

**HEALTH LOCUS OF CONTROL AND DENTAL ANXIETY AS PREDICTOR OF PSYCHOLOGICAL WELL-BEING
AMONG DENTAL PATIENTS IN UCH IBADAN.**

BY

DADA TEMITOPE JOSEPH

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DEDICATION

To God who has being my all in all.

To my Dad who always tells me to keep trying and to never give up, May God bless you and make him eat the fruit of his labor.

To my sweet Mother, the best mum in the world, for all your prayers that wakes me up every mother on the phone, I love you dearly. You will not labor in vain mummy.

To my siblings (Shina, Bode, Ope and Mary), who are my best friends, I love you guys.

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ABSTRACT

This study investigated the role played by health locus of control and dental anxiety as predictor of psychological well being among dental patients in UCH Ibadan.

The study is an ex-post-facto research which utilizes the descriptive survey method to gather data. 178 One hundred and seventy eight dental patients were located at the dentistry UCH Ibadan. The respondents were sampled from the dental patients at the dentistry UCH Ibadan, using the convenient sampling technique. Self-administered structured questionnaires containing standardized scale were utilized for collecting data.

Data was analysed using T-test. Four hypotheses were tested and the result

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Psychological well-being is the subjective feeling of contentment, happiness, and satisfaction with life's experiences. It may be maintained in adverse circumstances and conversely may be lost in favourable situation.

It has been observed in the findings that positive Self-efficacy, optimistic attitude and Locus of Control affect the well being in a meaning full way. Psychological well-being is the subjective term that means different meanings to different people. Psychological well-being resides within the experience of the individual (Campbell, Converse, & Rodgers, 1976). It is person's evaluative reaction to his or her life either in terms of life satisfaction (Cognitive evaluations) or affective balance or the extent to which the Level of positive affect outweighs the level of negative affect in someone's life (Andrews & Withey,1976; Campbell et al., 1976; Diener, 1984).

Along with contextual influences locus of control and anxiety shapes the perception of well being. Operationally the two can be defined as: "An individual's positive psychological state of development and is characterized by: Having confidence (self efficacy) to take on and put in the necessary effort to succeed at challenging tasks; Making a positive attribution (optimism) about succeeding now and in the future; Persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and when beset by problems and adversity, sustaining

and bouncing back and even beyond (resilience) to attain success.” (Luthans, Youssef, & Avolio, 2007).

Locus of Control and Anxiety

Numerous studies have examined the relationship between locus of control and anxiety levels. While most studies have linked higher levels of trait anxiety with an external locus of control orientation (Archer, 1979), studies examining the relationship between locus of control and state anxiety levels have not found consistent results. Archer (1979) asserts that apparent contradictions among the results of studies of locus of control and state anxiety can be resolved by taking note of the degree of situational control which was accessible to subjects. He believes that subjects, who have explicit information as to the degree of control they can anticipate, tend to shift their general locus of control orientation to a situationally determined orientation. While maintaining that locus of control orientation shifts if subjects are given strong cues regarding their potential for control in a particular situation. Archer (1979) states that subjects will behave in accordance with their accustomed locus of control expectancies when they are placed in ambiguous situations. An ambiguous situation was defined as a situation in which subjects lack explicit cues regarding the amount of control they can anticipate.

The hospital setting is said to be representative of an ambiguous setting, because the surgical patient often has little understanding of the amount of influence he or she has over the many variables that contribute to recovery (Archer, 1979). The unknown elements relating to such issues as the type and amount of possible discomfort, as well as the uncertainty surrounding the patient's prognosis, are particularly anxiety provoking (Graham and Conley, 1971). In such

an ambiguous setting. Archer (1979) predicted that externals will experience significantly higher levels of state anxiety than internals. In their study involving presurgical patients, Lowery, Jacobsen, and Keane (1975) confirmed Archer's (1979) prediction that externals would have higher levels of state anxiety than would internals. Auerbach, Kendall, Cuttler, and Levitt (1976), however, found that locus of control was unrelated to state anxiety for patients who experienced dental surgery.

Effects of Locus of Control, and State Anxiety on Dental Patients"

A number of studies have examined whether certain forms of information have differential effects upon patients' adjustment to surgery, depending on the patients' locus of control orientation. Cromwell et al. (1977) tested Watson and Baumal's (1967) hypothesis which held that individuals would have enhanced outcomes if they were placed in a setting giving them the degree of control which was compatible with their locus of control orientation. In this experiment, Cromwell et al. (1977) found that placing coronary patients in "congruent" treatment programs led to improved outcomes, based on the number of patients who had returned to the hospital or had died within 12 weeks following hospital discharge. A "congruent" treatment program for patients with an internal locus of control orientation was a treatment approach in which they were highly involved in self-care. A "congruent" program for external patients was a treatment approach which did not demand active participation in self-care.

Auerbach et al. (1976) also employed the congruency theory (Watson and Baumal, 1967) in their hypothesis that "marginally relevant" information which did nothing to encourage coping behaviour, would be more effective in assisting externals during dental surgery than would a specific message designed to give the "illusion of enhanced control and predictability." In

addition, they postulated that internals would have a better surgical outcome if they were given the specific message rather than the irrelevant information. These hypotheses were verified by the experimental findings.

The idea that internals attempt to gain control in the hospital by requesting pain medication has found general support in the literature. Clum et al. (1979) discovered that internally oriented patients requested significantly more analgesics than their external counterparts, although the internally oriented patients did not report greater levels of pain. These researchers viewed this finding as indicative of the internals' desire to seek active ways to deal with their environment. Since these patients had not been instructed in coping skills, asking for analgesics was seen as one of the few means by which the internals could relieve their discomfort. Serwatka, Serwatka, and Ayer (1975) found similar results in their study which revealed that internals and externals following dental surgery had approximately the same level of reported pain, but that internals used more pain medications. Johnson et al. (1970) also discovered that internals used relatively large amounts of painkillers. In a similarly constructed study, Johnson et al. (1971) replicated their earlier findings, and noted that none of the dosages of analgesics given to the internals was extreme, raising the question as to whether the externally oriented patients had received sufficient amounts of medication.

Pickett and Clum (1982) investigated the relationship between locus of control and state anxiety by giving instruction in coping strategies to surgical patients. Progressive muscle relaxation training was given to one group of patients, and this training was believed to be congruent with patients who had an external locus of control orientation. A second group of patients was given relaxation information, while a third group of patients was given instruction in a cognitive distraction technique. By emphasizing self-control, these two latter strategies were

designed to appeal to patients with an internal locus of control orientation. The cognitive distraction technique was found to be significantly better at reducing state anxiety as compared with the procedures employed with the other two groups. Locus of control was not found by Pickett and Clum (19 82) to be significantly related to anxiety reduction. However, in contrast to the majority of other investigators, Pickett and Clum (19 82) focused on the reduction of postsurgical anxiety rather than presurgical anxiety. Auerbach et al. (1976) did not find a direct relationship between locus of control orientation and the state anxiety experienced by patients during dental surgery.

1.2 Objectives of the study

The main purpose of this study is to identify how health locus control and anxiety predicts the psychological well-being of dental patients in UCH, Ibadan.

Specifically this study will try to identify if:

1. The study chooses to understand the various contributions of gender and marital status to psychological well-being.
2. To examine whether dental anxiety significantly influence psychological well-being
3. To also examine the significant influence of health locus of control on psychological well-being
4. To determine the joint contributions of dental anxiety and health locus of control to psychological well-being.

1.3 Significance of study

This study is important because it provides information on how dental anxiety affects psychological well-being of the dental patients, also how locus of control have influence on psychological well-being. We have to find out the difference in affects of internal locus of control and external control on psychological well-being.

The study would be beneficial y helping patients reduce the problems that comes with anxiety.

CHAPTER TWO

LITERATURE REVIEW

2.1 THEORETICAL FRAMEWORK

This chapter reviews the literature relevant to this study, which focused on anxiety and health locus of control (HLOC) as predictors of psychological well-being among dental patients.

When patients enter a hospital for surgery, they are thrust into a role and an environment which are probably foreign to them. Surgical patients must cope not only with the physical trauma of surgery but also with the psychological effects of hospitalization and surgery. Physicians have known for a long time that patients' psychological states have a significant impact on their physical adjustment to surgery (Cope, Wang, and Caro, 1967); they have also noted that patients differ greatly in their affective response to the events of hospitalization and surgery. While health care professionals have always attempted to calm patients before surgery, it has only been in recent years that the effects of psychological well being for surgery have been quantified and that new methods of psychological preparation have been developed (Reading, 1979). It is clear that in order to achieve the optimal psychological outcome for dental patients' two factors must be considered: anxiety, and locus of control orientation. Therefore, each of these two areas will be examined separately, then each area will be related specifically to the medical setting, and finally, all three components will be linked together within the context of the surgical patients experience.

2.1.1 Anxiety

Anxiety is the affective response of an individual who perceives danger or threat. Anxiety has been assessed in a variety of ways, but perhaps the most commonly used measures have been self-report measures such as adjective check lists, and physiological indices such as measures of heart rate, blood pressure, respiration rate, and galvanic skin response. Several studies indicate that self-reported anxiety may be more reliable than physiological measures of anxiety since self-report measures are less affected by extraneous variables, such as idiosyncratic factors in the experimental situation (Levitt, 1967).

The superiority of self-reported anxiety over physiological measures was demonstrated in one study (Lazarus and Opton, 1966) in which subjects were shown a stressful movie, Subjects' anxiety levels were monitored through a physiological measure, skin conductance changes, and also through a self-report measure, an adjective check list. It was concluded that this self-report measure was superior to the physiological measure since fluctuations in the self-report instrument seemed to correlate more closely to anxiety induced in the study, especially when overall arousal was high. In addition, a self-report measure has been recommended in stressful medical settings since physiological measures may be reactive in undesirable ways (Kendall, Williams, Pechacek, Graham, Shisslak, and Herzoff, 1979). For example, a person connected to a heart rate monitoring device could experience a higher level of anxiety simply due to apprehension relating to this physiological measure.

2.1.2 Auerbach's State and Trait Anxiety

Much of the confusion in hospital studies dealing with patients' anxiety reactions has stemmed from the failure to distinguish between state and trait anxiety. State anxiety is defined as a transitory state reflecting the amount of stress an individual experiences specific to an immediate situation. Trait anxiety, or generalized anxiety, is defined as the individual's predisposition to become anxious in a variety of situations. The independence of these two types of anxiety has been previously demonstrated (Cattell and Scheier, 1963).

A study which clearly illustrates the need to distinguish between state and trait anxiety was conducted by Auerbach (1973) using hospital patients. Patients' state and trait anxiety scores were assessed before and after surgery. Although patients with high trait anxiety had higher absolute levels of state anxiety as compared with low trait anxious subjects both before and after surgery, high and low trait anxious subjects demonstrated an almost identical decline in state anxiety following surgery.

Trait anxiety scores, however, were essentially unchanged following surgery. State anxiety scores showed a slight decline 24 to 48 hours following surgery, but decreased significantly as the patient continued to convalesce. The magnitude of decline in state anxiety seemed to be unrelated to severity or type of surgery, surgical history, or the patient's age. Spielberger, Auerbach, Wadsworth, Dunn, and Taulbee (1971) also found a decline in state anxiety following surgery, but no change in trait anxiety. In addition, studies by DeLong (1971), Martinez-Urrutia (1975), and Wolfer and Davis (1970) found that relatively high levels of state anxiety were reported in patients following hospital admission and during the period immediately following surgery, followed by a decline in state anxiety postoperatively.

The intent of this dissertation was to discover the most effective way to reduce surgical patients' anxiety levels. Because trait anxiety, by definition, is resistant to change and is relatively stable over time, patients' state anxiety levels were examined in this dissertation study. Therefore, this review will focus primarily on state rather than trait anxiety. Furthermore, this review will concentrate on self-report measures of anxiety rather than physiological measures since, as has been previously discussed, a subject's self-report seems to be the most reliable indication of anxiety.

2.1.3 Spielberger, Gorsuch, Lushane, and Zuckerman's State Anxiety Measures

Two of the most commonly used measures of state anxiety are the state anxiety (A-State) scale from the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, and Lushane, 1970) and Zuckerman's (1960) Affect Adjective Check List (AACL) Today form. Both the A-State scale (Spielberger, et al., 1971) and the AACL (Zuckerman, Nurnberger, Gardiner, Vandiveer, Barrett, and Den Breeijen, 1963) have been used successfully to measure the transitory anxiety experienced by medical patients. However, the AACL was chosen over the A-State scale for use in this dissertation research since in pilot work employing both of these measures, the AACL proved to be more easily understood by patients. The AACL requires only a "yes" or "no" response for each item; therefore, patients seemed to understand the directions easily and completed this measure quickly. Patients had more difficulty completing the A-State form which required them to choose one out of four possible responses for each item.

The anxiety scale of the AACL Today form is a 21-item scale which was empirically derived to assess state anxiety. It has been widely used in research for many years (Masterson, 1975). In one study employing this anxiety scale with 192 college students, test-retest reliability

was found to be .88 when readministration was given within the same hour. However, the test-retest coefficient dropped to .22 when the re-administration took place after an interval of 5 days (Pan-kratz, Glaudin, and Goodmonson, 1972). This low temporal stability is quite satisfactory for a state anxiety measure.

By definition, a state anxiety measure reflects moment-to-moment changes in anxiety. A high degree of temporal stability would suggest that an instrument was not sensitive to changes in anxiety.

Bloom and Brady (1968) report that ratings of anxiety based on clinical observation and questionnaire data correlate significantly with the anxiety scale of the AACL (.4 to .7).

In a study of 32 college students given the Today form of the AACL over 5 successive days, anxiety scores increased significantly on days immediately preceding examinations (Zuckerman, 1960). This finding was replicated by Zuckerman and Biase (1962) and by Zuckerman, Lubin, Vogel, and Valerius (1964). The anxiety scale of the AACL has demonstrated its usefulness as a sensitive measure of changes in affect during stressful situations such as perceptual isolation (Zuckerman, Albright, Marks, and Miller, 1962), hypnotically induced anxiety (Levitt, Den Breeijen, and Persky, 1960), and childbirth (Zuckerman et al., 1963). In the latter study, anxiety as measured by the AACL was found to be directly related to the amount of analgesic used by women during labour. A study which investigated the internal consistency of the Today form of the AACL anxiety scale by comparing odd versus even items, found a coefficient of .79 for a sample of 46 college students (Zuckerman et al., 1964).

Anxiety in a Hospital Setting the events of hospitalization and surgery are anxiety-ridden for most individuals. Nearly all patients experience anxiety as a result of separation from home

and family, loss of independence, and exposure to unfamiliar and unpleasant medical procedures (Volicer and Bohannon, 1975). Despite the anxiety associated with hospitalization, surgery further heightens patients' anxiety levels. Surgery is thought to elicit anxiety since patients find their customary life-styles suddenly disrupted and they are put in situations involving pain, physical discomfort, and the threat of death (Auerbach and Kilmann, 1977). Surgery brings out fears common to all patients, regardless of the specific nature of the operation (Ray and Fitzgibbon, 1981). Nevertheless, the extent of the surgical patient's anxiety is dependent on the nature and locale of the disease, the surgical process itself, and the long-range consequences of surgery (Furst, 1978). A survey of 150 surgical patients revealed that fear of cancer, endorsed by 30% of the sample, was the greatest source of anxiety. Fears concerning anesthesia (25.3%) were the second leading cause for concern, and worries relating to the outcome of the surgery (17.3%) were the third source of anxiety (Ryan, 1975).

An early theory concerning patients' psychological responses to surgery was derived by Janis (1958) and based on Miller and Dollard's (1941) emotional drive theory.

Janis maintained that patients needed a moderate level of anticipatory anxiety prior to surgery in order to experience the best psychological adjustment following surgery. Janis postulated that a curvilinear relationship exists between successful adaptation to surgery and anxiety levels, with extremely high and very low levels of anxiety being associated with a negative postoperative outcome. Although Janis' (1958) study, based on patients' retrospective global self-reports, supported this theory, this study has been faulted for its small sample size (Auerbach, 1973). Auerbach (1973) also raised the issue of experimenter bias, for Janis collected and analyzed the data himself. Of greatest significance, no published research has replicated Janis' finding that a curvilinear relationship exists between preoperative anxiety and adaptation to surgery. In fact,

several studies (e.g., Johnson, Dabbs, and Leventhal, 1970; Johnson, Leventhal, and Dabbs, 1971; Johnston and Carpenter, 1980; Sime, 1976) have discovered a generally linear relationship between preoperative levels of anxiety and postoperative adjustment. In these studies, patients who reported a high level of anxiety prior to surgery also experienced a high level of anxiety postoperatively, while patients who were less anxious prior to surgery had less anxiety following surgery. In the Sime (1976) study, for example, low anxiety patients scored more favorably than either the high or moderate anxiety patients on all recovery variables. Recovery variables in Sime's study consisted of number of analgesics used, number of days to discharge, and a self-rating of postoperative negative affect. In his review, Reading (1979) confirmed that for the most part, a linear relationship between anxiety and postoperative recovery has been found. He points out that the exceptions to this general linear pattern can be partly accounted for by the differences in the definition and measurement of anxiety.

However, another study (Wolfer and Davis, 1970) found no relationship between emotionality and any other recovery variables, though a weak but reliable linear relationship between preoperative anxiety and postoperative emotionality was discovered. Recovery variables included objective data regarding the patient's condition such as wound complications, incidents of nausea, and number of analgesics and also included rating scales completed by the patient, the patient's family, and the nursing staff regarding the patient's physical progress and emotional state.

In summary, the linear model relating low anxiety levels in patients prior to surgery with optimal postoperative recovery is generally supported by current research.

Furthermore, the few studies that have found differing results do not appear to share any common pattern of findings, and in particular, these studies do not support the curvilinear pattern described by Janis (1958). In order to assess, predict, and reduce patients' anxiety levels, the researcher must be careful to clearly specify the type of anxiety under study as well as to employ appropriate assessment instruments.

2.2.1 Julian Rotter's Theory of Locus of Control

Locus of control refers to whether or not individuals believe that the events of their lives are related to their own behaviour. It means the effects of reward or reinforcement on preceding behaviour depend in part on whether the person perceives the reward as contingent on his own behaviour or independent of it" (Rotter, 1966). An individual who believes that an outcome or reinforcement is a function of fate or chance, under the control of others, or unpredictable may be described as having an external locus of control. The person who expects an outcome or reinforcement to be contingent upon his or her own behaviour (e.g., amount of effort he or she expends; amount of preparation/training) may be described as embodying an internal locus of control. Internals are more likely to work for achievements, to tolerate delays in rewards and to plan for long-term goals, whereas externals are more likely to lower their goals. After failing a task, internals re-evaluate future performances and lower their expectations of success, whereas externals may raise their expectations. Internals are better able to resist coercion. Internals are better at tolerating ambiguous situations. There is also a lot of evidence in clinical research that internality correlates negatively with anxiety, and that internals may be less prone to depression than externals, as well as being less prone to helplessness. Perhaps not surprisingly, those with an external locus of control are more susceptible to depression as well as other health problems, and tend to keep themselves in situations where they will experience additional stress, feeling

powerless to change their own circumstances, which just add to their stress load. (Elizabeth, 2007).

Rotter's (1954) belief, based on social learning theory, is that an individual's behaviour in a given situation is determined both by the individual's expectancy regarding whether he or she could obtain an outcome, and by how much the individual values that outcome. Rotter maintained that each time an individual's behaviour is followed by the expected outcome, the individual's expectancy that the outcome is related to that behaviour is increased.

A history of reinforcement not related to individual efforts results in the expectancy that reinforcements are not contingent upon one's own behaviour, but are dependent on an outside source. Rotter referred to a person's general expectancy as "locus of control." A person who believes that his or her own behaviour is the causal factor in achieving the desired outcome is described as having an "internal locus of control." Conversely, an individual who perceives outside forces, such as fate, chance, God, or powerful others, as being in control of desired outcomes, is said to have an "external locus of control."

Phares (1957) and James and Rotter (1958) studied the effects of skill and luck expectancies in determining subjects' consequent behaviour. In the earliest published study, Phares (1957) assigned subjects to tasks such as matching colours or matching line lengths. One group of subjects was told that success was due to luck, while the other group was told that success was due to skill. Phares (1957) found that subjects who were told that their success on a task was skill-related, expected continued success with the task, while those who were told that their success was chance-related did not expect continued success. In other words, when individuals perceived that a task was controlled by chance conditions, they relied on past

experience less when predicting future performance than when they perceived a task was controlled by their own skill.

Rotter's Internal-External (I-E) Scale Phares (1957) made the first attempt to measure the internal-external control dimension as a personality characteristic with a 13-item scale. He found that individuals responded to the items of this scale in ways that corresponded with their behaviour in locus of control conditions in the lab. James (1957) expanded and refined Phares' (1957) scale into a 60-item Likert scale with 30 non-scorable items. This measure, known as the James-Phares Locus of Control scale, provided the source from which Rotter developed his Internal-External (I-E) scale. Originally, Rotter's (1966) I-E scale was designed to provide both a general locus of control score and locus of control scores for specific areas such as achievement, social recognition, and love.

However, a factor analysis revealed only one general factor among I-E scale items. This result supported the development of the I-E scale as a general measure of locus of control and did not support division of the scale into specific areas.

At first, the I-E scale had a Likert format but a forced choice version was adopted in order to reduce the instrument's correlations with the Marlowe-Crowne Social Desirability (Crowne and Marlowe, 1964) scale. After several additional refinements, the I-E scale in its final form is a 29-item forced choice scale which includes 6 non-scorable items.

Rotter (1966) asserted that the construct validity of the I-E scale was best demonstrated by studies which related I-E scale scores to individuals' attempts to control their environment. Rotter (1966) cited a body of studies demonstrating that individuals who were defined as internals by the I-E scale were significantly more alert in seeking useful information about their

environment and also were more active in their efforts to improve their situations. Rotter's conclusion that internals generally tend to be more active in seeking information about issues which affect them seems to hold true in the specific area of health. For example, tuberculosis patients judged as internals by the I-E scale were found to demand significantly more information about their physical condition as compared with patients rated as externals (Seeman and Evans, 1962). A study which examined college students' attitudes about health found that internals who valued their health chose to collect more pamphlets about hypertension than did internals who placed a low value on their health or externals regardless of the value they placed on health (Wallston, Maides, and Wallston, 1976).

Both Lefcourt (1966) and Rotter (1966) report that the I-E test-retest reliability is within acceptable limits, although the coefficient varies depending on the populations tested and the intervening time periods. In a sample of female gender, Rotter (1966) reported a test-retest reliability coefficient of .84 over a 1-month time interval.

In another sample involving female gender, Rotter (1966) reported a test-retest reliability coefficient of .61 over a 2-month time interval. Internal consistency estimates of reliability have ranged from .65 to .74 (Rotter, 1966).

2.2.2 Crandall, Katkovsky, and Crandall Multidimensionality and Locus of Control

Today, the I-E scale continues to be the most frequently used locus of control instrument. Nevertheless, the I-E scale has met considerable criticism, primarily for its unidimensional approach toward the assessment of locus of control orientation. This criticism was stimulated by factor analytic studies which, unlike Rotter's (1966) results, found several independent dimensions within the I-E scale.

Abramowitz (1973) and Mirels (1970) are among the researchers who have repeatedly obtained two factors in their factor analyses of the I-E scale which they described as personal control and political control. Gurin, Gurin, Lao, and Beattie (1969) factor analyzed I-E responses from black students and found four dimensions which they labeled: Control Ideology, Personal Control, Social Modifiability, and Individual System Blame. Kinder and Reeder (1975) administered a subset of personal control items from the I-E scale to blacks, Chicanos, and whites. They found that the personal control items showed satisfactory internal consistency for Chicanos and whites, but not for blacks. It appears that the personal control concept may be especially multi-dimensional for blacks.

While a multidimensional locus of control scale (Crandall, Katkovsky, and Crandall, 1965) was introduced almost concurrently with Rotter's I-E scale, this scale was not suitable for assessing adults since it was designed to measure children's achievement behaviour. This scale, known as the Intellectual Achievement Responsibility (IAR) questionnaire contained two dimensions: one dimension assessed children's ideas about success expectations and the other dimension measured children's ideas about failure expectations. While numerous studies have employed the IAR to measure locus of control in children, Gregory (1981) points out that no study has actually examined the relative value in this scale's distinction between success and failure expectancies.

Levenson published her multidimensional locus of control measure known as the Internality, Powerful Others, and Chance (I, P, and C) scales in 1973. Levenson (1981) later acknowledged that most validity studies demonstrate a significant correlation between the P and C scales. Thus, it seems that the multidimensionality of this scale is in doubt.

While personal control and political control had previously been identified through factor analyses of the I-E scale, it was not until Reid and Ware (1974) lengthened each of the subscales representing these factors that it became possible to begin an examination of their potential utility. Reid and Ware also constructed another subscale dealing with beliefs about self-control. Paulhus and Christie (1981) point out that while the reliability and independence of the Reid and Ware subscales seem well established, little validation evidence has been published.

Lefcourt (1981, p. 5) calls the IAR, the I, P, and C scales, and the Reid-Ware three-factor scale the prototypes for the newer locus of control assessment instruments, many of which are still in development. Since many of these new scales are still being revised, none of these measures have been sufficiently validated. Typically, only the scales' creators have used the measure in research studies. Despite these obvious limitations, it may be of interest to note two of the new multidimensional locus of control instruments.

Gregory, Steiner, Brennan, and Detrick (1978) faulted the I-E scale for primarily assessing the individual's perceptions of negative outcomes in the environment. Gregory et al. (1978) developed the Malevolent-Benevolent Questionnaire (MBQ) to assess expectancies for positive outcomes as well as expectancies for negative outcomes.

Gregory (1981) reported that a significant correlation has been found between "malevolence" scores on the MBQ and externality as assessed by the I-E scale. However, no significant correlation was found between "benevolence" scores on the MBQ and internality as assessed by the I-E scale. Gregory (1981) asserts that these results demonstrate that the MBQ is superior to the I-E scale in that the MBQ predicts expectancies regarding positive outcomes as well as predicting expectancies regarding negative outcomes.

Lefcourt. Von Baeyer, Ware, and Cox (1979) have begun developing a locus of control instrument with a series of goal-specific scales. This measure is known as the Multidimensional-Multiattributonal Causality scales (MMCS). Lefcourt (1981, Chap. 7) reported that scores from one goal-specific scale (Affiliation) have consistently demonstrated a moderate relationship with a range of social interaction criteria. However, another goal-specific scale (Achievement) has not been found to be useful in predicting a range of achievement criteria. Lefcourt's (1981, p. 272) goal is to be able to use the MMCS in clinical settings to create a diagnostic profile for an individual. This profile would identify areas of special concern to the individual and would also highlight areas in which the individual felt helpless to determine outcomes.

In response to investigators' claims that factor analyses revealed several dimensions within the I-E scale.

Rotter (1975) stated that the factor analysis of a particular scale does not reveal the "true structure of a concept." Rather, he said the factor analysis points out the kinds of similarities perceived by a particular group of subjects for a particular selection of items. He also said that in order to be useful, factor analyses must increase one's ability to make reliable predictions about specific behaviors. Rotter suggested that some multidimensional locus of control scales may not be tapping separate areas, noting that Levenson's (1973) Powerful Others and Chance subscales showed a relatively high (e.g., .59) correlation in most samples.

2.2.3 Specialized Locus of Control Scales

Though Rotter's factor analysis convinced him that the general concept of locus of control is unidimensional, he along with Lefcourt (1976) urged investigators to consider the multidimensionality of the scale when a specific reinforcement area was studied. Rotter (1975)

indicated that a more specific expectancy measure might be especially preferable for use in an area of research in which every increment in prediction is of practical importance.

Clearly, some researchers are in agreement with this idea because several individuals are working on measures designed for specific groups and specific settings. For example, Reid and Ziegler (19 77) have developed the Desired Control measure from a survey of elderly people. One dimension of this measure assesses the value that the elderly person places on specific reinforcements and the other dimension assesses the expectancy the elderly person has of obtaining these reinforcements. Worell and Tumilty (19 81) have developed an Alcoholic Responsibility scale which measures the extent to which alcoholics accept personal responsibility for their drinking. Hill and Bale (19 81) have developed two scales: the Mental Health Locus of Control scale, designed to measure expectancies concerning who is responsible for therapeutic change in mental health settings and the Mental Health Locus of Origin scale, which measures the individual's beliefs concerning the cause of psychological problems.

The locus of control concept has generated much re-search within the health field, and several locus of control measures have been specifically developed for this setting.

The first locus of control scale specific to the medical field was developed by Dabbs and Kirscht (1971). However, these researchers developed the scale based on the individual's motivation to take health-care precautions rather than examining the individual's beliefs concerning the extent to which personal actions can influence physical well-being.

Thus, this scale did not examine the individual's expectancies, and it is expectancies which are crucial to the locus of control concept (Wallston and Wallston, 1981). Although this

scale has since been revised to incorporate expectancies regarding health (Kirscht, 1972), it has not yet been validated.

The next health-specific locus of control instrument was the Health Locus of Control (HLC: Wallston, Wallston, Kaplan, and Maides, 1976) scale, a theoretically based scale designed to measure generalized expectancies relating to health. However, these scale developers became dissatisfied with the HLC due to both its low internal consistency (.30-.59) and their growing conviction that a multidimensional instrument would be more appropriate. In response to this concern, Wallston, Wallston, and DeVellis (1978) created a new measure, the Multidimensional Health Locus of Control (MHLC) scales, based on Levenson's I, P, and C scales.

While most researchers currently looking for a health-specific locus of control scale choose the MHLC over the HLC, there is little evidence to support use of either of these measures. Scoring problems exist with the MHLC (Wallston and Wallston, 1981), for while one scale determines an individual's ranking for internality, no method has yet been established which rates the individual on the external locus of control dimension. Additionally, alternate forms of the MHLC do not appear to be interchangeable (Larde and Clopton, 1983; Nagelberg, 1979) and strong inter-correlations between subscales (Larde and Clopton, 1983) call the multidimensionality of the instrument into question.

The most recently developed health-specific locus of control instrument was developed by Lau and Ware (1981). This multidimensional Health Locus of Control scale covers the following dimensions: self-care, provider care, chance, and general threat to health. While Lau and Ware admit that their instrument has many similarities to the MHLC, they claim that their

scale's fourth dimension is unique in that it is a general measure of health attitude. The value of the Lau and Ware (19 81) scale remains to be demonstrated.

Although Rotter's I-E scale has been criticized for its unidimensional approach to locus of control, the multi-dimensionality of the locus of control concept is still questionable. Various researchers have developed alternative locus of control scales. However, some of these scales have not proven useful, and many others have not yet been sufficiently tested. Within the area of health research, the I-E scale is a popular locus of control instrument, although some researchers in this area have used other measures such as the HLC or the MHLC. However, due to the unproven nature of such health-specific locus of control scales, it is quite possible that findings from studies employing these instruments are misleading. In light of the uncertainty surrounding the validity and reliability of these other measures, the I-E scale remains the instrument of choice for assessing locus of control orientation.

Thus, only studies using the Rotter's I-E scale in a medical setting will be cited in this review.

In summary, (Rotter, 1966) locus of control scale has been the assessment instrument most frequently chosen to identify coping styles. The reliability and validity of the I-E scale have been demonstrated in numerous studies. Currently, research is being directed toward developing general, multidimensional locus of control scales and also toward developing locus of control scales designed for specialized groups and settings. Until such scales have been validated; however, the I-E scale still stands as the preferred locus of control measure.

Locus of Control and the Hospital Setting

It is important to note that the patient's usual coping style can be greatly altered once he or she enters the hospital. Wolk (1976) emphasized the idea that environmental context can considerably moderate an individual's accustomed coping style. However, it has often proven difficult to try to predict accurately the manner in which locus of control orientation is affected by the hospital setting. This difficulty is due not only to the differences in the quantity and quality of information which patients are given about their conditions but is also due to the uncertainties inherent in medical treatment. Together, these two factors largely determine the degree to which patients' general beliefs about their ability to influence situations may be altered upon entering the hospital.

Optimal psychological adjustment would seem to be expected for a surgical patient when there is congruence between the patient's locus of control orientation and the patient's perception of the way in which his or her needs can be most effectively met in the hospital setting (Watson and Bauml, 1967). For example, patients who have an internal locus of control orientation should have a positive reaction to surgery, provided that they experience the hospital as a setting where they can play an instrumental role in caring for themselves. Those patients who have an external locus of control orientation will experience a positive adjustment to surgery if they perceive the hospital as a place where competent others will meet their needs.

Locus of Control and Response to Dental Illness

The active attempts to cope with disease put forth by the individual with an internal locus of control orientation are generally thought to be preferable to the more passive style of dealing with illness put forth by the individual with an external locus of control orientation.

Strickland (1978) cautioned, however, that the internal's attempts to master illness can lead to a negative outcome, especially in those instances in which complete medical recovery is not possible. It has also been assumed that since internals hope to gain personal control over their health, they are always motivated to obtain information about their physical condition. However, internals have been found to abandon their information-seeking orientation, if this information cannot be used to significantly improve their health (Lowery and DuCette, 1976). In a situation in which complete mastery of an illness is not possible, Strickland (1978) believed that the external's tendency to rely on experts for help could prove superior, but support for this theory is mixed.

In contrast, two other studies counter the idea that internals with chronic medical problems tend to do less well than externals. Poll and Kaplan De-Nour (1980) discovered that dialysis patients with an internal locus of control complied better with the dietary regimen, showed superior results from vocational rehabilitation, and re-reported more acceptance of their disability. Similarly, a study of coronary patients revealed that internals co-operated better with treatment demands and had earlier discharge dates than externals (Cromwell, Butterfield, Brayfield, and Curry, 1977).

In summary, although various studies involving surgical patients have uncovered indications of strong inter-actions between locus of control, Psychological well being, and state anxiety, these research findings have failed to establish a consistent relationship between these three factors. The research which has been reviewed here reflects this general lack of cohesion among studies.

One study (Pickett and Clum, 1982) demonstrated the effectiveness of a cognitive distraction technique in reducing patients' state anxiety levels, without regard to patients' locus of control orientation. However, in another study (Auerbach et al., 1976), information given to patients prior to surgery had differential effects upon patients' adjustment to surgery depending on the patients' locus of control orientation. Patients' anxiety levels were not correlated with either type of information presented or locus of control orientation. Locus of control proved to be a significant factor in a study (Cromwell et al., 1977) which evaluated patients' responses to two types of hospital care. Locus of control has also been found to be significantly related to patients' requests for analgesics (Clum et al., 1979; Johnson et al., 1970; Johnson et al., 1971; Serwatka et al., 1975).

Methodological Problems in Previous Research

It has been difficult to identify psychological factors which significantly contribute to an optimal post-operative outcome because grave methodological problems exist in previous studies. It is hoped that enumerating these difficulties will challenge investigators to find creative ways of dealing with these methodological problems. While it is true that methodological precision is more difficult to achieve in a naturalistic setting, such as a hospital, this should not be an excuse for carelessness or for deficient research standards.

One of the methodological problems found in previous studies is combining patients undergoing a variety of types of surgery (Bruegel, 1971; Egbert et al., 1964; Lowery et al., 1975; Wolfer and Davis, 1970). In the Lowery et al. (1975) study, for example, patients were studied whose operations ranged from a minor level, such as a sinus drainage procedure, to major types of surgeries, such as a hysterectomy. It would seem that the kinds of surgical procedure involved

would greatly influence many factors such as the state anxiety level, amount of analgesic needed, and the discharge date. Extraneous variability in these factors could be eliminated if researchers would limit their samples to surgical patients who were undergoing identical or very similar surgical procedures. A second methodological problem is that many studies combine several different types of information in presenting preparatory information to patients, thereby making it impossible to identify the effective aspects of the information (Auerbach and Killmann, 1977).

Another serious flaw in many studies is the failure to give explicit information regarding the way in which central concepts were defined and measured. An example of this failure to define concepts can be seen in the Bruegel (1971) study, which did not clarify whether state or trait anxiety had been evaluated. In addition, studies which employ idiosyncratic measures frequently do not adequately describe their measurement procedures. This omission prohibits a comparison between studies. Moss and Meyer (1966) for example, reported that experimental and control groups seemed to be equivalent on all extraneous variables except "nervousness." Another study (Schmitt and Wooldridge, 1973) reported that 68% of the patients studied experienced "anxiety" the night before surgery, while 16% of the subjects from the control group reported "a good deal of anxiety." In both cases which have been cited, lack of a clear definition of terms such as "nervousness" and "anxiety" makes interpretation of the findings problematic. These same difficulties are encountered in evaluating levels of reported pain from one study to another. Serwatka et al. (1975) merely indicated that "levels of pain were recorded," without any further elaboration. Egbert et al. (1964) reported that pain levels of "severe, moderate, mild, and almost none" were used in their study. Another difficulty related to measurement of pain and anxiety is the issue of the reliability and validity of ratings of these concepts. Many of the

hospital studies employed independent raters, usually nurses, in addition to recording patients' self-reports.

However, none of the studies cited in this review report how consistent and accurate the judges were in their evaluations.

In summary, it should appear obvious that attempts to generalize research results will be plagued with difficulties until investigators give explicit information regarding ways in which experimental variables were defined and measured.

Another methodological problem is that few hospital studies have included a placebo group to control for the effects of experimenter contact alone (Reading, 1979). In a study dealing with heart surgery patients, Lucas (1976) had two experimental groups and two control groups. The experimenter was actively involved in teaching patients in the first experimental group how to plan for their future following hospital discharge. In the second experimental group, the focus was also on planning for the future, but in this group, the experimenter was an active listener and did not contribute to the discussion. In the attention control group, the experimenter talked to patients about non-relevant subjects, such as the weather. The other control group had no contact with the experimenter. Results indicated that while the two experimental groups and the attention control group did not differ in effectiveness, these three groups were all significantly better in promoting postoperative recovery than the no contact control group. Postoperative recovery was judged by 10 medical indices such as number of days from operation to discharge and amount of medication prescribed at discharge. When experimenters have used a control group to serve as a comparison for experimental procedures, experimenters have often failed to provide any information about the type of treatment provided

for these subjects (e.g., Moss and Meyer, 1966). Even if patients in the control groups are only given routine nursing care, the amount of attention involved in this care varies widely across hospitals. Therefore, descriptions of the amount and type of attention given to control subjects should be included in future research reports.

Finally, the gender of the patient tested must be considered in order to obtain the most sensitive discriminations possible in regard to measures of both locus of control and anxiety. Several studies indicate that females tend to report higher levels of state anxiety (e.g., Graham and Conley, 1971; Lowery et al., 1975; Wolfer and Davis, 1970). Gender also appears to be an influential factor in locus of control measurement, with females recording significantly more externality (e.g., Joe, 1971).

In a study of college students, Richert (1981) found an interaction between gender, locus of control, and situational anxiety. He found that for males, an external locus of control was associated with anxiety in achievement and physical danger, whereas for females, an external locus of control was linked with anxiety in interpersonal situations. Richert (1981) also found that males tended to express anxiety in physiological ways while females experienced anxiety in more internal, emotional ways. Since locus of control and anxiety scores differ for males and females, it appears that data from male and female surgical patients should not be combined in studies assessing anxiety or locus of control.

Summary and Rationale for Dissertation

Although it is evident that a patient's psychological state greatly influences his or her recovery from surgery, exploration of the variables which contribute to the patient's emotional state has been inadequate. Evidence indicates that variables such as anxiety levels, information presented prior to surgery, and locus of control orientation, greatly affect the patient's emotional and behavioural reactions. However, numerous methodological flaws in the research literature have impeded progress in seeking to gain an understanding of the relationships among these variables. Laboratory findings often cannot be generalized to the hospital environment, and hospital based research has often been plagued by a failure to adequately operationalize terms and a general imprecision in measurement. Once these methodological problems have been resolved, it will be possible to clearly explicate those variables affecting the patient's psychological adjustment. In addition, it will also be possible to begin the task of translating research findings into practical procedures which can be used to enhance the adaptation of surgical patients. Although the realization of these goals will be difficult, the results for the surgical patient, both physically and psychologically, justify the effort. The need for a study which examined the influence of preparatory information and of locus of control orientation on the surgical patient's state anxiety level was supported by the findings of previous research. Presurgical levels of state anxiety have been related to patients' recovery from surgery (e.g., Sime, 1976) and in general, research indicates that lower levels of state anxiety are linked with the optimal postoperative adjustment. Preparatory information given to patients prior to surgery has been found to have a significant effect on patients' anxiety levels (e.g., Schmitt and Wooldridge, 1973). Locus of control orientation also appears to be an influential factor on patients' anxiety levels (e.g., Lowery et al., 1975). Research findings have also confirmed an

interaction between preparatory information and locus of control orientation, because patients have been found to respond to the same informational message in strikingly different ways based on personal coping styles (e.g., Andrew, 1970; DeLong, 1971).

Furthermore, patients with an internal locus of control have been found to respond best to a message which gave them the feeling of control, while patients with an external locus of control orientation had the best adjustment to surgery following a message which did not instruct them in self-care (e.g., Auerbach et al., 1976). It has also been shown that surgical patients have better postoperative recoveries if placed in treatment conditions congruent with their locus of control orientation (e.g., Cromwell et al., 1977).

This dissertation was designed to yield useful information about the reduction of presurgical anxiety. Although the interaction between information type and locus of control was expected to occur, it was anticipated that the results of this dissertation research could resemble the findings of Pickett and Clum (1982).

In their study, there was no interaction between type of coping technique and locus of control orientation. However Pickett and Clum (1982) found that one of the three coping techniques was significantly more effective in reducing anxiety than the other two.

While the research findings presented in this review indicate that preparatory information as well as locus of control orientation affect the surgical patient's state anxiety level, it would be a mistake to assume that these two factors are the only factors, or even the two most influential factors, responsible for determining presurgical anxiety. Other factors such as a sound financial situation, supportive family and friends, and a strong religious faith may well have much more of an impact in determining a patient's level of anxiety than would the presentation of preparatory

information tailored for his or her coping style. Despite the potential impact of economic, interpersonal, and spiritual factors on a patient's presurgical anxiety, it is unlikely that the hospital staff can do much to influence these factors in any way which will enhance the patient's recovery. Therefore, it was the intent of this study to focus on the most promising intervention available to the medical staff for helping the patient feels less anxious about surgery. From the evidence presented thus far, it appears that preparatory information in combination with locus of control orientation has that potential.

CHAPTER THREE

METHOD

3.1 Research Design

This study is a research which utilized the descriptive survey method to gather the data. The main independent variables considered in this study are dental anxiety and health locus control. The dependent variable is psychological well-being among dental patients in Uch Ibadan.

3.2 Participants

A total of one hundred and seventy eight (178) dental patients were sampled from dentistry Uch Ibadan.

The respondents' frequency distributions were as follows:

Male participants were 77(43.3%) and female were 101(56.7%).

Age of the participants were 15-24 years 67(37.6%), 25-34 were 74 (41.6%), 35-44 years were 27(15.2%), 45-54 years were 8(4.5%), 68-80 years were 2(1.1%).

Frequencies for marital status are singles 113(63.5%), married 57(32.0%), separated 3(1.7%), and divorced 5 (2.8%).

The respondent qualifications include: Primary school 20(11.2%), Ssce/Ond 60(33.7%), Hnd/Nce/1st degree 74(41.6%), postgraduate 24(13.5%).

The respondents' religions were as follows: Christianity 122(68.5%), Islam 56(31.5%).

Respondents duration of dental problem are as follows: Less than 1 year 154(86.5%),1-5 years 21(11.8%),6 years and above 3(1.7%).

3.3 Instrument of study

Structured questionnaire which were self-administered were utilized for collecting data from the respondents.

The first section dealt with dental anxiety of the respondents, the second section dealt with health locus control of the respondents and the third section dealt with the psychological well-being of the respondents.

Section B: This section measures dental anxiety among respondents using The modified dental anxiety scale developed by Humphris (1995) shared to dental patients at the dentistry Uch Ibadan. This scale is comprised of subscales that measured the dimensions of dental anxiety.

To assess dental anxiety, we employed the MDAS, which asks participants to rate: how anxious one feels the day before a dental appointment, finding the experience of going to the dentist unpleasant, nervous about upcoming dental visit, feels all things will going wrong at the dental clinic etc

The dimensions are measured with on a five-point Likert response scale (1=strongly disagree, 2=disagree, 3=undecided, 4=agreed, 5=strongly agreed).

Participants are asked to answer items in response to the stem question.

Higher scores on each of the subscales represent higher levels of the dimensions being assessed.

The eight items are summed to create a total score.

The higher the score suggest that the dental patience the lower the psychological well-being of the patience and vice versa.

The reliability coefficient of this scale is .853

This scale is score by combining all the items into a single total score and computing the average score.

Section C: This section measures the respondents' health locus control using 18 items scale developed by Julian B. Rotter (1954).

The scale consists of 18 items to which respondents express their degree of agreement or disagreement on a 5-points Likert-type scale.

This covers the two types of locus control a person could have.

They are the internal locus control (The person believes they can control their life) and the second is the external locus control (meaning they believe that their decision, life and health are controlled by environmental, by chance or fate).

The higher the score suggest that the patience have higher psychological well-being and vice versa.

The reliability coefficient for this scale is .716

Section D: In this section, we measure the psychological well-being of respondent using the scale developed by Ryff. This scale is comprised of 18 items to which express themselves on a five-point Likert response scale. Participants are asked to answer items in response to the questions (1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree).

The reliability coefficient for this scale is .658

This scale is scored by combining all the items into a single total score, and computing the average score.

3.4 Procedure

Primary source of data was utilized for this research.

Sought for the necessary approval from the management of Uch Ibadan. After permission is granted .Questionnaires were administered to the dental patients at the hospital.

A maximum of 3 weeks duration was allotted to the respondent to respond to the questions in the questionnaires. Which was shared on a daily basis for 2weeks?

A total of 178 questionnaires were administered and properly filled questionnaires were used for the data analysis.

3.5 Method of Data Analysis

The collected data was analysed using SPSS 17.0 software.

The scientific test used includes multiple regression analysis for testing composite relationship of the independent variables.

Pearson correlation analysis to test the strength of the relationship between the independent and dependent variables and T-test for independent sample for testing significant differences between independent groups were used.

CHAPTER FOUR

This Chapter analysis and interprets the results of data collected on this findings.

Specifically the study provided answers to four research hypotheses. The statistical tests used include T-test for independent samples and multiple regression analysis for predictions.

Hypotheses One

Male participants will score significantly higher on the measures of psychological well-being than their female counterparts among dental patients in UCH, Ibadan. The hypotheses was tested with T-test for independent samples and result is represented in tables 4.1

Table 4.1: Summary of T-test for the independent samples showing the influence of sex on psychological well-being.

	Sex	N	X	SD	df	t	sig
Psychological well-being	Male	77	54.14	6.26	176	-.836	>.05
	Female	101	55.24	10.22			

Table 4.1 results indicates that male participants did not score significantly higher on psychological well-being than their females among dental patients in UCH Ibadan. However, male participants recorded a mean of (54.14) and female participants recorded a mean score of (55.24). This result implies that there is no significant difference in the sex of participants on the measures of psychological well-being among the study sample. Therefore the result did not confirm the stated hypothesis and it is rejected in this study.

Hypotheses Two

Dental patients with low level of dental anxiety will score significantly higher on the measures of psychological well-being than dental patients with high level of dental anxiety among dental patients in UCH, Ibadan. The hypotheses was tested with t-test for the independent samples and result is presented in table 4.4

Table 4.2: Summary of t-test for the independent samples showing the influence or level of dental anxiety on psychological well-being.

Dental anxiety	N	X	SD	df	t	sig
Psychological well being	88	57.70	7.29	176	4.691	<.01
	90	51.90	9.09			

Table 4.2 results shows that dental patients with low level of dental anxiety scored significantly higher on psychological well-being than dental patients with high level of dental anxiety among dental patients in Uch Ibadan.

However dental patients with low level of dental anxiety recorded a mean of (57.70) and dental patients with high level of dental anxiety recorded a mean score of (51.90)a .This result implies that there is significant differences in level of dental anxiety among dental patients in UCH Ibadan. Hence the result confirmed the stated hypotheses and it is accepted in this study.

Hypotheses Three

Dental anxiety with internal locus of control will score significantly higher on the measure of psychological well-being than dental patients, with internal locus of control among patients in UCH, Ibadan.

The hypotheses was tested with t-test for the independent samples and results is presented in tables 4.3

Table 4.3 : Summary of t-test for the independent samples showing the influence of internal and external locus of control on psychological well-being.

Locus of control		N	X	SD	df	t	sig
Psychological well-being	Internal	84	58.16	7.42	176	5.265	<.01
	External	94	51.73	8.73			

Table 4.3 results indicate that dental patients with internal locus of control score significantly higher on psychological well-being than dental patients with external locus of control among dental patients in UCH,Ibadan(176)=5.265 : P<.01).

However dental patients with internal locus of control recorded a mean score of (58.16) and dental patients with external locus of control recorded a mean score of (51.73).

This result implies that there is significant difference between internal and external locus of control among dental patients in UCH, Ibadan. Therefore the results confirm the stated hypotheses and it is accepted in this result.

Hypotheses Four

Marital status, qualification and religion will significantly, jointly and independently predict Psychological well-being among dental patients in UCH, Ibadan.

The hypotheses was tested using multiple regression and the result is presented in table 4.4

Table 4.4: Summary of Multiple Regression showing the influence of marital status, qualification, and religion on psychological well-being.

Variable	R	R2	F	P	B	t	sig
Marital status					-.200	-2.690	<.05
Qualification	.221	.50	2.975	<.05	-.005	-.074	>.05
Religion					-.103	.1.385	>.05

Dependent variable: Psychological well-being.

Result in table 4.4 showed that marital status, qualification and religion jointly predicted psychological well-being among dental patients in UCH, Ibadan ($R=.221$; $R^2=.50$; $F(3,174)=2.975$ $P<.05$). This implies that marital status, qualification and religion jointly accounted for about 5.0% variance in psychological well-being while the remaining 95% could be attributed to other variables not considered in this study.

However the analysis of the independent predictions indicated that marital status predicted significant independent influence on psychological well-being ($B = -.200$; $t=-2.690$; $P<.05$) among dental patients in UCH, Ibadan. Therefore the stated hypothesis is partially accepted in this study.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 DISCUSSION

This study examined the influences and prediction of health locus of control and dental anxiety on psychological well-being of dental patients in UCH, Ibadan.

Four hypotheses were proposed and tested in the preceding chapter four. The result of the analysis gave support and confirmed the four hypotheses in the study.

The first hypotheses stated that the male participants will score significantly higher on the measures of psychological well being than their female counterpart among dental patients in UCH, Ibadan.

The results indicate that male participants did not score significantly higher on psychological well-being than their females among dental patients. The result implies that there is no significant difference in the sex of participants on the measure of psychological well-being among the study sample, because the male participants recorded a mean score of (54.14) and the female recorded (55.24). Therefore the result did not confirm the stated hypotheses and it is rejected in this study.

The second hypotheses stated that dental patients with lower dental anxiety will score higher on the measures of psychological well, being than patients with high level of dental anxiety among dental patients in UCH, Ibadan.

The results shows that dental patients with low level of dental anxiety scored significantly higher on psychological well-being than dental patients with high level of dental

anxiety among dental patients in UCH,Ibadan. However, dental patients with low dental anxiety recorded a mean score of (57.70) and dental patients with high dental anxiety recorded a mean score of (51.90).This shows that there is significant differences in level of dental anxiety among dental patients in UCH, Ibadan. Hence the results confirmed the stated hypotheses and it's accepted in this study.

The third hypotheses stated that dental patients with internal locus of control will score significantly higher on the measures of psychological well being than dental patients with external locus of control among dental patients in UCH, Ibadan.

The result indicates that dental patients with internal locus of control scored significantly higher on psychological well-being than dental patients with external locus of control among dental patients in UCH, Ibadan.

Dental patients with internal locus of control recorded a mean score of (58.16) and dental patients with external locus of control recorded a mean score of (51.73).

This result implies that there is significant differences between internal and external locus of control among dental patients in UCH, Ibadan. Therefore the result confirmed the stated hypotheses and its accepted in this study.

The fourth hypotheses stated that the marital status, qualification and religion will significantly jointly and independently predict psychological well-being among dental patients in UCH, Ibadan.

The results showed that marital status, qualification and religion jointly predict psychological well-being among patients in UCH, Ibadan. ($R=221$, $R^2=.50$: $F(3,174)=2.975$ $P<.05$).

This implies that marital status, qualification and religion jointly account for 5.0% variance in psychological well-being, while the remaining 95% could be attributed to other variables not considered in this study. However the analysis of the independent predictors indicated that marital status predicted significant independent influence on psychological well-being among dental patients in UCH, Ibadan. Therefore the stated hypotheses is partially accepted in this study.

5.2 CONCLUSION

Health locus of control and dental anxiety influences and predicts psychological well-being among dental patients in UCH, Ibadan.

Dental patients with high internal locus of control will surely have high psychological well-being than dental patients with high external locus of control among dental patients in UCH, Ibadan.

Dental patients with low dental anxiety will have high psychological well-being than dental patients with high dental anxiety among dental patients in UCH, Ibadan

REFERENCES

- Bracha HS, Vega EM, Vega CB (2006). "Posttraumatic dental-care anxiety (PTDA): Is "dental phobia" a misnomer?". *Hawaii Dent J* **37** (5): 17–9. PMID 17152624.
- Kleinknecht RA, Thorndike RM, McGlynn FD, Harkavy J (January 1984). "Factor analysis of the dental fear survey with cross-validation". *J Am Dent Assoc* **108** (1): 59–61. PMID 6582116.
- Getka EJ, Glass CR (Summer 1992). "Behavioral and cognitive-behavioral approaches to the reduction of dental anxiety". *Behavior Therapy* **23** (3): 433–48. doi:10.1016/S0005-7894(05)80168-6.
- Milgrom P, Weinstein P, Getz T (1995). *Treating Fearful Dental Patients: A Patient Management Handbook* (2nd ed.). Seattle, Wash.: University of Washington, Continuing Dental Education. doi:10.1111/j.1600-0528.1996.tb00893.x. ISBN 1-880291-01-0.
- Gatchel RJ, Ingersoll BD, Bowman L, Robertson MC, Walker C (October 1983). "The prevalence of dental fear and avoidance: a recent survey study". *J Am Dent Assoc* **107** (4): 609–10. PMID 6579095.
- Armfield JM, Stewart JF, Spencer AJ (2007). "The vicious cycle of dental fear: exploring the interplay between oral health, service utilization and dental fear". *BMC Oral Health* **7**: 1. doi:10.1186/1472-6831-7-1. PMC 1784087. PMID 17222356.
- Armfield JM, Spencer AJ, Stewart JF (March 2006). "Dental fear in Australia: who's afraid of the dentist?". *Aust Dent J* **51** (1): 78–85. doi:10.1111/j.1834-7819.2006.tb00405.x. PMID 16669482.
- Erten H, Akarslan ZZ, Bodrumlu E (April 2006). "Dental fear and anxiety levels of patients attending a dental clinic". *Quintessence Int* **37** (4): 304–10. PMID 16594362.
- Stabholz A, Peretz B (April 1999). "Dental anxiety among patients prior to different dental treatments". *Int Dent J* **49** (2): 90–4. doi:10.1111/j.1875-595x.1999.tb00514.x. PMID 10858738.
- Locker D, Shapiro D, Liddell A (June 1996). "Negative dental experiences and their relationship to dental anxiety". *Community Dent Health* **13** (2): 86–92. PMID 8763138.
- Bernstein DA, Kleinknecht RA, Alexander LD (1979). "Antecedents of dental fear". *J Public Health Dent* **39** (2): 113–24. doi:10.1111/j.1752-7325.1979.tb02932.x. PMID 287803.
- Hilton IV, Stephen S, Barker JC, Weintraub JA (December 2007). "Cultural factors and children's oral health care: a qualitative study of carers of young children". *Community*

Dent Oral Epidemiol **35** (6): 429–38. doi:10.1111/j.1600-0528.2006.00356.x. PMID 18039284.

Dental Fear Central (2004). "Tips for Abuse Survivors and Their Dentists".

Dorfman J, The Center for Special Dentistry.

Behavioral Techniques for Overcoming Dental Fears

Dental Fear Central. The Tell-Show-Do Technique for Adult Dental Patients.

American Academy of Pediatric Dentistry (AAPD). Guideline on behavior guidance for the pediatric dental patient. Chicago (IL) 2006.

Lundgren J, Carlsson SG, Berggren U (May 2006). "Relaxation versus cognitive therapies for dental fear—a psychophysiological approach". *Health Psychol* **25** (3): 267–73. doi:10.1037/0278-6133.25.3.267. PMID 16719597.

Wolpe J (1958). *Psychotherapy by reciprocal inhibition*. Stanford, CA: Stanford University Press.

Coldwell SE, Wilhelm FH, Milgrom P, *et al.* (2007). "Combining alprazolam with systematic desensitization therapy for dental injection phobia". *J Anxiety Disord* **21** (7): 871–87. doi:10.1016/j.janxdis.2007.01.001. PMID 17320345.

de Jongh A, Muris P, ter Horst G, van Zuuren F, Schoenmakers N, Makkes P (November 1995). "One-session cognitive treatment of dental phobia: preparing dental phobics for treatment by restructuring negative cognitions". *Behav Res Ther* **33** (8): 947–54. doi:10.1016/0005-7967(95)00027-U. PMID 7487854.

Kent G (1997). Davey, Graham, ed. *Phobias: a handbook of theory, research and treatment*. New York: Wiley. pp. 107–27. ISBN 0-471-96983-4.

Smith T, Getz T, Milgrom P, Weinstein P (1987). "Evaluation of treatment at a dental fears research clinic". *Special Care in Dentistry* **7** (3): 130–4. doi:10.1111/j.1754-4505.1987.tb00622.x. PMID 2954240.

Jerome, Lloyd (2004). "The Art and Science of Distraction".

Milgrom P, Heaton LJ (January 2007). "Enhancing sedation treatment for the long-term: pre-treatment behavioural exposure". *SAAD Dig* **23**: 29–34. PMID 17265912.

Dyer C (13 February 1999). "European court upholds UK ban on Halcion". *BMJ* **318** (7181): 418. doi:10.1136/bmj.318.7181.418a. PMC 1114899. PMID 9974446.

- Buchanan H, Coulson NS (June 2007). "Accessing dental anxiety online support groups: an exploratory qualitative study of motives and experiences". *Patient Educ Couns* **66** (3): 263–9. doi:10.1016/j.pec.2006.12.011. PMID 17320336.
- Coulson NS, Buchanan H (February 2008). "Self-reported efficacy of an online dental anxiety support group: a pilot study". *Community Dent Oral Epidemiol* **36** (1): 43–6. doi:10.1111/j.1600-0528.2007.00349.x. PMID 18205639.
- Klingberg G, Broberg AG. Dental fear/anxiety and dental behaviour management problems in children and adolescents: a review of prevalence and concomitant psychological factors. *Int J Paediatr Dent*. 2007;17(6):391-406.
- Compton SN, March JS, Brent D, Albano AM, Weersing R, Curry J. Cognitive-behavioral psychotherapy for anxiety and depressive disorders in children and adolescents: an evidence-based medicine review. *J Am Acad Child Adolesc Psychiatry*. 2004;43(8):930-959.
- Kvale G, Berggren U, Milgrom P. Dental fear in adults: a meta-analysis of behavioral interventions. *Community Dent Oral Epidemiol*. 2004;32(4):250-264.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement: *Psychological Monographs: General & Applied* 80(1) 1966, 1-28.
- Carlson, N.R., et al. (2007). *Psychology: The Science of Behaviour - 4th Canadian ed.*. Toronto, ON: Pearson Education Canada.
- Judge, T. A.; Locke, E. A.; Durham, C. C. (1997). "The dispositional causes of job satisfaction: A core evaluations approach". *Research in Organizational Behavior* **19**: 151–188.
- Dormann, C.; Fay, D.; Zapf, D.; Frese, M. (2006). "A state-trait analysis of job satisfaction: On the effect of core self-evaluations". *Applied Psychology: an International Review* **55** (1): 27–51. doi:10.1111/j.1464-0597.2006.00227.x.
- Judge, Timothy A.; Erez, Amir; Bono, Joyce E.; Thoresen, Carl J. (1 January 2002). "Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct?". *Journal of Personality and Social Psychology* **83** (3): 693–710. doi:10.1037/0022-3514.83.3.693. PMID 12219863.
- Herbert M. Lefcourt, *Locus of Control: Current Trends in Theory and Research*. Psychology Press, 1982
- April, K. A.; Dharani B; Peters K. "Impact of Locus of Control Expectancy on Level of Well-Being". *Review of European Studies* **4** (2). doi:10.5539/res.v4n2p124.
- Jacobs-Lawson, J. M.; Waddell, E. L.; Webb, A. K. "Predictors of Health Locus of Control in Older Adults". *Current Psychology* **30** (2): 173–183. doi:10.1007/s12144-011-9108-z.

- Benassi, V. A., Sweeney, P. D., & Dufour, C. L. (1988). Is there a relation between locus of control orientation and depression?. *Journal of Abnormal Psychology*, 97(3), 357.
- Whyte, C., "An Integrated Counseling and Learning Assistance Center" (1980). *New Directions Sourcebook-Learning Assistance Centers*. Jossey-Bass, Inc.
- Whyte, C., "Effective Conseling Methods for High-Risk College Freshmen (1978)." *Measurement and Evaluation in Guidance*. 6, (4). 198-200.
- Whyte, C. B. (1977). High-risk college freshman and locus of control. *The Humanist Educator*, 16(1), 2-5.
- Hock, Roger R. 2013. Personality. Pp. 190-197 In: C. Campanella, J. Mosher, S. Frail, M. Schricker (eds.), *Forty Studies that Changed Psychology*. Pearson Education, Inc. Upper Saddle River, NJ.
- Martin Brett A. S., Veer Ekant, Pervan Simon J. (2007). "Self-Referencing and Consumer Evaluations of Larger-sized Female Models: A Weight Locus of Control Perspective" (PDF). *Marketing Letters* **18** (3): 197–209. doi:10.1007/s11002-007-9014-1.
- "Social Learning Theory of Julian B. Rotter" Archived from the original 2012-04-07.
- Aldwin & Gilmer, 2004; Johnson, Grant, Plomin, Pedersen, Ahern, Berg & McClearn, 2001
- http://news.yahoo.com/s/nm/20080619/hl_nm/self_confident_dc:_ylt=AqQCX7YWjbZ2hPTBb4Adglqs0NUE
- Takaki, J; Yano E. (2006). "Possible gender differences in the relationships of self-efficacy and the internal locus of control with compliance in hemodialysis patients". *Behavioral Medicine* **32** (1): 5–11. doi:10.3200/BMED.32.1.5-11. PMID 16637257.
- Hock, Roger R. 2013. Personality. P. 195 In: C. Campanella, J. Mosher, S. Frail, M. Schricker (eds.), *Forty Studies that Changed Psychology*. Pearson Education, Inc. Upper Saddle River, NJ.
- Sims, J. & Baumann, D. 1972. The tornado threat: Coping styles in the North and South" *Science* 176, 1386-1392
- Roddenberry, Angela; Renk, Kimberly. "Locus of Control and Self-Efficacy: Potential Mediators of Stress, Illness, and Utilization of Health Services in College Students". *Child Psychiatry & Human Development* **41** (4): 353–370. doi:10.1007/s10578-010-0173-6.

- Man Chung, C; Preveza, E.; Papandreou, K.; Prevezas, N. (2006). "Spinal cord injury, posttraumatic stress, and locus of control among the elderly". *Psychiatry: Interpersonal & Biological Processes*, **69** (1): 69–80. doi:10.1521/psyc.2006.69.1.69.
- Abramson, L.Y., Seligman, M.E.P., Teasdale, J.D. (1978). "Learned helplessness in humans: Critique and reformulation". *Journal of Abnormal Psychology* **87** (1): 49–74. doi:10.1037/0021-843X.87.1.49. PMID 649856.
- Abramson, L.Y., Metasky, G.I., Alloy, L.B. (1989). "Hopelessness depression: A theory-based subtype of depression". *Psychological Review* **96** (2): 358–72. doi:10.1037/0033-295X.96.2.358.
- Aldwin, C.M., Gilman, D.F. (2004). *Health, Illness and Optimal Ageing*. London: Sage. ISBN 0-7619-2259-8.
- Anderson, C. A., Jennings, D.L., Arnoult, L.H. (1988). "Validity and utility of the attributional style construct at a moderate level of specificity". *Journal of Personality and Social Psychology* **55** (6): 979–90. doi:10.1037/0022-3514.55.6.979.
- Berry, J.W., Poortinga, Y.H., Segall, M.H., Dasen, P.R. (1992). *Cross-cultural Psychology: Research and Applications*. Cambridge: Cambridge University Press. ISBN 0-521-37761-7.
- Buchanan, G.M., Seligman, M.E.P., ed. (1997). *Explanatory Style*. NJ: Lawrence Erlbaum Associates. ISBN 0-8058-0924-4.
- Burns, M., Seligman, M.E.P. (1989). "Explanatory style across the lifespan". *Journal of Personality and Social Psychology* **56** (3): 471–7. doi:10.1037/0022-3514.56.3.471. PMID 2926642.
- Cutrona, C.E., Russell, D., Jones, R.D. (1985). "Cross-situational consistency in causal attributions: Does attributional style exist?". *Journal of Personality and Social Psychology*.
- Duttweiler, P.C. (1984). "The Internal Control Index: A Newly Developed Measure of Locus of Control". *Educational and Psychological Measurement* **44** (2): 209–21. doi:10.1177/0013164484442004.
- Furnham, A., Steele, H. (1993). "Measures of Locus of Control: A critique of children's, health and work-related locus of control questionnaires". *British Journal of Psychology* **84** (4): 443–79. doi:10.1111/j.2044-8295.1993.tb02495.x. PMID 8298858.
- Eisner, J.E. (1997). "The origins of explanatory style: Trust as a determinant of pessimism and optimism". In Buchanan, G.M., Seligman, M.E.P. *Explanatory Style*. NJ: Lawrence Erlbaum Associates. pp. 49–55. ISBN 0-8058-0924-4.

- Gong-Guy, E., Hammen, C. (1980). "Causal perceptions of stressful events in depressed and nondepressed outpatients". *Journal of Abnormal Psychology* **89** (5): 662–9. doi:10.1037/0021-843X.89.5.662. PMID 7410726.
- Holt, C.L., Clark, E.M., Kreuter, M.W., Rubio, D. (2003). "Spiritual Health locus of control and cancer beliefs among urban African American women". *Health Psychology* **22** (3): 294–9. doi:10.1037/0278-6133.22.3.294. PMID 12790257.
- Kahoe, R. (1974). "Personality and achievement correlates of intrinsic and extrinsic religious orientations". *Journal of Personality and Social Psychology* **29** (6): 812–8. doi:10.1037/h0036222.
- Lefcourt, H.M. (1966). "Internal versus external control of reinforcement: A review". *Psychological Bulletin* **65** (4): 206–20. doi:10.1037/h0023116. PMID 5325292.
- Lefcourt, H.M. (1976). *Locus of Control: Current Trends in Theory and Research*. NJ: Lawrence Erlbaum Associates. ISBN 0-470-15044-0.
- Maltby, J., Day, L., Macaskill, A. (2007). *Personality, Individual Differences and Intelligence* (1st ed.). Harlow: Pearson Prentice Hall. ISBN 978-0-13-129760-9.
- Meyerhoff, Michael K (2004). *Locus of Control*.
- Norman, P., Antaki, C. (1988). "The Real Events Attributional Style Questionnaire". *Journal of Social and Clinical Psychology* **7** (2–3): 97–100. doi:10.1521/jscp.1988.7.2-3.97.
- Norman, P., Bennett, P. (1995). "3. Health Locus of Control". In Conner, M., Norman, P. *Predicting Health Behaviour*. Buckingham: Open University Press. pp. 62–94.
- Nowicki, S., Strickland, B. (1973). "A locus of control scale for children". *Journal of Consulting and Clinical Psychology* **42**: 148–55. doi:10.1037/h0033978.
- Peterson, C., Semmel, A., von Baeyer, C., Abramson, L., Metalsky, G.I., Seligman, M.E.P. (1982). "The Attributional Style Questionnaire". *Cognitive Therapy and Research* **6** (3): 287–9. doi:10.1007/BF01173577.
- Robbins and Hayes (1997). "The role of causal attributions in the prediction of depression". In Buchanan, G.M., Seligman, M.E.P. *Explanatory Style*. NJ: Lawrence Erlbaum Associates. pp. 71–98. ISBN 0-8058-0924-4.
- Rotter, J.B. (1954). *Social learning and clinical psychology*. NY: Prentice-Hall.
- Rotter, J.B. (1966). "Generalized expectancies of internal versus external control of reinforcements". *Psychological Monographs* **80** (609).

- Rotter, J.B. (1975). "Some problems and misconceptions related to the construct of internal versus external control of reinforcement". *Journal of Consulting and Clinical Psychology* **43**: 56–67. doi:10.1037/h0076301.
- Rotter, J.B. (1990). "Internal versus external control of reinforcement: A case history of a variable". *American Psychologist* **45** (4): 489–93. doi:10.1037/0003-066X.45.4.489. Retrieved 10 December 2010.
- Schultz, D.P., Schultz, S.E. (2005). *Theories of Personality* (8th ed.). Wadsworth: Thomson. ISBN 0-534-62402-2.
- Sherer, M., Maddux, J., et al. (1982). "The self-efficacy scale: Construction and validation". *Psychological Reports* **51** (2): 663–71. doi:10.2466/pr0.1982.51.2.663.
- Shiraev, E., Levy, D. (2004). *Cross-cultural Psychology: Critical Thinking and Contemporary Applications* (2nd ed.). Boston: Pearson. ISBN 0-205-38612-1.
- Smith, R.E. (1989). "Effects of coping skills training on generalized self-efficacy and locus of control". *Journal of Personality and Social Psychology* **56** (2): 228–33. doi:10.1037/0022-3514.56.2.228. PMID 2926626.
- Wallston, K.A., Wallston, B.S., Devellis, R. (1978). "Development of Multidimensional Health Locus of Control (MHLC) Scales". *Health Education Monographs* **6** (2): 160–70. doi:10.1177/109019817800600107. PMID 689890.
- Weiner, B., ed. (1974). *Achievement Motivation and Attribution Theory*. NY: General Learning Press.
- Weiner, B. (1980). *Human Motivation*. New York: Holt, Rinehart and Winston.
- Whyte, C., "An Integrated Counseling and Learning Assistance Center" (1980). New Directions Sourcebook-Learning Assistance Centers. Jossey-Bass, Inc.
- Whyte, C. (January 1978). "Effective Counseling Methods for High-Risk College Freshmen". *Measurement and Evaluation in Guidance* **6** (4): 198–200.
- Xenikou, A.; Furnham, A., McCarrey, M. (1997). "Attributional style for negative events: A proposition for a more valid and reliable measure of attributional style". *British Journal of Psychology* **88**: 53–69. doi:10.1111/j.2044-8295.1997.tb02620.x.
- Ryff, Carol D. (1 January 1989). "Happiness is everything, or is it? Explorations on the meaning of psychological well-being.". *Journal of Personality and Social Psychology* **57** (6): 1069–1081. doi:10.1037/0022-3514.57.6.1069.

- Archontaki, Despina; Lewis, Gary J.; Bates, Timothy C. (1 March 2012). "Genetic influences on psychological well-being: A nationally representative twin study". *Journal of Personality*: n/a–n/a. doi:10.1111/j.1467-6494.2012.00787.x.
- Ryff CD, Keyes CLM. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*. 69(4):719–727.
- Elliot AJ, Devine PG. (1994). On the motivational nature of cognitive dissonance: dissonance as psychological discomfort. *Journal of Personality and Social Psychology*. 67(3):382–394.
- Abraham R. (1999). The impact of emotional dissonance on organizational commitment and intention to turnover. *Journal of Psychology*. 133(4):441–455.
- Thompson CA, Prottas DJ. (2005). Relationships among organizational family support, job autonomy, perceived control, and employee well-being. *Journal of Occupational Health Psychology*. 10(4):100–118.
- Van Mierlo H, Rutte CG. (2001). Autonomous teamwork and psychological well-being. *European Journal of Work and Organizational Psychology*. 10(3):291–301.
- Iyengar SS, Lepper MR. (2000). When choice is demotivating: can one desire too much of a good thing? *Journal of Personality and Social Psychology*. 79(6):995–1006.
- Schwartz B. (2000). Self-determination: the tyranny of freedom. *American Psychologist*. 55(1):79–88.
- Playboy. (1992). *Interview with Michael Jordan*. May.
- Csikszentmihályi M. (1990). *Flow: the psychology of optimal experience*. Harper & Row.
- Peterson C et al. (2005). Orientations to happiness and life satisfaction: the full life versus the empty life. *Journal of Happiness Studies*. 6:25–41.
- Brunstein JC, Schultheiss OC, Grassmann R. (1998). Personal goals and emotional well-being: the moderating role of motive dispositions. *Journal of Personality and Social Psychology*. 75(2):494–508.
- Sheldon KM, Elliot AJ. (1999). Goal striving, need satisfaction, and longitudinal well-being: the Self-Concordance Model. *Journal of Personality and Social Psychology*. 76(3):482–497.
- Ryan RM, Deci EL. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*. 55(1):68–78.
- Fegg MJ, et al. (2007). Meaning in life in the Federal Republic of Germany: results of a representative survey with the Schedule for Meaning in Life Evaluation (SMiLE). *Health and Quality of Life Outcomes*. 5:59.

McAdams DP, de St. Aubin E, Logan RL. (1993). Generativity among young, midlife, and older adults. *Psychology and Aging*. 8(2):221–230.

Wikipedia. *Alfred Nobel*. http://en.wikipedia.org/wiki/Alfred_nobel

Wallace AFC. (1966). *Religion: an anthropological view*. Random House.

Wikipedia. *Major religious groups*. http://en.wikipedia.org/wiki/Major_religious_groups

Myers DG. (2000). The funds, friends, and faith of happy people. *American Psychologist*. 55(1):56–67.

Ardelt M. (2003). Effects of religion and purpose in life on elders' subjective well-being and attitudes toward death. *Journal of Religious Gerontology*. 14(4):55–77.

University of Florida News. (2001). *UF study: religion doesn't directly influence sense of well-being or fear of death in seniors*. November 20, 2001.

Wikipedia. *Fundamentalism*. <http://en.wikipedia.org/wiki/Fundamentalism>

Dawkins R. (2006). *The God delusion*. Houghton Mifflin.