Note. N = 80

Table P-6

4 Factor Sorted Oblique Rotation of the Spiritual Maturity Index

Ques- tion	Factors			
	1	2	3	4
Factor 1				
4	-.66	.00	-.03	-.04
21	-.50	.26	.09	.24
13	-.50	-.14	-.13	.09
7	-.50	-.01	-.05	-.05
23	-.46	-.06	-.29	.02
22	-.43	-.03	-.06	-.07
2	-.41	-.10	.00	.17
1	-.40	-.14	.03	-.02
10	-.39	-.25	-.05	.27
Factor 2				
27	-.12	-.61	-.02	.10
30	-.22	-.57	-.14	.31
15	-.35	-.45	.01	.17
28	-.12	-.43	-.20	.20
3	.03	-.39	.09	.07
16	-.28	.36	-.26	-.03

(Table P-6 continued)

Ques- tion	Factors			
	1	2	3	4
5	-.10	-.32	-.03	-.20
9	-.02	-.26	.03	-.16
Factor 3				
11	.07	-.15	-.68	.11
20	-.23	.09	-.65	-.07
14	.05	.17	-.57	-.07
25	.03	.16	-.56	.21
29	-.02	-.30	-.42	.08
24	-.22	-.25	-.35	.00
Factor 4				
18	-.04	-.13	-.18	.53
12	-.20	-.05	-.10	.45
19	-.27	.05	.01	.44
8	.29	-.07	-.04	.39
6	-.21	.25	.15	.39
26	.03	-.03	-.08	.32
17	-.12	-.12	-.14	.14

highly internally consistent (homogeneous) for the sample measured. This contributes to the index's reliability as a research instrument.

The Spiritual Maturity Index has ten factors for the sample used. Considering the scale only has 30 items, ten factors is too many to confidently assert what the scale is measuring. The four factor solution had less factorial complexity, but when the factors were analyzed for subscale titles, no sense could be made how to differentiate one factor from the other. This was also true when titles were considered for the two and three factor solutions.

As stated previously, in each of the factor solutions, the first factor continually constituted a large proportion of the index's variance suggesting that the index may best be thought of as being unidimensional. However, the scale would need to be shortened or questions rewritten to make the instrument more validly measure just one dimension. The estimated communalities of some of the items of the instrument, when a one factor solution was scored, were very small.

This study's sample was too small to confidently assert the reliability and validity results given above. Hopefully, it will serve as a start toward making further decisions regarding the use of the instrument.

Appendix Q

Christian Use of Imagery Inventory Reliability and Validity

Validity

Principle Components Factor Analysis of the Christian Use of Imagery Inventory revealed two different factors with an eigenvalue greater than 1, accounting for 57.5 % of the variance. Estimated communality, eigenvalues, percentage of variance, and cumulative percent are given in Table Q-1. The analysis was done by varimax rotation, the values are presented in Table Q-2. The correlation between factors was $-.38$.

A two factor analysis was performed on the Christian Use of Imagery Inventory by oblique rotation. Eigenvalues, percent of variance, and cumulative percent of the two factor solution are presented in Table Q-3. The correlation between forms was $-.47$. The sorted oblique rotation of the Christian Use of Imagery Inventory is presented in Table Q-4.

Since (1) the Christian Use of Imagery Inventory fit well into two factors, (2) the scale is newly constructed, and (3) it is key in the outcome of two of the predicted hypotheses, further analysis was done to associate the factors, and each of the items, with the other variables in the study. It was hoped that this would enlighten as to how the factor subscales are differentiated from one another. Results of these factor and item associations are presented in Tables Q-5 to Q-8.

Table Q-1

Christian Use of Imagery Inventory Factor Analysis Statistical Values

Factor	Est. Communality	Eigenvalue	% of Variance	Cum. %
1	.53	4.32	43.2	43.2
2	.50	1.43	14.3	57.5
3	.37	.87	8.7	66.1
4	.69	.77	7.7	73.8
5	.56	.69	6.9	80.7
6	.60	.56	5.6	86.3
7	.59	.45	4.5	90.7
8	.57	.34	3.4	94.1
9	.71	.31	3.1	97.2
10	.61	.28	2.8	100.0

Note. N = 80.

Table Q-2

Varimax Rotation of the Christian Use of Imagery Inventory

Ques- tion	Factor	
	1	2
1	.22	.70
2	.60	.38
3	.49	.37
4	.66	.50
5	.33	.67
6	.75	.18
7	.74	.19
8	.75	-.09
9	.04	.84
10	.11	.78

Note. N = 80.

Table Q-3

2 Factor Sorted Oblique Rotation of the Christian Use of Imagery Inventory

Factor	Eigenvalue	% of Variance	Cum. %
1	3.31	80.5	80.5
2	.92	19.5	100.0

Note. N = 80.

Table Q-4

Sorted Oblique Rotation of the Christian Use of Imagery Inventory

Ques- tion	Factor	
	1	2
	Factor 1	
6	-.70	.01
7	-.67	.04
8	-.64	-.16
4	-.62	.32
2	-.52	.22
3	-.39	.24
	Factor 2	
9	.14	.87
10	-.01	.68
1	-.12	.58
5	-.24	.54

Note. N = 80.

Table Q-5

Christian Use of Imagery Inventory Subscale Factors Correlated
with Research Variables

Variable	Factor 1	Factor 2	Total Score
Spiritual Well-being (SWB)	.15	.10	.19
Religious	.09	.08	.13
Existential	.19	.10	.21
Spiritual Maturity (SMI)	.14	.12	.19
Mysticism (HMS)	.50***	.32**	.47***
Religious	.32**	.23*	.33**
Existential	.53***	.32**	.47***
Imagery Vividness (QMI)	.22*	.26*	.31**
Visual	.06	.16	.14
Auditory	.08	.26*	.20
Cutaneous	.12	.13	.15
Kinesthetic	-.03	-.03	.02
Gustatory	.30**	.14	.28*
Olfactory	.35***	.33**	.39***
Organic	.10	.31**	.28*

(Table Q-5 continued)

Variable	Factor 1	Factor 2	Total Score
Imagery Control (GIT)	.22	.15	.19

Note. All statistics are Pearson-r Correlation Coefficients.

* $p < .05$, ** $p < .01$, *** $p < .001$. $N = 80$.

Table Q-6

CUII Subscale Factors Associated with Demographic Variables

Variable	Statistic	Factor 1	Factor 2	Total
Age	<u>r</u>	-.12	-.10	-.11
Education	<u>r</u>	-.09	-.13	-.12
Religious Education	<u>r</u>	-.02	-.06	.01
Years Christian	<u>r</u>	.05	-.24*	.02
Years Leader	<u>r</u>	.06	-.10	.02
Church Frequency	<u>Tau C</u>	.01	-.06	.00
Devotions Frequency	<u>Tau C</u>	.07	.04	.07
Devotions Duration	<u>Tau C</u>	.16	.16	.19*
Christian Ministering	<u>Tau C</u>	.29***	.09	.25**
Non-Christian Ministering	<u>Tau C</u>	.10	.10	.12
Charismatic	<u>Tau C</u>	-.03	.10	.03
Imagery and Spirituality	<u>Tau C</u>	.11	.13	.12
Grade Level	<u>Tau C</u>	-.02	-.02	-.03

(Table Q-6 continued)

Variable	Statistic	Factor 1	Factor 2	Total
Sex	<u>C</u>	.49	.46	.57
Marital Status	<u>C</u>	.60	.52	.77***
Church	<u>C</u>	.89***	.77	.90**

Note. Probability level for Contingency Coefficients (C) are based on the χ^2 .

* $p < .05$, ** $p < .01$, *** $p < .001$. N = 80.

Table Q-7

CUII Factor 1 Questions Associated With Research Variables

Variable	Q2	Q3	Q4	Q6	Q7	Q8
Well-being	.29***	-.04	.11	.08	-.00	.13
Religious	.29***	-.10	.12	.04	-.06	.12
Existential	.28***	.02	.09	.12	.05	.18*
Maturity	.20*	.00	.08	.19*	.01	.16
Mysticism	.28***	.09	.35***	.30***	.30***	.41***
Religious	.21*	.01	.18*	.18*	.22*	.32***
Existential	.26**	.13	.37***	.31***	.28**	.38***
Imag. Vivid	.17*	.30***	.15	.14	.10	.03
Visual	.14	.15	.08	.11	-.05	-.02
Auditory	.11	.18*	.10	-.09	-.03	-.19*
Cutaneous	.08	.16	.02	.09	.10	.01
Kinesthetic	.05	.17	-.01	-.04	.04	.01
Gustatory	.20*	.30***	.21*	.18	.09	.07
Olfactory	.17*	.24**	.20	.20	.18*	.05
Organic	.13	.14	.13	.06	.06	.11

(Table Q-7 continued)

Variable	Q2	Q3	Q4	Q6	Q7	Q8
Imag. Control	.10	.27**	-.03	.01	.16	.08
Chr. Imag.	.50***	.51***	.69***	.42***	.51***	.42***

Note. All statistics are Kendall Tau-C Coefficients.

* $p < .05$, ** $p < .01$, *** $p < .001$. $N = 80$.

Table Q-8

CUII Factor 2 Questions Associated with Research Variables

Variable	Q1	Q5	Q9	Q10
Spiritual Well-being (SWB)	-.01	.11	-.01	.19*
Religious	.04	.11	-.03	.18*
Existential	-.01	.11	-.01	.16
Spiritual Maturity (SMI)	-.05	.13	.04	.17
Mysticism (HMS)	.29***	.31***	.24**	.17
Religious	.15	.25**	.19*	.16
Existential	.31***	.28**	.21*	.12
Imagery Vividness (QMI)	.10	.27**	.14	.05
Visual	.07	.19*	.12	.08
Auditory	.04	.17*	.12	.12
Cutaneous	.02	.22*	.06	-.05
Kinesthetic	.06	.04	-.07	-.07
Gustatory	.12	.16	.09	-.02
Olfactory	.16	.29***	.19*	.12
Organic	.04	.30***	.15	.16

(Table Q-8 continued)

Variable	Q1	Q5	Q9	Q10
Imagery Control (GIT)	.08	.17	.16	.22
Christian Imagery (CUI)	.49***	.60***	.50***	.44***

Note. All statistics are Kendall Tau-C Coefficients.

* $p < .05$. ** $p < .01$ *** $p < .001$.

Reliability

Coefficient Alpha yielded a value of .84 on the Christian Use of Imagery Inventory. Guttman Split-Half reliability yielded a value of .82, with a correlation between forms equal to .71.

Interpretation

The Christian Use of Imagery Inventory was particularly created for this research study, and considering its importance in the results of this study, reliability and validity information on the instrument are crucial. The inventory showed strong internal reliability as measured by Guttman Split-Half and Coefficient Alpha statistics for this sample.

Principle Component Factor Analysis revealed the scale was divided into two subscales when factors were considered with an eigenvalue greater than one. A two factor solution was then performed by oblique rotation. Titles for these two factors are easily interpreted from the items. The first factor is "present oriented" (question items 2, 3, 4, 6, 7, and 8), and asks the respondent to rate how frequently he/she imagines Christian situations that are going on presently in the world or in the person's life. The first factor is perhaps related to the practical struggle of making Christian principles apply to one's life. The second factor is "future oriented" (question items 1, 5, 9, and 10), and asks the respondent to rate how frequently

he/she imagines Christian events that will be fulfilled some time in the future, and is perhaps related to the feelings of anticipation and hope.

When the two factors of the Christian Use of Imagery Inventory were correlated with the other instruments and demographic questions of this study, the above interpretation was upheld. The Present Oriented subscale correlated more highly (though both significantly and positively correlated) with Hood's Mysticism Scale (and each of the scales two subscale components) than the Future Oriented subscale. This is reasonable since mystical experience tends to deal with the present reality of the individual rather than something that may happen in the future (Mallory, 1977). This is exemplified in question number two of the inventory which asks how frequently the subject imagines Christ or the Holy Spirit to be with him/her as he/she goes about his/her usual activities.

The Present Oriented subscale also significantly positively associated with ministering to Christians, while the Future Oriented subscale did not. Again, ministering to Christians is more a present concern of the believer, and not related to future Heavenly realities. This is exemplified in question seven of the Present Oriented subscale which asks how frequently the subject

imagines what it would be like to be in his/her brother's or sister's shoes.

Finally, the Future Oriented subscale significantly negatively correlated with years a Christian, while the other subscale did not significantly correlate at all. It may be reasoned that a younger believer may become a Christian from the promises in the Bible of a Heaven ("being saved"), being rewarded, and being with God while the world is being judged. These incentives may "wear off" in importance, or be replaced with other values to fill the imagination as the Christian grows in his/her faith and deals with applying Biblical standards to present reality.

The question items of the Christian Use of Imagination Inventory were also individually correlated with the other scales and subscales of this study. Only two questions significantly positively related to Spiritual Well-being, how frequently the respondent imagines God to be with him/her (question 2), and imagines God healing one's self or others (question 10). Of these two questions, frequently imagining God being with the person more significantly related to Spiritual Well-being. All the questions but two, identifying with a Biblical character (question 3), and imagining God healing (question 10), significantly correlated with Hood's Mysticism Scale.

Appendix R

Vita

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Objective

A position involving the psychotherapeutic treatment of social, behavior, emotional, and thought disorders. Or a position teaching psychology, and doing research integrating Christianity and psychology. Or a position with opportunity to both teach and counsel.

Education

Doctorate of Philosophy in Clinical/Counseling Psychology, 5/86.
Masters of Arts in Theology, 6/84.
Masters of Arts in Clinical/Counseling Psychology, 6/83.
The above three degrees were obtained from:
Western Conservative Baptist Seminary, 5511 SE Hawthorne Blvd., Portland, Oregon, 97215, PH# (503) 233-8561.
Bachelors of Arts in Psychology, and Religious Studies (Double Major), with Honors, 6/80.
University of California at Santa Barbara, Santa Barbara, California, 93107, PH# (805) 961-2311.
High School Diploma, 6/76.
Monta Vista High School, Cupertino, California, 95014.

Internship and Practicum Experience

Individual, marital, and family counseling, 6/85 to 6/86, approx. 1400 hrs.
Montavilla Family Counseling Center, 1908 NE 82nd, Portland, Oregon, 97220, PH# (503) 253-1324.
Supervisor: Dr. Steve Stephens, Licensed Psychologist.
Psychometric assessment, group and individual therapy of the chronically mentally ill, 9/84-9/85, approx. 1000 hrs.
Gladstone Adult Day Treatment Center (Clackamas County Mental Health), 1020 Portland Ave., Gladstone, Oregon, 97027, PH# (503) 655-8418. Supervisor: Dr. John Garwood, Licensed Psychologist.
Individual, family, and group counseling of families with children at risk of placement outside of the home, 12/83-9/84, approx. 800 hrs.
Intensive Family Services Program, Morrison Family Center (contracted with Hillsboro C.S.D.) 1665 SE Enterprise Circle, Hillsboro, Oregon, 97215, PH# 648-8951. Supervisor: Rick Weiss, A.C.S.W.
The counseling of depressed clients using cognitive therapy, 9/82-9/83, approx. 400 hrs.
Lewis and Clark College, 0615 SW Palatine Hill Road, Portland, Oregon, 97219, PH# (503) 244-6161.
Supervisor: Dr. Rebecca Probst, Licensed Psychologist.
Marriage, individual, and child counseling, 6/82-9/84 approx. 300 hrs.
Western Psychological and Counseling Services Center, 6040 SE Belmont, Portland, Oregon, 97215, PH# (503) 230-7700. Supervisor: Dr. Bob Buckler, Board Certified Psychiatrist.
Counseled the elderly disabled, 3/82-9/82, approx. 50 hrs.
Portland Adventist Convalescent Hospital (through Western Psychological and Counseling Services Center, 6040 SE Belmont, Portland, Oregon, 97215, PH# (503) 230-7700. Supervisor: Dr. Cedric Johnson, Licensed Psychologist.

Recent Work History

Mental Health Therapist, P/T temporary position, 10/85-7/86 (inpatient psychiatric counseling, behavior monitoring, and nursing assistance).
Riverside Hospital, 1400 SE Umatilla St., Portland, Oregon, 97202, PH# (503) 234-5353. Dr. Mike Sullivan, Supervisor.

Interests

Academic: imagery, creativity, and religious experience.
Personal: Christianity, art, music, bicycling, and my wife.

References

Dr. Roger Bufford, Ph.D. (Professor, Clinician)
Western Conservative Baptist Seminary, 5511 SE Hawthorne Blvd., Portland, Oregon, 97215, PH# (503) 233-8561.
Dr. John Garwood, Ph.D. (Clinical Supervisor, Clinician)
Clackamas County Mental Health, Milwaukie Clinic, 2100 SE Lake Rd., Milwaukie, Oregon, 97222, PH# (503) 655-8735.
Dr. Steve Stephens, Ph.D. (Clinical Supervisor, Clinician)
Montavilla Family Counseling Center, 1908 NE 82nd, Portland, Oregon, 97220, PH# (503) 253-1324.