INCENTIVES PERCEIVED BY MANAGEMENT DIETITIANS TO REDUCE ABSENTEEISM RATE OF FOODSERVICE PERSONNEL IN HEALTH CARE SYSTEMS

By

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CHAPTER I

INTRODUCTION

Employee absenteeism has been a constant, nagging problem for business and industrial organizations. Price and Mueller (1986) defined absenteeism as the nonattendance for scheduled work. The idea of "scheduled work" means an employee does not report for work when he/she is supposed to be there. During any given week, more than 4 million full-time employees failed to report to work, according the U.S. Bureau of Labor Statistics (Lucas, 1991). Recently, U.S. workers called in sick 2.7 hours for every 100 hours worked in 1993, and the latest figure counts about one in 37 workdays ("Workers of the world", 1994).

Generally, the rate of absenteeism can be determined by the following formula:

$$\text{Absenteeism rate (\%)} = \frac{\text{Number of workdays lost per pay period}}{\text{Average number fo employees x number of days worked x100}}$$

(Byers, Shanklin, and Hoover, 1994). High absenteeism rate happens nationally. Government workers had the highest absenteeism rate, with 2.98 sick hours per 100 paid hours; utilities worker were at 2.98 hours; and retail and wholesale companies have the lowest absence rate with 1.30 sick hours per 100 paid hours ("Workers of the world", 1994).

Costs of employee absenteeism to organizations are estimated to be over $20 billion annually (Hsieh, Holdt, Zahler, and Gates, 1994). According to the Commerce Clearing House (CCH) Absence Survey of 889 human resource managers, the average amount of sick leave dollars paid per employee per year ranged from $200 to $620, depending on the size of the company (Lucas, 1991). The 1993 CCH survey reported that a company with 1,000 employees can spend more than $500,000 for unscheduled absences per year (Markowich, 1994). The state of Connecticut spent over $100 million in 1993 for unscheduled absences; the employee average was 9.77 sick days. Pennsylvania school districts spent $53 million during the school year 1990-1991 on substitute teachers for unscheduled absences. Overall absences cost school districts more than $260 million (Markowich, 1994).

Personal illness accounts for the majority of paid leave taken in most organizations. Other costs of absenteeism include loss of productivity or service, disruption of other employees' work, higher payments for overtime, or temporary help for absent employees (Kelly, 1992; Martin, 1992; Rogers and Herting, 1993; Sandwith, 1987). Furthermore, poor customer service, loss of competition, falling morale, and unmet deadlines are top concerns of the management caused by unscheduled absences (The Health Care Supervisor, 1994; Markowich, 1994).

STATEMENT OF THE PROBLEM

Absenteeism rate in the foodservice departments is usually at a high level. Thus, the department director must consider the impact of absenteeism on quality dietetic services, which is viewed as effectiveness, since absenteeism has a negative impact on organizational effectiveness. Sound technical performance, familiarity with standard procedures of food preparation, cooperative work relationships, and maintenance of food safety conditions are all essentials of quality dietetic service. As the department director notices excessive absenteeism, he/she should first look within the environment for clues and then take steps to improve the situation through conscientious attention and control (Byers, et al., 1994; The Health Care Supervisor, 1994).

Mai-Dalton and his associates (1978) strongly suggested, "Only by committing funds [and efforts] to research dealing specifically with the foodservice workers will the industry be all to dispatch the costly personnel problems" (p. 45). While absenteeism research is quite extensive in many areas of the workforce, foodservice employees are underrepresented in the current research literature available. No studies have been conducted to examine how foodservice directors in health care systems, or management dietitians, perceive the possible causes of their employee absenteeism and the incentive factors to enhance employees' attendance.

THEORY BASE OF THE STUDY

The basic assumption of reducing employees' absenteeism (used interchangeably with the term *enhance employees' attendance*) with incentives is that the organizational behavior, report for work, can be controlled by the consequences, such as altering reinforcement and punishment that follow it. The systematic reinforcement of desirable organizational behavior and the punishment of unwanted organizational behavior is designated as organizational behavior modification (OBM). From a managerial perspective, OBM assumes that behavior is more important than its "psychological causes", such as the needs, motives, and values held by individuals. An effective manager should ask "What specific behaviors led to the high absenteeism?" (Table I). He/she should not only pinpoint and measure critical behaviors causing excessive absence, but also performing the ABC Analysis so that reinforcement and punishment can be formed and improvement be evaluated (Luthans, 1985; Miller, 1978).

ABC Analysis, is also called *functionally analyzing the behavior*. In Table II, the A stands for analyzing the antecedents (i.e. family problems) of the actual behavior, B; the B designates the pinpointed critical behaviors (i.e. staying at home); and the C indicates the contingent consequence (i.e. private reprimand, or counseling). The ABC analysis allows managers to consider performance analysis questions important in formulating any specific solution or program. Connellan (1978) developed a set of performance analysis questions (Table 1). and Luthans (1976) (Table 2) systematically

TABLE I

PERFORMANCE ANALYSIS QUESTIONS

Antecedent

Does the employee know what is expected?
Are the standards clear?
Have they been communicated?
Are they realistic?

Behavior

Can the behavior be performed?
Could the employee do it if his or her life depended on it?
Does something prevent its occurrence?

Consequence

Are the consequences weighted in favor of performance?
Are improvements being reinforced?
Do we note improvement even though the improvement may still leave the employee below company standards?
Is reinforcement specific?

Source: Connellan, T.K. (1978). How to Improve Human Performance: Behaviorism in Business and Industry. New York: Harper & Row, p. 51.

TABLE II

USING THE ABC ANALYSIS ON AN ABSENTEEISM PROBLEM

A **Antecedent**	**B** **Behavior(s)**	**C** **Consequence(s)**
Family problems: spouse, children	Staying home	Public reprimand
Personal health	In emergency room or	Private reprimand
Illness	at hospital	Written record and
Jury duty	Serving on jury	reprimand
No transportation	Oversleeping	Reduction in pay
Company policies	Getting up late	Suspension
Group norm	Attending sporting event	Firing
Friends visiting	Visiting	Social isolation from
Injured on way to work	At doctor's office	group
Hangover	Shopping	
No child care facilities		
Lack of proper tools or clothing		

Source: Luthans, F., and Martinko, M. (1976). "An Organizational Behavior Modification Analysis of Absenteeism". Human Resource Management, Fall, 1976.

viewed the problem of absenteeism in terms of antecedents, behaviors, and consequences (Gibson, Invancevich, and Donnelly, 1994).

Attendance management reports emphasize that the control of absenteeism is a two-way responsibility and prevention is the best cure (Kelly, 1992; Levine, 1994). The employee's responsibility is to take such action or make such arrangements as may be necessary to meet reasonable attendance requirements. Meanwhile, the management's responsibility is to address the underlying causes to prevent absenteeism and to create conditions conducive to good attendance. Too often, the latter responsibility is ignored and the problem viewed as simply one of malingering, lazy or illness-prone employees. Management not only fail to minimize absenteeism but also face resentment from employees because policies based on the assumption that it is all the employee's fault is not congruent with the research evidence regarding causes of absenteeism (Kelly, 1992).

PURPOSE AND OBJECTIVES

The purpose of this study was to assess the prevailing reasons (antecedents) for absenteeism given by foodservice employees and the incentive factors perceived by management dietitians as helpful to minimize the absenteeism rate in health care systems. Specific objectives were to determine:

1. if selected demographic variables of foodservice employees were associated with the absenteeism rate;
2. if selected institutional variables of foodservice employees were associated with the absenteeism rate;
3. if selected demographic variables of foodservice employees were associated with the turnover rate;
4. if selected institutional variables of foodservice employees were associated with the turnover rate;
5. if selected demographic variables of foodservice employees were associated with the perceived reasons of absence;
6. if selected institutional variables of foodservice employees were associated with the perceived reasons of absence;
7. if selected demographic variables of management dietitians in health care systems were associated with the perceived reasons of absence;
8. if selected institutional variables of management dietitians in health care systems were associated with the perceived reasons of absence;

9. if selected demographic variables of foodservice employees were associated with the perceived incentives;

10. if selected institutional variables of foodservice employees were associated with the perceived incentives;

11. if selected demographic variables of management dietitians in health care systems were associated with the perceived incentives;

12. if selected institutional variables of management dietitians in health care systems were associated with the perceived incentives;

13. if the turnover rate was associated with the absenteeism rate of the foodservice employees in health care systems;

14. if the absenteeism rate was associated with the perceived reasons of absence;

15. if the turnover rate is associated with the perceived reasons of absence;

16. if the absenteeism rate was associated with the perceived incentives; and

17. if the turnover rate was associated with the perceived incentives.

HYPOTHESES

The following hypotheses were examined:

H_1 - There will be no significant association between the absenteeism rate and the selected demographic variables of foodservice employees in the health care systems:

a. gender

b. marital status

c. presence of preschool children at home

d. presence of elderly families at home

e. ethnic background

f. age

H_2 - There will be no significant association between the absenteeism rate and the selected institutional variables of foodservice employees in the health care systems:

a. working part-time

b. working full-time

c. average distance traveled to the facility

H_3 - There will be no significant association between the 1994 turnover rate and the selected demographic variables of foodservice employees in the health care systems.

H_4 - There will be no significant association between the turnover rate and the selected institutional variables of foodservice employees in the health care systems:

H_5 - There will be no significant association between the selected demographic variables of foodservice employees and the perceived reasons of absence:

a. personal illness

b. family/friends illness

c. job stress

d. funeral

e. physical fatigue

f. emotional problems

g. frustrated with work

h. too little time off

i. jury duty

j. doctor's/dental appointment

k. mental health day

l. bad weather

m. unhappy with supervisor

n. overworked

o. parent/teacher conference

p. misread time sheet

q. hangover

r. unhappy with coworkers

s. transportation problem

t. family activity/reunion

u. repair work at home

v. just doesn't want to work

H_6 - There will be no significant association between the selected institutional variables of foodservice employees and the perceived reasons of absence.

H_7 - There will be no significant association between the perceived reasons for absence and the selected demographic variables of management dietitians in health care systems:

a. gender

b. age

c. highest degree attained

d. route to ADA membership/registration

H_8 - There will be no significant association between the perceived reasons for absence and the selected institutional variables of management dietitians in health care systems:

a. number of years employed in the dietetic profession

b. number of years in current position

c. size of facility

d. location of facility

H_9 - There will be no significant association between the selected demographic variables of foodservice employees and the perceived incentives:

a. flexible work schedule

b. free meals

c. child day care center

d. elderly day care center

e. non-monetary compensation for no absence

f. salary raise

g. monetary compensation for no absence

h. job sharing

i. on-the-job training

j. tuition break

k. availability of public transportation

l. self-management training

m. ombudsman / personal counselor

n. preventive health programs

o. bonus, or gainsharing

p. eliminate work hazards

q. continuing education

r. job redesign

s. fair treatment

t. cultural socialization

u. group betting pool

v. workgroup

H_{10} - There will be no significant association between the selected institutional variables of foodservice employees and the perceived incentives.

H_{11} - There will be no significant association between the selected demographic variables of management dietitians and the perceived incentives.

H_{12} - There will be no significant association between the selected institutional variables of management dietitians and the perceived incentives.

H_{13} - There will be no significant association between the absenteeism rate and the turnover rate of foodservice employees in health care systems.

H_{14} - There will be no significant association between the monthly absenteeism rate and the perceived reasons for absence.

H_{15} - There will be no significant association between the 1994 turnover rate and the perceived reasons for absence.

H_{16} - There will be no significant association between the monthly absenteeism rate and the perceived reasons for absence.

H_{17} - There will be no significant association between the 1994 turnover rate and the perceived incentives.

ASSUMPTIONS

1. Respondents were, indeed, dietitians in the practice group: Management in Health Care Systems of the American Dietetic Association (ADA).

2. Management dietitians were be concerned about the problem of employee absenteeism, because they are responsible for supervising personnel utilization, maintaining budgetary control, and tracking essential records in the foodservice department in health care systems.

3. The dietitians surveyed have easy access to the personnel files to answer the questionnaire and know all the foodservice employees well enough to be able to objectively assess employees' reasons for absence and discern which incentives minimized the absenteeism rate .

4. The respondents completed the questionnaires truly on "what is" rather than "what it should be".

LIMITATIONS

1. Since this study was limited to the ADA members with management responsibilities in health care systems, results cannot be considered representative of all dietitians. Results from the study can therefore only be generalized to this group of dietetic practitioners.

2. The data collected in this study were based on the management perceptions only. The study results did not reflect the opinions and attitudes from the employee's perspectives.

3. This study is limited to examining incentives to minimize absenteeism of foodservice employees. Turnover problems were not evaluated.

CHAPTER II

LITERATURE REVIEW

Absenteeism pervades not only organizations whether they are public or private, large or small, urban or rural. Absenteeism is also an important topic for individuals on the basis of sex, creed, race, religion, or national origin, although variations can be found across groups for a variety of reasons. It is, however, not appropriate to bring quick and definitive responses on this topic from administrators or employees. No discussion of solutions on employee absenteeism is complete without a comprehensive look at the factors that influence the way this behavioral problem being generated among organizations, because a gap exists between behavioral scientists' accounts of absences as a "social problem" and its experiential reality to the employee. Johns and Nicholson (1982) suggested that the gap should be closed by the adoption of combining frames of reference for research and theory building.

This chapter investigated the theoretical aspects and measurements of absenteeism to gain a better understanding of the problem and to provide a stronger research design. The following sections examined the relationship between absenteeism and turnover, the various causes of absenteeism, and incentives that have been developed and applied in business and industries, and their impacts on reducing absenteeism.

A Theoretical Approach to Understanding Employee Absenteeism

Hill and Trist's Model

Hill and Trist (1955) developed the 'Theory of Withdraw', defined as withdrawal from working situations, especially stressful work. It says that absence is internally permitted by employees if they are experiencing stress at work. This withdrawal is a developmental progression as the employee learns the corporate culture and the demands and allowances within the culture. In the early phase of "induction crisis', turnover is often the preferred mode of withdrawal. During this phase, newcomers typically lack knowledge about absence norms. Then, during the middle period of "differential transit", unsanctioned absence is the characteristic mode. After this, in the "settled connection" phase, the individual substitutes sanctioned absences for unsanctioned absences, and levels of absence are reduced. In terms of organizational socialization, employees internalized these norms such that a change in withdrawal behavior consistent with the norms occurs, while in becoming aware of the absence culture of the organization. If the sanctioned outlets for withdrawal are insufficient, accidents and turnover become other means of withdrawal.

The strength of Hill and Trist's theory is that they contribute by introducing the concept of social norms of absence. The weaknesses are, first, their theory can only be considered to be highly speculative, in providing evidence based on collective trends of accidents and absence to explain individual reactions (Rhodes and Steers, 1990). Secondly, their model lacked of supportive evidence and no testable hypotheses had been developed from this theory (Chadwick-Jones, Nicholson, and Brown, 1982).

Gibson's Model

Gibson (1966) explained reasons of absence by using an informal contract which exists between the organization and the individual (thus leaving out social context of work). That is, individuals and organizations enter into an exchange relationship in which the individual agrees to contribute his/her competencies in exchange for certain rewards, and the organization agrees to provide rewards for a certain level of effort on the part of the individual. Apparently, the attitude of commitment to both the contract's intent and its authenticity becomes a satisfactory implementation of the contract. The more the individual's needs are satisfied with the tasks and rewards of the organization, the stronger will be the individual's identification with and commitment to the organization.

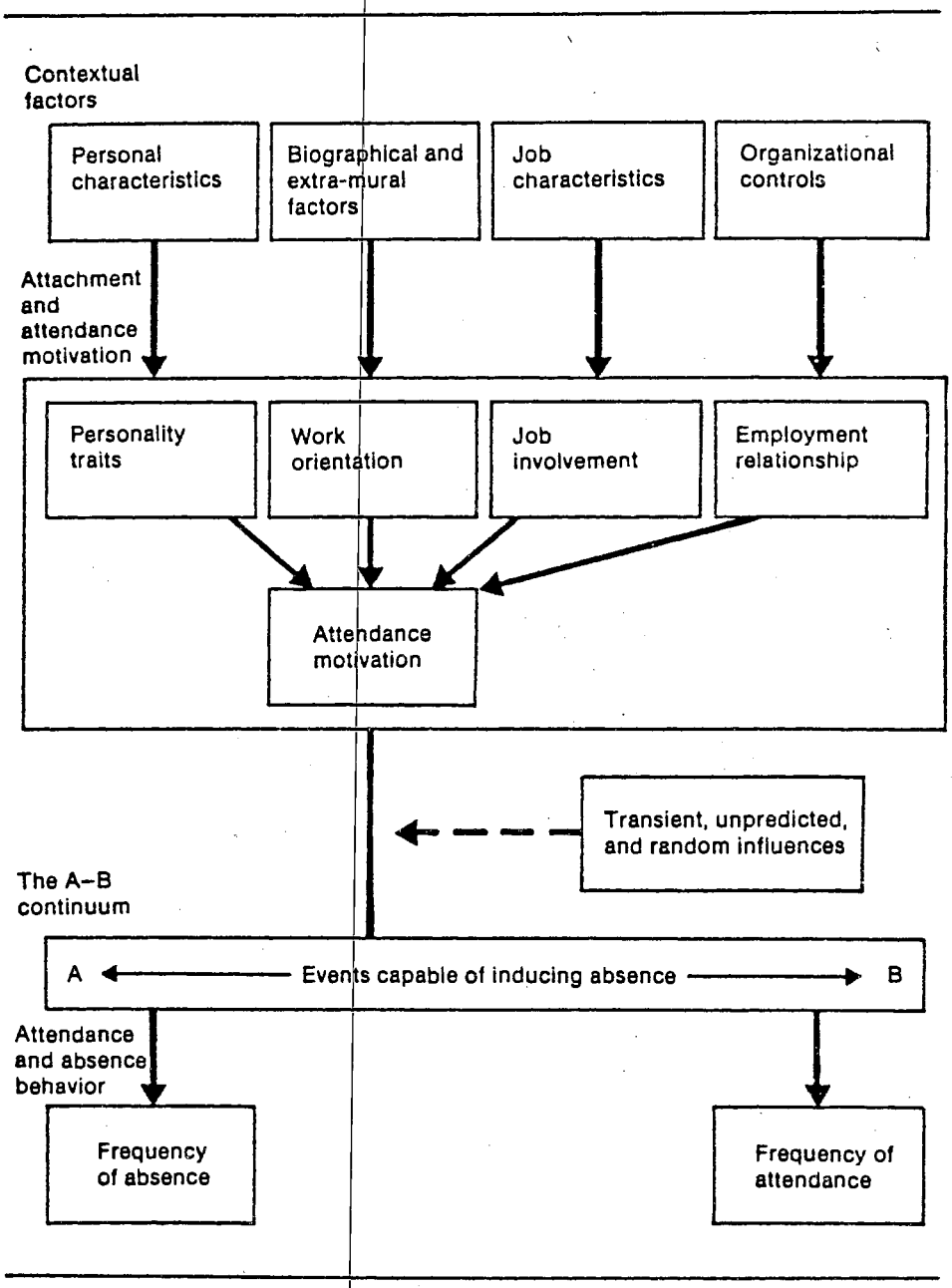
Gibson used the model to explain conflicting research in the absence literature, and indicated that increasing work identification helped to reduce absence. Other important influences on absence behavior were the ease of legitimating absences and perceived authenticity of management.

Chadwick-Jones et al. (1982) pointed out that there was a considerable gap in the level of abstraction of the conceptual model and the methods and data used to support it. Moreover, Gibson provided propositions that were suitable for testing, but there have been no following comprehensive tests of his model by absenteeism researchers. Thus, his research findings, although consistent with the theory, can not be represented as a test of his model (Rhodes and Steers, 1990).

Nicholson's Model

Nicholson's (1977) attendance motivation model principally assumes that attendance behavior is habitual and normal. He encouraged people to look for factors upsetting the regularity of attendance when searching for causes of absence. Beginning from the lower level of his model (Figure 1), absence behavior occurs in a continuum from unavoidable (A) to avoidable (B). The A-B continuum defines the constraining forces imposed on behavioral choice, and the forces vary between individuals and between settings. Absence behavior is triggered by a stimulus or event that affects an individual's needs. The actual level of attendance behavior is determined in motivation which is influenced by personality traits, work orientation, job involvement, and employment relationship. Attachment, the intervening variable influencing absence, is defined as "the degree to which the employee is dependent upon the regularities of organizational life". Attachment is a measurable component of attendance motivation. There are four major sets of influences proposed as constituting attachment, and underlying each, is a different class of contextual variables. The four are: personality traits underlined by personal characteristics, work orientation by biographical and extra-mural factors, job involvement by job characteristics, and employment relationship by organizational controls.

Nicholson bridged the idea of attachment and absence behavior using the notion of *susceptibility* to potentially absence-inducing events. For example, an individual with strong attachment to his/her work will be relatively insusceptible to influence by absence-inducing events and, consequently will be absent only when events are more on the A side of the continuum. Conversely, the low-attached employee, with weak resistance toward absence inducements, will be susceptible to absence by events on all along the A-B



Source: Nicholson, N. (1977). Absence behavior and attendance motivation: A conceptual synthesis. Journal of Management Studies, 14(13), p. 251.

Figure 1: Nicholson's Model of Attendance Motivation

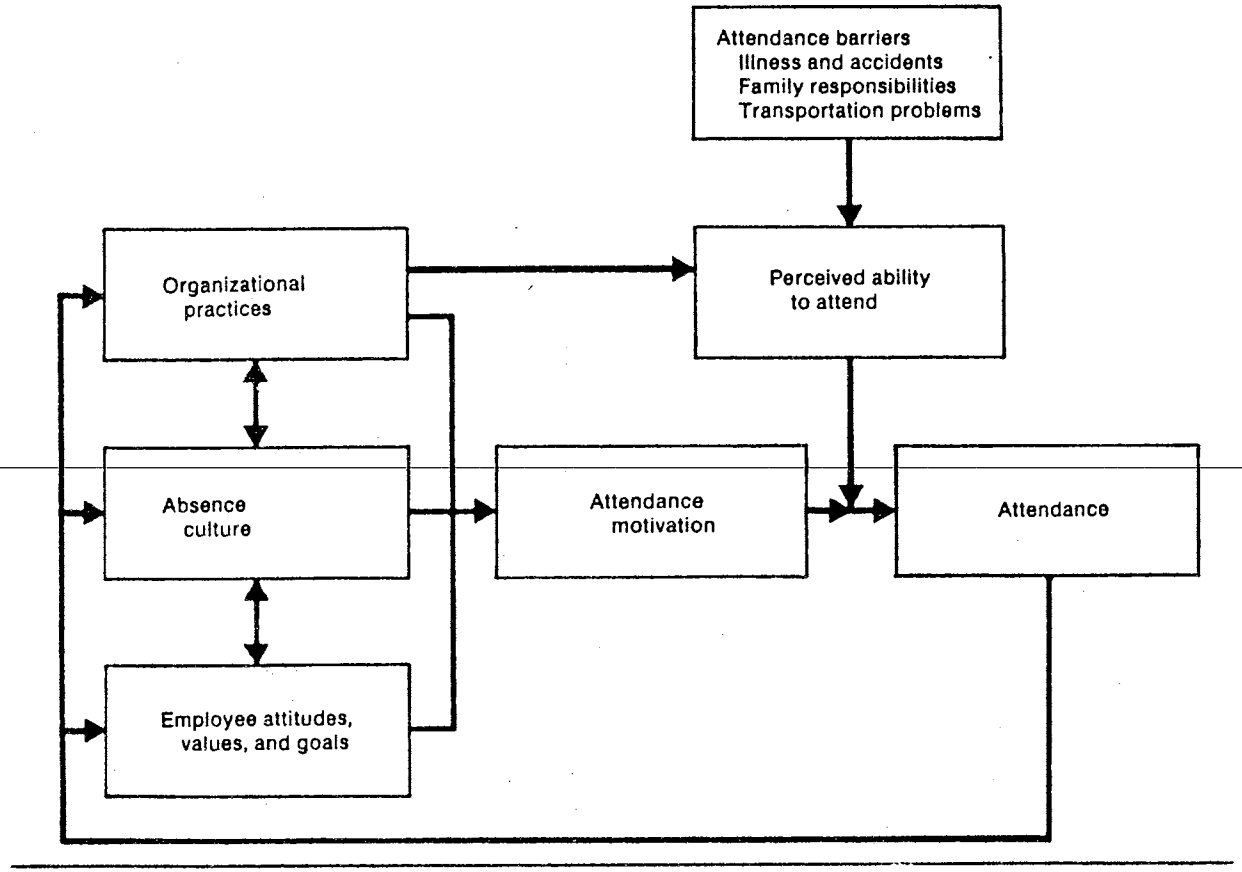
continuum. Because of this predictability of absence behavior, Rhodes and Steers (1990) stated:

> "Nicholson's model makes a valuable contribution to our understanding of absence behavior by providing an integrative framework for examining individual motivation to attend. Moreover, it recognizes the importance of choice in absence behavior and contributes to an understanding of why, when two people are confronted with a similar event (for example, having a cold), one will attend work and the other will not. It has been suggested that this model has a shortcoming in that it principally focuses on the work domain (although the concepts could easily be applied to incorporate the non-work domain) and that the model is difficult to test (as evidenced by the lack of research attention given to it). Even so, this model must be clearly acknowledged as a major influence on contemporary thinking about absence behavior" (pp. 43, 45).

Steers and Rhodes' Model

In the late 1970's, Steers and Rhodes (1978) developed a comprehensive model of absenteeism based on an extensive review of the literature (Figure 2). This model has been hailed for providing a solid framework from which to build (Mowday, Porter, and Steers, 1982; Goodman, and Atkin, 1984). The model suggested that employee attendance is largely a function of an employee's motivation and ability to attend. These variables are influenced by the job situation, employee values and job expectations, personal characteristics of the employee, satisfaction with the job, and pressures to attend (Steers, and Rhodes, 1978).

While the Steers and Rhodes model provided a solid framework, it has been criticized as difficult to test empirically (Chadwick-Jones, Nicholson, and Brown, 1982; Brooke, 1986). This concern was acknowledged by Steers and Rhodes (1984). Brooke (1986) identified five aspects of the model that were sources of difficulty in its use: 1)



Source: Rhodes, R.M., and Steers, S.R. (1990). Managing employee absenteeism. Addison-Wesley Publishing Co. p. 55.

Figure 2: Steers and Rhode's Diagnostic Model of Employee Attendance

construct validity problems of key components; 2) imprecise specification of several variables; 3) inclusion of correlates as part of the theoretical model; 4) omission of discussion of potentially important variables not included in the model; and 5) assumptions that certain variables represent involuntary absenteeism when the categorization is not clear.

Dilts, Deitsch, and Paul's Review

Dilts, Deitsch, and Paul (1985) reviewed and detailed the various theories of absenteeism. They categorized these theories into 1) psychological, 2) economic, 3) sociological, 4) jurisprudential, and 5) disability theories.

1) Psychological Theories

Psychological theories view absenteeism as a problem that is related to the individual's motivation to attend work regularly. An individual's motivation focuses on withdrawal as a behavioral response to alienation (job dissatisfaction) and need deficiencies.

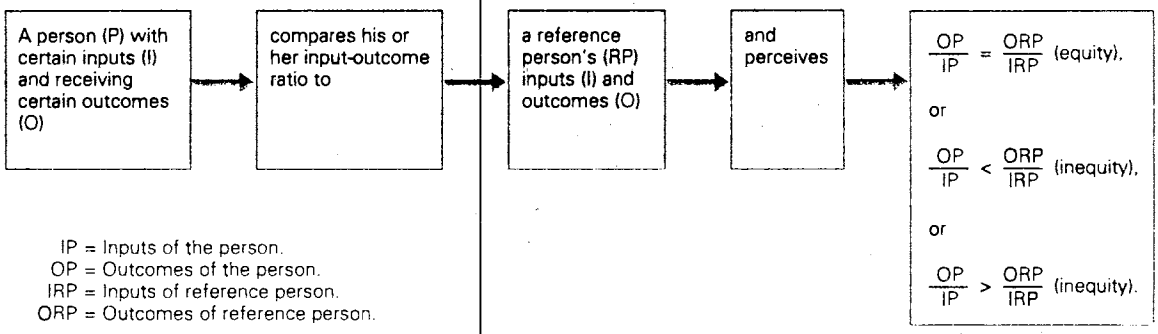
Dilts et al. further subclassified as "passive withdrawal theories" (simple avoidance of the unpleasant situations) and "strategic withdrawal theories" (a means of punishing the organization for the dissatisfaction it causes).

A. Passive Withdrawal Theories

Inequity Theory and Equity Theory Inequity theory (Dilt et al., 1985) states that absenteeism occurs due to an attitude towards work where employees believe an inequity has or is occurring between what they feel they put into the organization and what they

get back. The probability of absence increases with the magnitude of the worker's perceived inequity if other ways of reducing the felt inequity are not available. For example, if an employee believes he/she is not being recognized properly for his/her efforts, he/she will take off from work to compensate or resolve the inequity.

Dilt et al's idea relates to Adma's (1963) equity theory of motivation. The essence of Adam's equity theory is that employees compare their efforts and rewards with those of others in similar work situations. The basic assumption of equity theory is that individuals, who work in exchange for rewards from the organization, are motivated by a desire to be equitably treated at work. Figure 3 illustrates the equity theory of motivation in general.



Source: Gibson, J.L., Ivancevich, J.M., and Donnelly, Jr. J.H. (1994). Organizations: Behavior, structure, process. Boston, Mass.: Irwin. p. 153

Figure 3: Equity Theory

Equity theory suggests alternative ways to restore a feeling or sense of equity (Gibson, Ivancevich, and Donnelly, 1994):

1. Changing inputs. The employee who perceives inequity (P) may decide to put less time or effort into the job. Other inputs that could be changed are reliability, cooperation with others, initiative, and acceptance of responsibility.

2. Changing outcomes. P may confront his/her supervisor and ask for a raise, more time off, or better assignments.

3. Changing attitudes. Instead of changing inputs or outcomes, or actually putting in more time at work, P may start thinking that "I have put enough time on it" to make a good contribution.

4. Changing the reference person. The reference person (RP) can be changed by making comparisons with the input/outcome ratios of some other person. This change can restore equity.

5. Changing the inputs or outcomes of the reference person. If the RP is a co-worker, it might be possible to attempt to change his/her inputs or outcomes. Examples of such an attempt could be giving the RP a closer deadline, or more responsibility on tasks.

6. Changing the situation. The feelings of inequity may lead the P to quit the job. He/she may also seek a or transfer to avoid an inequitable situation.

Gibson et al (1994) also found that most of the research on equity theory has focused on pay as the basic outcome. Greenberg's study (1988) supported equity theory's prediction and indicated that employees assigned to higher-status offices increased their performance (a response to payment inequity) while those reassigned to lower-status offices lowered their performance (a response to underpayment inequity). This example showed that, not only pay inequity, but also the workplace environment (i.e. hierarchy) could be the forced point on employee's reaction to an inequity.

Gibson et al (1994) suggested that equity research need to be conducted in a longitudinal manner, and to provide insights into the dynamics between inequity

changes/remains and individual responses. Moreover, equity theory should not ignore reactions to inequities in terms of decision making, because individuals may have different beliefs on inequity causes.

Valence Theory Valence is defined as the preference for outcomes, as seen by the individual. Valence (or so-called expectancy) explanations of absenteeism refer to the individual's positive and negative attractions toward differing objects and events in the work environment. An outcome is positively valent when it is preferred; it's negatively valent when it is not preferred or is avoided. For example, an employee may prefer extra time off because of his/her excellent attendance in the past three months.

Valence theory is often combined with the Met Expectations Theory (Hackman, 1975) to explain absentee behavior. The met expectations theory is a form of cognitive dissonance theory and can be account for some absenteeism. Those subscribing to this theory contend that the discrepancy between what a person encounters on the job by way of positive and negative factors and what he/she expected to encounter may cause that person to be absent from work. In other words, a person who expects a meaningful work situation, but, instead, finds a boring one may become an absentee problem.

Need for Control Theory According to Hackman and Oldham (1976), this theory is simply based on the concept that one feels the need to control his/her environment and choosing not to go to work gives back some control that one may sometimes feel is lost to the company. When an employee cannot exercise some degree of control over the job or work environment, he/she may attempt to satisfy this need through activities other than work. Unable to satisfy the basic need to control one's environment through regular attendance on the job, these employees starting seeking elsewhere, which will allow such control. For example, they may be absent to free their time for moonlighting, or recreational activities.

"I Am Not Needed Theory" Dilts and his associates (1985) reviewed this particular theory, and found that a number of factors can contribute to a feeling on the part of an employee that he/she is not important, not needed, or not essential to the organization. Factors contributing to this feeling include the large size of an organization or work group; the lack of observable interest in individuals on the part of management; statements by supervisors such as "you can be replaced"; working on a routine job that can be learned quickly by almost anyone; and the observation by an employee that when someone is absent the work gets done anyway. When any of these factors and others make employees feel that they are not really needed by the organization, the decision to be absent is an easy one to make. These employees believe they will not be missed and, even if they are, management is able to find a temporary replacement.

The feeling of not being needed may not be the primary reason behind the employee's decision to be absent from work. Rather, it is most often a contributing and reinforcing cause of absenteeism, when the employee has some other reason for not going to work on a particular day. In some cases, however, the feeling of not being needed may be sufficient to prompt the employee to pursue other activities in which the employee believes he/she is needed-- even during scheduled work time. Hence, an employee's feeling of not being needed may function as a direct cause of absenteeism. This feeling also contributes to and reinforces the decision to be absent where the primary motivation for the absence is something else.

This theory incorporates some elements of Maslow's (1954) needs hierarchy. The feeling of being needed positively reflects the individual's needs not only for belongingness, affiliation, and interaction, but also for self-esteem and esteem from others. Moreover, the feeling of being needed or recognized is one of the intrinsic conditions in Herzberg's (1959) motivators of job satisfaction. The absence of the

condition does not prove highly dissatisfying, but it builds strong levels of motivation that result in good job performance (i.e. attendance) when present in the job.

B. Strategic Withdrawal Theories

Workload Tolerance Theory This theory states that every individual has a specific amount of total work that can be tolerated. The workload varies substantially among individual workers and is composed of the total time involved in getting the job done -- regular work hours, overtime hours, and travel hours to and from work. Time spent in one thing reduces time available for another thing. Thus, the more hours per day or week that an employee spends commuting to and from work, the fewer hours available for him/her on straight time or overtime work. Whenever the employee reaches the maximum tolerance work level, absenteeism occurs; he/she cannot tolerate any additional work. This theory borrows from several theories and is essentially a fatigue theory. Specifically, its idea is obtained from both the Maslow (1954) (rest in physiological need) and Herzberg (1959) theories (hours of work as a hygiene factor) (Dilts et al, 1985).

Coping Behavior Theory Behavioral scientists regard absenteeism as "coping" behavior in the sense that the employee may deal with a given situation by being absent from work. If the individual perceives the quality of work life as low and poor, one way of coping with this situation is to work hard, get ahead, and get promoted to a better job. Another way of coping is to escape from the work.

This theory contains features of Alderfer's (1972) "existence, relatedness, growth" (ERG) theory. Alderfer's ERG theory suggests that a frustration-regression process is at work when a person is not adequately satisfied with the higher-level need. That is, if a person is continually frustrated in attempts to satisfy relatedness needs (i.e. meaningful social and interpersonal relationships), then existence needs (i.e. salary, benefits, or time

off) reemerge as a major motivating force, causing the individual to redirect efforts toward satisfying a lower-order need category.

2). Economic Theory The 'Economic Theory' is probably the most common explanation of employee absenteeism. The assumption is that people do not really want to work but do so in order to maintain a certain standard of living, dependent on a specific income level. As certain conditions change and the number of work hours necessary to sustain a certain standard of living decreases (i.e. salary increases, improved benefit plans to cover expenses, dual or more incomes within the family), the individual will choose to work less because he/she really don't want to work in the first place.

3). Sociological Theories These theories of absenteeism focus on the impact of interdependent variables within society that affect an employee's behavior and decision-making processes regarding work. Some of these interdependent variables are society's institutions, groups, organizations, norms and rules.

Conforming Behavior Theory (Berkowitz, 1954) assumes that employees have a need to be accepted as part of the group and therefore conform to what they believe is the unwritten rule of thumb. In other words, if the manager or other employees believe absenteeism is acceptable, at least not a problem, some employees, especially newer ones, begin to believe the same way and act accordingly.

Competition for Time Theory This type of sociological theory is based on the idea that business hours compete with an employee's personal time where activities, such as doctor's appointment, going to the bank, taking the car for repairs, are conducted. Some of these activities can only be done during normal business hours and put pressure on an employee to be absent if the company does not allow time for these activities.

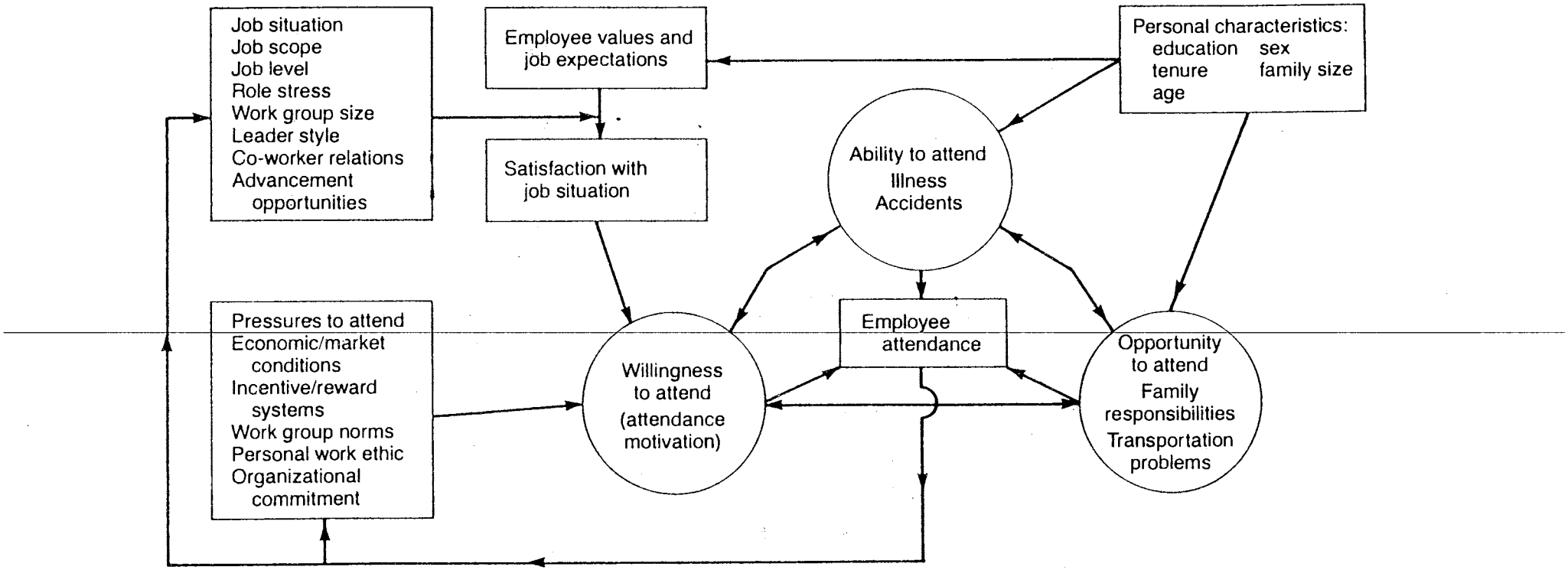
According to Dilts and his associates (1985), this theory is heavily supported by research that has been conducted on the study of flexible working hours. Studies of shiftwork and attendance found that flexible working hours permit the employee to dovetail work with alternative used of time in such a fashion that he/she can simultaneously engage in a number of activities without loss of work time, thus avoiding absenteeism.

4). Jurisprudential Theory Jurisprudential theory focuses on the organizational policies and regularities affecting employee attendance. Organizational management groups often create their own problems through the structure and administration of their attendance policy. The employee judges and evaluates the policy of management towards absenteeism. Usually the employee accepts the attitude which is held by the management, but the problem occurs when the employee misinterprets the viewpoint of management, or when the management acts in a contradictory manner to the accepted set policy.

5). Disability Theory This theory deals with employees who are absent due to sickness or injuries that incapacitate workers physically or mentally. Alcoholism, drug addiction, and self-inflicted disabilities fall within this category. Management, on one hand, has shown a greater willingness to accept job-related, externally imposed disability (i.e. a dishboy's leg fractured on the wet floor in the kitchen) than non-job-related, self-inflicted disability (i.e. hangover at off-duty time). On the other hand, management has sponsored a number of various programs to reduce the causes of illness- and injury-related absences. Specific examples are physical fitness programs, blood-pressure checks or flu shots within the health preventive services, chemical-dependence rehabilitation programs, employee counseling programs, safety training programs, health and related insurance plans, and so on.

Disability theory focuses on explanations of why employees attribute so much of their absenteeism to disability, however, very few theories involved with the notion that disability causes absenteeism. Dilts and his associates (1985) bring up one possible explanation in the existence of a "welfare mentality", which says that "health, accident, and disability insurance plans provide a vehicle for some employees, primarily the chronic absentee, to 'purchase' time off at little out-of-pocket expenditure and little sacrifice of income." (p. 37). In other words, it might be because insurance plans provide a way in which employees can get time off for certain injuries. Another explanation is hypothesized that "the emergence and rapid proliferation of so-called medical excuse mills in response to personnel policies that require a doctors' statement to 'excuse' absences attributed to sickness or disability" (p. 37). It questions that whether physicians can easily exercise their power, for a little fee, to approve an employee time off by writing a note. Today's management becomes to worry about that "the mere existence of medical records, excuses, and insurance will be misconstrued by employees as managerial acceptance and condonation of employee absences, thereby promoting a higher rate of absenteeism than would otherwise be the case" (pp. 37, 38).

Based on what is known about the above influences on employee attendance behavior, Dilts, et al. further presented a complex model of employee absenteeism as a system (Figure 4). The model has separate classifications of variables joined by arrows to indicate relationships. The circles contain the three necessary and sufficient conditions for employee attendance, with the various influences on these conditions contained in the surrounding rectangles. The flows in Figure 4 illustrated that ability, opportunity, and willingness to attend are not independent of one another and each condition is influenced by numerous factors. For example, family responsibilities are influenced by personal variables that provide both obstacles to and incentives for work attendance. Leadership style may be a significant factor in employee willingness to attend. In turn, employee



Source: Dilts, D. A., Deitsch, C. R., and Paul, R. J. (1985). Getting absent workers back on the job. Westport, Conn.: Greenwood Press. p. 43.

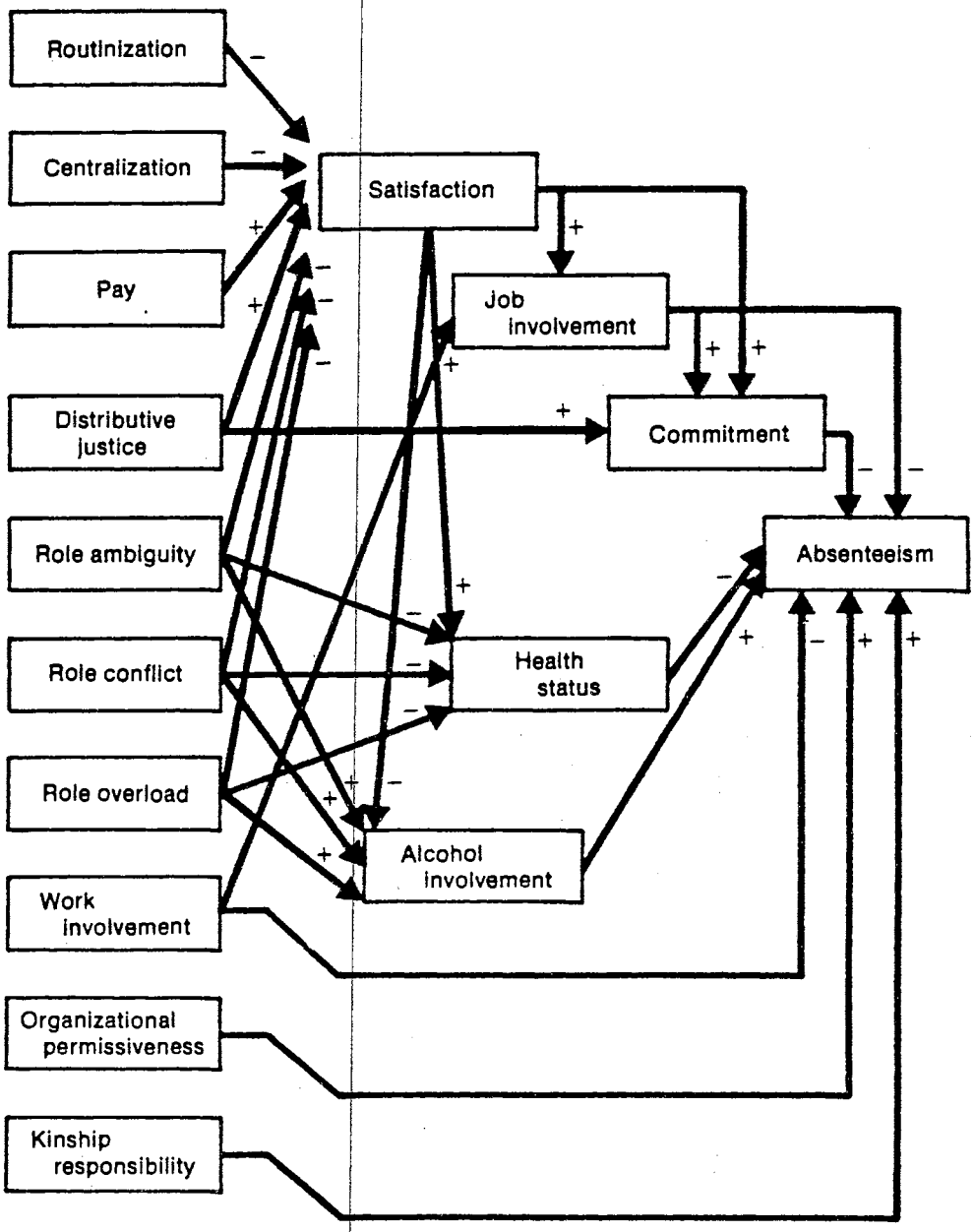
Figure 4: Dilts, Deitsch, and Paul's Model of Employee Absenteeism

attendance records may elicit given leadership styles. Thus, the dynamic model explains that employee absence or attendance leads to changes in the job situation that in turn influence subsequent attendance behavior.

Brooke's Model

Brooke (1986) and Brooke and Price (1989) proposed a model (Figure 5), based on the work of Steers and Rhodes, which Brooke was able to operationalize. Briefly, this model identifies routinization, centralization, pay, distributive justice, work involvement, role ambiguity, role conflict, role overload, kinship responsibility, and organizational permissiveness as exogenous variables. These variables determine five endogenous variables: job satisfaction, job involvement, organizational commitment, health status, and alcohol involvement, which mediate the effects of the exogenous variables on the endogenous variables and on absenteeism.

Cyphert (1990) conducted the study to test the modified version of Brooke model in two different settings using different measures and different analytic techniques. One of the study results supported the Brooke model. Individuals were less absence when they were paid higher, had more freedom to perform their jobs (autonomy), faced more restrictions about unscheduled days off in the work environment (organizational permissiveness), and had fewer family obligations (kinship responsibility). Moreover, individuals with supervisors who were helpful and willing to listen to problems were absent less. Thus, "supervisory support" was added to the modification of the Brooke model. Another finding indicated that the attitudinal variables, such as job satisfaction or motivation, did not have a significant effect on absenteeism. This finding was consistent with the Brooke model.



Source: Brook, P.P. (1986). Beyond the Steers and Rhodes model of employee attendance. Academy of Management Review, 11, p. 350.

Figure 5: Brooke and Price's Model of Absenteeism.

While largely successful, a few conclusions of Cyphert's study were contrary to what Brooke found. First, Brooke's hypothesized effects of stress, neither direct nor indirect, on absenteeism was supported. Secondly, the determinants of employee absenteeism, such as health status, stress, and job satisfaction, were not replicated in the modification, although they have been found significant in Brooke's research (1986). Cyphert (1990) indicated that these differences were because potential common method variance biases and measurement problems with the variables were encountered in the Brooke model.

Fraynes and Latham's Social Learning Theory

Social Learning Theory states that, by arranging environmental contingencies, establishing specific goals, and producing consequences for the actions, people can be taught to exercise control over their behaviors. "Perceived Self-efficacy" and "Outcome Expectancy" are two social learning theory constructs, and Frayne and Latham (1989) studied the impact of the constructs on employee absenteeism. "Perceived Self-efficacy" refers to the strength of one's belief that he or she can successfully execute the behaviors required. Such self-beliefs influence what people choose to do, how much effort they mobilize, and how long they will persevere in the face of real or perceived obstacles. The study found that self-efficacy theory explains why people do or do not come to work. People who do not come to work may be unable to cope with their personal obstacles (i.e. family obligations, transportation issues). They will attend work regularly when the manage enhances their efficacy by providing them the skill to exercise control over these variables.

"Outcome Expectancy" refers to beliefs concerning the extent to which one's behavior will produce favorable or unfavorable outcomes. It is usually measured in terms of perceived external rewards and punishers. The study also found that high outcome

expectancies alone will not result in employee coming to work if they judge themselves as inefficacious in overcoming personal and social obstacles to work attendance.

Definition and Measurement of Absenteeism

In any human resource application, it is important first to define exactly what is being measured. From a business standpoint, absenteeism is any failure of an employee to report for or to remain at work as scheduled, regardless of reason (Cascio, 1992). Cascio indicated that the significance of the term "as scheduled" automatically excludes vacations, holidays, jury duty, and the like. It also eliminates the problem of determining whether an absence is "excusable" or not. Zaharia and Baumeister (1978) also suggested that absenteeism be defined as "unscheduled" absences, excluding annual leave, educational leave, etc., and including all use of sick leave and unauthorized absences.

A few decades ago, however, absenteeism remained an ambiguous concept. Lyons (1972) described absenteeism as "a hodgepodge of conceptually and ioerationally differing definitions". Gaudet (1963) stated that there were at least 41 different definitions given to absenteeism throughout literature. Often, the best way to define absenteeism is to look at the method in which it is measured. Chadwick-Jones, Brown, Nicholson, and Sheppard (1971) defined two types of absenteeism, voluntary and involuntary. They said that the most common measure of voluntary absenteeism was a number of absences over a given period of time, excluding holidays and vacations. They referred to this measurement as the Frequency Index which was introduced by Fox and Scott in 1943. Involuntary absenteeism was the total number of days absent, excluding holidays and vacations, called the Time Lost Index. Fox and Scott (1943) introduced the Frequency Index by reasoning that voluntary absences were likely to be of short duration and would best be reflected as the number of times one is absent. The Time Lost Index reasons that long term illness has an impact on the total number of days absent.

According to Hammer, Landau, and Stern (1981), voluntary absences are those taken for personal reasons whereby an excuse was not given, while involuntary absences are considered legitimate policy for the company (such as sickness, and funeral leaves). They recorded the total hours absent, the total days absent, and the total frequency of absences. In a 1980 study, Farr and Cheloha used the Time Lost and Frequency Index measurements of absenteeism. Time Lost was measured as the total number of days an employee was absent for more than one hour. Frequency Index was measured as the total number of periods absent where a period of consecutive absences are attributed to a single cause.

Another measure of voluntary absenteeism is called the Attitudinal Index (Chadwick-Jones et al., 1971), where the number of day occurrences are studied over a stated time period. Two other indexes cited in Chadwick-Jones et al. are the Blue Monday Index and the Worst Day Index. The Blue Monday Index studies the differences of absences between Monday and Friday. The Worst Day Index examines the number of absences on the worst day verses the best day of the week. Both indexes are used as a measurement for defining voluntary absenteeism. Chadwick-Jones et al's study (1971) presented doubts as to the validity of the Blue Monday and the Worst Day Indexes. They, however, supported the use of the Frequency Index as the recommended indicator of voluntary absence.

Other measurements of absenteeism include using a formula developed by Reed (1981). The formula is as follows: 3 times the number of periods + total absence divided by months (at least 3); a period is any continuous absence of four hours or more. Total absence in days must be equal to or less than three times the number of periods of absence. When using formula, a score of 4.3 or higher is considered unacceptable by the company.

Gardner (1975) was concerned to report absenteeism in percentage. This percentage can be done on a monthly basis, but is generally done annually. The

management can obtain the percentage of absenteeism in the following procedures: a) counting the number of days that a sample group of employees lost, b) dividing that number by the number of employees in the sample group, c) multiplying the number of work days in a year, and d) multiplying by 100.

The Bureau of Labor Statistics (Hartman and Gibson, 1971) suggested the following formula for any measurement of absenteeism: Absenteeism is equal to work days lost, divided by the days worked plus work days lost, then multiplied by 100. This formula also allows the representation of absenteeism as a percentage.

With so many measurements of absenteeism, it may seem rather confusing as to which measure a study should use. In reality, the definition and measurements used in this study were the definition and measures already defined and used within the institutions. These measures provide baseline data and supply information and data which supervisors and managers were already using.

Absenteeism and Turnover

In a wide review of literature, researchers proposed three relationships between absenteeism and turnover. One position contends that there is no relationship between the two. Another position states that absenteeism and turnover are alternatives to each other. The other position asserts that there is a continuum of withdrawal behaviors progressing from absenteeism to turnover.

The arguments of Mobley (1982) and Porter and Steers (1973) support the assumption that there is no relationship between absenteeism and turnover. Mobley claimed that the term "withdrawal" has an implicit connotation of escape or avoidance but that both turnover and absenteeism can be motivated by attractions of alternatives rather than avoidance. Thus, the term is clearly not descriptive of all turnover and absenteeism behaviors. Similarly, Porter and Steers's (1973) review indicated that only 6

out of 22 cases were found significant relationships existing in the same direction for both absenteeism and turnover. As the withdrawal behaviors are barely manifested, the use of the withdrawal construct is limited. The antecedent processes of absenteeism and turnover are more emphasized than those of structural relationships between the two behaviors (Mobley, 1982).

A few contemporary studies agreed with the underlying commonalties between absenteeism and turnover. Rosse and Hulin (1985) noted that there is sufficient evidence to conclude that job attitudes underlie a spectrum of withdrawal or adaptive behaviors. Likewise, Rosse and Miller (1984) reasoned that both of these behaviors help reduce dissatisfaction with the work role. Gupta and Jenkins (1991) contended that, if individually examining absenteeism and turnover, one will suffer from contamination and deficiency of the criterion in that both absenteeism and turnover encompass voluntary and involuntary behaviors, and in that the two behaviors might serve as alternatives, depending on organizational and other constraints. Furthermore, Mitra, Jenkins, and Gupta (1992) cited that harmful organizational stimuli may acturally have a greater impact on an employee's decision to withdraw than do attractions outside the organization. In short, this position advocates the study of multiple behaviors in conjunction rather than each behavior in isolation.

Proponents of the withdrawal construct present several arguments to support the positive relationship between absenteeism and turnover. Rosse's longitudinal study (1988) demonstrated evidence of a progression from tardiness to absence, from multiple (but not single) absences to turnover, and tentative evidence of a tardiness-to-turnover progression. He also found that initial tardiness might result in increased subsequent tardiness, and likewise for absence. Using traditional voting method, Gupta and Jenkins (1980), Lyons (1972), and Muchinsky (1977) all concluded that absenteeism and turnover are positively related in empirical studies, particularly at the individual level of analysis. Lately, Mitra, Jenkins, and Gupta (1992) applied a better approach, meta-analysis

technique, to reexamined this relationship. They found a positive correlation between absenteeism and turnover, and industry type and study duration acting as moderators. Their conclusion said, "at a practical level, this means at the very least that turnover prevention efforts can be initiated much earlier ..... at the onset of higher absenteeism levels among employees" (p. 885).

Causes of Employee Absenteeism

Absenteeism is determined by a variety of social, organizational, economic, and individual factors. As Johns (1978) observes, "absence research has typically considered a limited range of predictors and relied upon zero-order analysis" (p. 432). Moreover, the model of Steers and Rhodes (1984) suggests two primary forces for or against attendance: attendance motivation and perceived ability to attend. Attendance motivation includes job satisfaction, economic and market conditions, organizational incentive systems, group norms, personal attitudes, and organizational commitment. Perceived ability to attend encompasses illness and accidents, family responsibilities, and transportation problems. Kelly (1990) simply segments the causes of absenteeism into employee-related, work-related, and the interactions of the two, and emphasizes that there is a difference between reasons for absence and causes of absence. Currently, Sadri and Lewis (1995) summarize three intervening variables that directly impact the motivation to attend work: job involvement, organizational commitment, and health status.

No matter how the causes vary, all take into account levels of individual, job-related, organizational, and social factors predicting absenteeism. Individual level includes the person's attitudes, goals, or abilities. Job-related level implies job satisfaction, the nature of the job, work contents, and tenure and employment. Organizational level encompasses attendance policies, procedures, reward systems, or absence control mechanisms. Social level incorporates gender, age, work group cohesion and perceived leadership styles (Fitzgibbons and Moch, 1980; and Kelly, 1990).

Individual Level

Physical Condition It is both conventional and reasonable to attribute a portion of absenteeism to sickness, injury, or general ill health. In fact, many employees quite literally equate absenteeism with sickness when the term is mentioned in casual conversation. Illness and accidents are the most common causes of inability to attend work and are the focal points of Dilts and his associates' (1985) discussion.

Due to seasonal pattern, illness is one reason for absence (Meisenheimer, 1990). Johns (1987a), however, argues that if ill health is the predominant contributor to absenteeism, it is possible to expect a reduction in absences over the years as health care techniques have improved. On the contrary, in a careful study of British postal workers that spanned the years from 1891 to 1980, there was an increase in absence rates (Taylor and Burridge, 1982). In addition, even for the relatively stable absence period of 1960 to 1980, they observed changes in diagnostic patterns for sickness. This suggests that many

employees interpret their own absence behavior in medical terms that are currently in vogue (i.e. lower back pain).

Going a step further, being labeled sick can lead to an increase in absence even when there is no objective reason for this increase (Johns, 1987a). A household survey that asked respondents to describe the reasons for past work absenteeism, and concluded that even under these low-threat conditions, minor physical ailments were used as the most frequent cause of absence. This result supports the medical model that people are especially likely to invoke to explain their own absence behavior, even when they are freed from making excuses to their supervisor or employer.

A study of Canadian steel workers found that those with diagnosed high blood pressure were absent more than those with undiagnosed high blood pressure. When the latter were informed of their medical condition, their absence level increased to that of those that knew they had high pressure (Taylor, Haynes, Sackett, and Gibson, 1981). This occurred even though high blood pressure has no self-detectable physical symptoms in its early stages (Johns, 1987a).

Family Responsibilities Family responsibility is found to be one of the major causes of absenteeism, following work-related stress and poor motivation (Industrial Relations Review and Report, 1993). In the review of Porter and Steers (1978) study, discussions on the impact of family considerations on withdrawal have centered around two related variables: family responsibility and family size. Studies conducted among female samples found that increases in family size were related to

increased tendency to withdraw (Naylor and Vincent, 1959; and Porter and Steers, 1973). Porter and Steers (1973) found increased family size to be inversely related to turnover among male factory workers. This difference may be due to the discrepancy in the social roles females and males play. Since females are expected to be more responsive to family needs while males are expected to concentrate on work, it is reasonable for women to be more frequently absent from work in order to take care of family matters. On the other hand, Fitzgibbons and Moch (1980) explained, differences in absence behavior by gender may be due to differential socialization. Female workers may develop a distinct "absence culture" which encourages or condones absence behavior.

The number of dependent is suggested to be more useful than the family size on examining absence behavior. Fitzgibbons and Moch (1985) explained that it is because the number of dependent can more accurately reflect the presence of pressures that could induce absences. Sherwood (1985) found a positive relationship between number of children and days absent among electronic employees. This characteristic was regarded as a better indicator of past absenteeism than either job satisfaction or job involvement. This result supports Watson's (1981) study that the number of children is directly related to absence, especially for women. To the extent that the pressures of more mouth to feed result in absenteeism, however, absences should be excusable, and employees with many dependents should be absent more often than others for excused reasons (Fitzgibbons and Moch, 1980).

Job Satisfaction Job satisfaction is an attitude that individuals have about their jobs. It results from their perception of their jobs, based on factors of the work environment, such as the management style, policies and procedures, work group relationships, working conditions, and wage benefits. A major reason for studying job satisfaction is to provide management with ideas about how to improve employee attitudes to attend every scheduled work (Gibson, Ivancevich, and Donnelly, 1994).

Employee absenteeism is a method of temporary withdrawal from dissatisfying aspects of the job (Smith, 1977). Johns' (1987) Withdrawal Model explains that if workers have preferred physical conditions to extenuate their own absences, and managers have favored deviant aspects of the worker's personality, the situation is partial toward job dissatisfaction. By extension, the worker may withdraw completely and exhibit turnover if alternative job exists. After all, it only seems sensible to escape or at least avoid an unpleasant work environment.

A number of the studies in the last 40 years have concluded that absenteeism is negatively related to overall job satisfaction (Brayfield and Crockett, 1955; Herzberg, Mausner, Peterson, and Campbell, 1957; Muchinsky, 1977; Porter and Steers, 1973; and Vroom, 1962). In Steers and Rhodes (1978) model, attendance motivation and the ability to attend work are two primary factors that directly influence employee attendance. Attendance motivation is associated with job satisfaction and various internal and external pressures to attend. Mawhinney (1989), however, notices that this relationship can be obscured when lack of job alternatives and heavy financial reliance upon an

employer prevent members from expressing low satisfaction by moving among organizations.

Birchall and Wild (1976) collected data from 256 female blue-collar workers in an electronics plant. The study was to investigate the relationship between the workers' perceptions of the extent to which their low-skill jobs possessed such "behaviorally desirable" job attributes and their work-related behavior. The results suggest that, first, the employees who perceive their jobs low in responsibility, and less use of their skills and initiative are more likely to be absent without permission and for a longer period. Secondly, the workers expressing lower levels of overall job satisfaction are more likely to spend more time off in requested absences, have more certified sicknesses, and are more frequently absent and for longer periods without permission. Likewise, the more favorable the worker's expressed attitude towards the quality of work life, the less likely would he or she be absent through certified illness or without permission. Lateness is greater amongst those expressing poorer opinions of the organization and management.

Muchinsky (1977) states that attitudinal variables are the most consistent predictors of absenteeism. Using the Science Research Associates Employee Inventory, he found a significant inverse relationship between job satisfaction and absenteeism among office workers. Walters and Roach (1971), using the Job Descriptive Index, found significant inverse relationship between job satisfaction and both absence and turnover. Johns (1987) reviewed several empirical studies and found that satisfaction with job content itself is a better predictor of absence that satisfaction with pay,

supervision, and so on. In addition, job satisfaction is more strongly associated with frequency of absence than with time lose.

Dittrich and Carrell (1979) examined equity perceptions, job satisfaction and absence, and turnover rates among 158 clerical employees. They administered the Organizational Fairness Questionnaires which is designed to assess employee perceptions of equity or inequity and the Minnesota Satisfaction Questionnaire which measured employee satisfaction. They found employee perceptions of equity to be stronger predictors of absence and turnover than were job satisfaction variables.

Bruce and Blackburn (1992) discern that some research findings have contradicted the "satisfaction equals performance" conclusions. Chadwick-Jones, et al. (1982) listed 28 studies in which correlations between absenteeism and satisfaction were either zero or negative. One reason may be that not only variations in satisfaction cannot lead to variations in performance/ productivity. The other reason may be that job satisfaction and performance/productivity may have largely separate causal paths (Bruce and Blackburn, 1992; Hackett and Guion, 1985; and Hammer and Landau, 1981). Since the growth of the workforce will slow and employers will have to compete for workers in a less skilled and more diversified labor market, more and more managers will have to deal with employees who are skeptical about their concern for them as human beings. Bruce and Blackburn (1992) emphasize that it is more imperative for employers and managers to learn to balance satisfaction with performance expectations. Hackett and Guion (1985) suggest that further studies aim toward a reconceptualization of absenteeism as a construct to consider the perceptions and the values of the employees in

the work and non-work environment. More comprehensive, theory-guided, and multivariate research are needed.

Alcohol and Smoking Abuses Smoking refers to the inhalation of burning tobacco fumes, while alcohol beliefs are the extent to which individuals use alcohol as a coping mechanism (Cyphert, 1990). Both are a measure of substance abuse. The National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism have estimated that at least 10% of the workforce is afflicted with alcoholism or drug addiction (Silfies and DeMicco, 1993). In fact, substance, in the form of alcohol or prescription, over-the-counter, or illicit drugs, is a common occurrence at all levels in all industries. The estimate cost of alcohol and drug abuse are more than $100 billion annually for American industry, and each abuser costs an organization about $7,000. Besides, substance abusers have 3 to 4 times as many accidents on the job and 4 to 6 times more accidents off the job which in turn contributes to absenteeism (Silfies and DeMicco, 1993).

People who smoke tend to be absent more often than people who do not. U.S. Pubic Health Service (1979) estimated the magnitude of this difference at 81 million workdays lost per annum. Parkes (1983, 1987) found a strong impact of smoking on absenteeism in the study, so did Hawker and Holtby (1988) find absenteeism increased with the number of cigarettes smoked daily. Further, exsmokers reported higher depression, anxiety, and negative affect; lower quality of life and job satisfaction; more job-related tension; and increased short-term absence (Manning, Osland, and Osland,

1989). These findings suggest that work perceptions may be subject to influences, both on and off the job, that can alter the affective state of an individual. In addition, smoking cessation resulted in poorer habits, weight gain, and unhealthy conditions absence (Manning, Osland, and Osland, 1989).

Survey results show that four of the top reasons given by management for substance testing were safety, security, productivity, and costs (Preemployment Drug Screening, 1986). Cyphert (1990) reviewed the literature and concluded that problem drinkers tend to have more absences, cost more in sickness payments, and have more accidents than non-problem drinkers. Excessive absenteeism is found to be significantly associated with alcoholism, and they go at a very fast pace (Bureau of Business Practice, 1979; Trice and Roman, 1978; and Brooke and Price, 1989).

Job-Related Level

Tenure and Employment Sayles and Strauss (1981) report that there have been efforts to analyze whether absenteeism is related to characteristics of employees or to the economy. It has been assumed that workers are more likely to be absent during times of high employment (jobs are not difficult to find) and that younger workers are more likely to be absent. Data collected and reported by these authors, however, do not support the assumptions. Rather, absenteeism was found to be predictably higher in industries where the workweek was long and work groups were large.

One research assessing the multivariate model of absence behavior found employee tenure, and the perceived probability of layoff had a negative relationship with absence behavior (Fitzgibbons and Moch, 1980). Employees who work longer in the plant have fewer excused absences. Consistent with the finding of Martocchio's (1994) study, they also are less absent due to sickness or unexcused reasons. There is no support that long-tenured employees are more likely to be absent than others, and no tendency that these employees are more absent because their seniority provides job security. Therefore, Fitzgibbons and Moch (1980) concluded that long-tenured employees " either (1) have adjusted to pressures leading to absence behavior so as to allow for regular attendance or (2) face fewer such pressures " (p. 361), while Martocchio (1994) suggested that newer employees may be less sensitive to the possible costs and outcomes of being absent. As to those who felt they may be laid off, they were less likely to be absent for excused reasons, and more willing to work rather than perform other legitimate duties in order to increase their credit to maintain their jobs. The statistical results, however, suggest it needs more research to better understand the relationship between the perceived probability of layoff and absence behavior.

Work Monotony Many researchers view work monotony as two different work conditions: work underload, repetitive or varied work (Cox, 1985; Johanson, 1989; and Melamed, Ben-Avi, Luz, and Green, 1995). According to Melamed, et al (1995), most researchers prefer to use the concept of repetitive work defined by Cox (1985) as "work in which discrete sets of work activities are repeated in the same order....The cycle

time for the set of activities may be measured and used as an index of the repetitiveness of the work" (p. 86). Jobs with short cycle time represent high workload. As to work underload, such as vigilance, inspection, and guarding, it is illustrated as jobs beneath the capabilities of employees who perform them. More conceptually, work underload means the tasks with too narrow and one-sided job content, lacking stimulus variation, and with no demands on creativity, problem solving, or social interaction (Gardell, 1982).

There are very few studies investigating the relationship between work monotony and employee absenteeism. Melamed, et al. (1995) examine the relationship of objective work conditions and subjective monotony to job satisfaction, psychological distress, and sickness absence among 1,278 male and female employees. Hierarchical regression analyses indicate that blue-collar workers rate high monotony in both repetitive work and work underload. The shorter the cycle of repetitive work is, the higher the psychological distress and sickness absence occur. Additionally, work underload causes low job satisfaction and increases sickness absence. The researchers suggest that what contributes to the negative impact on quality of work life and employee behaviors are the psychosocial stressors common to both types of work, rather than the physiological aspect of short-cycle repetitive work.

Job Stress, Depression, and Anxiety For both individuals and organizations, increasing stress, depression, and anxiety affect personal health, morale, productivity, organizational efficiency, absenteeism, medical costs, and profitability ("Job stress", 1991; and Waxler, and Higginson, 1993). One estimate places the cost of stress to the

workplace at $150 billion a year (Waxler, and Higginson, 1993). Another report indicates that job depression takes the toll for absenteeism at $11.7 billion due to the loss of 290 million work days ("Depression takes", 1994).

Manifest anxiety was significantly related to not only absenteeism among industrial workers (Sinha, 1963), but also turnover among workers on hazardous jobs (Hakkinen and Toivainen, 1960). Bernardin (1977) used the Sixteen Personality Factor Questionnaire to investigate the relationship of personality characteristics to organizational withdrawal. He hypothesized that subjects on the polar ends of these characteristics would be more likely to withdraw. The results indicated that withdrawal behavior is predictable from personality characteristics. Employees with high levels of anxiety or low levels of conscientiousness are more likely to terminate employment than others.

Stress and anxiety are the feelings when the individual begins to sense unable to control or cope with the many demands placed upon him/her (Waxler and Higginson, 1993). Karasek (1979) developed and empirically tested a model of "job decision latitude", which he defined as " the working individual's potential control over his tasks and his conduct during the working day" (pp. 289-290). He hypothesized that job demands (e.g. high workload) were not harmful in themselves; however, when combined with low employee control, these demands could lead to the development of cardiovascular disease. When job demands and control are both high, the demands act as sources of challenge rather than the sources of physical or mental stress and the job is perceived " active". A number of Karasek's tests of the model support the hypotheses

(Dwyer and Ganster, 1990). Karasek, therefore, recommended strategy for intervening in the workplace to find ways to grow job autonomy or control of the workers while leaving productivity demands unalters. Actually, workers may be even successful under conditions of reaching higher productivity goals, if they have the requisite level of control

Based on Karasek's theory, Dwyer and Ganster (1990) examined the impact of stressful job demands on employee attitudes and attendance. In general, the model's predictors are consistent with the attendance data. Higher tardiness and more sick days occur, only when employees confront with high psychological demand (e.g. vigilance) and also hold little control over the job and work environment. The sick-days finding suggests that there are indeed health-related outcomes to working in a high-demanded job. It is important to operationalize the stressful job demands with a more objective manner than only self-reported data. On the contrary, evidence does not show effect of physical demands (e.g. bending, lifting) on employee attendance. As Karasek (1979) proposed, high-workload and high-control jobs are positively associated with attendance, because they can regenerate employees' well-being by providing challenge and opportunities for growth. Interestingly, the study does not find significant association between poor employee attitudes and use of more sick days. In fact, both overall job satisfaction and satisfaction with the aspects of the work itself correlate positively with sick days.

Job Hazards Job hazards are physical dangers or unhealthy conditions associated with a job (Viscusi, 1978). Bernardin (1977) found significant relationships

between anxiety and absenteeism for industrial employees and in hazardous jobs. Allen (1981) and Leigh (1986) found higher absenteeism for jobs with a high perceived rate of injury. Moreover, absenteeism most likely occurs due to employee's evaluation of dangerous conditions, his/her experiences with job related injuries or illnesses, and the higher probability of dying on the job (Leigh, 1991).

Eck (1986) pointed out that satisfaction with job safety was negatively related with single-day absences. Robinson (1987) explained that when employees learn their jobs are more hazardous than originally thought, absenteeism is one of the forms of pressure used to seek improvement in the working conditions. Not only the normal hazards, special attention must be also paid to the presence of communicable diseases in hospitals, the increasing use of potentially hazardous equipment, and chemical compounds into the hospital setting (Cyphert, 1990).

Organizational Level

Job Involvement and Organizational Commitment Job involvement and organizational commitment have long been regarded as two affective work outcomes used to predict work-related behaviors (Blau and Boal, 1989 and 1987; Johnston, Griffeth, Burton, and Carson, 1993; and Somers, 1995). These researchers believed that the more involved an individual is in the job and more committed he/she is to the organization, the less likely he/she is to be absent or quit. Steers and Rhodes (1978) stated this concept under the heading of "pressure to attend". Blau and Boal (1987)

proposed the conceptual model describing how an interaction of job involvement and organizational commitment can be useful for predicting employee turnover and absenteeism. In the model, job involvement is defined as the extent to which an individual identifies psychologically with his/her job. Organizational commitment is defined as the extent to which an employee identifies with the nature and goals of a particular organization and wishes to maintain membership in the organization (Blau and Boal, 1989). Employee withdrawal behavior is expected to be more frequent for those who are low-involved and low-committed ("apathetic employees"), and are high-involved and low-committed ("lone wolves"). It is because lone wolves identify their jobs as important but not recognize with the organization or its goals; thus, they would leave the organization more readily if better task-related opportunities arise elsewhere. Blau and Baol (1989) suggested that job involvement and organizational commitment should only be expected to interact in predicting external voluntary turnover in this mode.

In testing the 1987 model, Blau and Boal (1989) found that job involvement and organizational commitment significantly interacted, although not equally important. This interaction could further predict turnover beyond employee gender, marital status, tenure, and job withdrawal cognitions, and the job involvement and organizational commitment main effects. Employees with lower levels of job involvement and organizational commitment are in the "highest risk" category for subsequent turnover. Employees having high job involvement and low organizational commitment are the next in terms of turnover risk. In this regard, the manager should examine how his/her employees are

involved in the jobs and commit to the organization in order to minimize the withdrawal risk.

Blau and Boal (1989) also found that higher organizational commitment can balance the employee's intention to leave if he/she is low involved. Therefore, organizational commitment is a more powerful and more consistent predictor of turnover than job involvement. This is supported by Somers's (1995) study which examines the relationships between affective, continuance, and normative commitment, and employee turnover and absenteeism. Affective commitment is defined as an emotional attachment to an organization characterized by acceptance of organizational values and by willingness to remain with the organization. Continuance is the result from the perception of increasing sunk cost in an organization, while normative commitment is referred to the perceived duty to support the organization and its activities. The study results observe significant interaction effects of these facets of commitment, and only affective commitment is inversely related to absenteeism. When the affection is somewhat based on rationalization, high levels of continuance commitment can soften the level of one's emotional attachment to the organization, and influence his/her decision to be absent or attend.

Finally, Somers (1995) reminds that "commitment has a limited rather than a pervasive effect on employee retention and absenteeism, and ... a general research strategy for future studies might be to identify those conditions under which commitment is (and is not) predictive of work outcomes" (p. 56). This regard is consistent with the findings of Johnston and his colleagues' (1993) study that, over time, positive

organizational commitment deteriorates and propensity to leave increase for employees. The declined commitment may relate to the role of unmet expectations in the organization. Thus, Johnston, et al. (1993) suggest that management should consequently illustrate organizational goals, policies and procedures as skills, knowledge, and abilities of the workforce increase.

Work Shift The effects of work shift on employee absenteeism are likely to be significant, however, they have been overlooked in absence research (Fitzgibbons and Moch, 1980). Shift was associated with a variety of physical and psychological problems that employees often experienced and usually lead to differential sickness absences (Dunham, 1977). Family matters and other activities may cause absenteeism for second-shift (e.g. 7-11 pm) workers, while these problems may not exist for the night-shift (e.g. 11 pm-7 am) people. Hence, the manager might expect less excused absences for third-shift employees and more excused absences for second-shift personnel. The research evidence proved that the second-shift personnel were absent more than others for excused reasons. No evidence showed that shift work led to physiological or psychological problems causing absence behavior (Fitzgibbons and Moch, 1980).

Work Group Relationships An employee's immediate work unit consists of the people with whom he/she has the most contact. Steers and Rhodes (1978) used the term "co-worker relations", while Sorensen (1985) took "integration". In Brooke's (1986) model, "work group cohesion" refers to the extent to which employees have close friends

in their immediate work units. Cyphert (1990) found in the literature that early studies have failed to determine a relationship between co-worker relations and absenteeism. Nicholson, Wall, and Lischeron (1977) and Keller (1983) found a negative association between absenteeism and satisfaction with co-workers, while Goodman and his colleagues (1984) demonstrated a pleasant work group relationship is associated to reduced absenteeism. Besides, Sorensen (1985) and Khaleque and Rahman (1987) found the effect of work group cohesion to be a significant factor for job satisfaction. After all, work group relationship has a strong impact on job satisfaction which is also considerable to employee attendance. The concept is predicted to have an indirect influence on absenteeism through job satisfaction (Cyphert, 1990).

Management-Employee Relationships The relationship between managers and employees affects employee attitudes to work through the leadership style and supervisory training (Kelly, 1990). Brooke (1986) used "supervisory support", which refers to the extent that an employee has an immediate supervisor who meets the employee's important human needs (Cyphert, 1990). Gerstenfeld's (1969) study confirmed the important role of the immediate supervisor: those workers who perceive their supervisors as frequently unfair are generally the same people with poor attendance. When an employee perceives inequitable treatment, he/she may feel frustrated and will not contribute his/her best efforts toward the primary goals of the organization. When this perceived inequity becomes excessive, the individual will actually separate him/herself from the work environment (Telly, French, and Scott, 1971).

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The importance of leadership style on employee behavior was first brought into focus by the Michigan and Ohio State leadership studies (Katz, Maccoby, Gurin, and Floor, 1951; Katz, Maccoby, and Morse, 1950; Stogdill and Coons, 1957; and Stogdill, 1963). Accordingly, Fleishman (1957) developed the Supervisory Behavior Description Questionnaire. Later, Stogdill (1963) revised and used to ask managers to express their ideas of an appropriate management/leadership style. Management style is described on the basis of the degree of (1) initiation of structure, (2) consideration for employees, (3) employee participation in decision making, and (4) hierarchy of authority. Using the instrument, Fleishman, Harris, and Burtt (1955) found leaders high on consideration have subordinates who tend to be absent less. Similarly, Skinner (1969) also found higher supervisory consideration associated with lower turnover, at some point of a curvilinear relationship.

Stogdill (1974), Williams and Hazer (1986), and Mottaz (1988) demonstrate the positive impact of supervisory support on job satisfaction. Goodman et al. (1984) and Firth and Britton (1989) suggest that supervisory support is helpful to reduced absenteeism. Then, Fleishman and Harris (1962) revealed that turnover and grievances are highest for those work groups which receive supervision low in consideration. In addition, Derakhshan and Harris (1982) remind the existence of perceptual differences

among opposite genders of ideal and actual leadership styles. The results show that managers believe in initiating more structure but less consideration when supervising female workers. They suggest this attitude may derive from the assumption that men are independent and rely on self control, while women want or need more exact structure. Moreover, the finding may root in the role stereotype of the male employees as the major caregiver of the family, so that managers tend to treat male employees with more consideration. It is important for the manager to be aware of these discriminatory tendencies and to be willing to reexamine his/her attitudes to perform appropriate leadership style for employee needs.

Social Level

Gender The two most consistent findings from absenteeism research show that absences tend to be greater among females and negatively related to age (Hackett and Guion, 1985; and Porwoll, 1980). Both findings are consistent with the notion that 1) a young mother's primary values lie in the home and family; and 2) working outside the home assumes a secondary role for females more than males. Moreover, higher absences among younger married men might be attributable to a desire of young fathers to spend more time with their families (Dekar, 1969).

At least two studies focused primarily on the relationships between gender and absenteeism rates. Schenet (1945) found that absenteeism was significantly higher among females than males working in a war plant. Markham (1982) studied the absence

rates between male and female absence rates. He hypothesized that the cyclical trends in absenteeism which have been previously documented apply only to the male population and that the pattern over time for female absences was very different. He further hypothesized that any absenteeism policy which was directed at reducing the cyclical variation in absenteeism rates would be effective to a male population, but would have little or no effect on a female population. The conclusion of the study, however, indicated that the cyclical trends for males and females are not significantly different.

As a part of the work monotony study, Melamed, et al. (1995) examined possible gender differences in the way in which objective and subjective monotony affect stress outcomes. The findings indicate that gender interacts with subjective monotony in terms of job satisfaction and psychological distress. Women tend to be more absent when they are confronted in monotonous work except for long-cycle repetitive work. Perhaps, on one hand, female workers are more distressed by unfavorable work conditions than male workers, and are absent more consequently. On the other hand, women and men may be equally negatively affected, but as women usually tend to be absent more for ill health, sickness absence may be a common way for them to cope with job stress.

Age According to Hackett (1990), the U.S. Census Bureau predicts that the number of new workers aged 18-24 will drop by 16% over the next 20 years; meanwhile, the over-65 segment of the population will grow by 28% between the years 1983 to 2000. Older workers re-entering the workforce and those changing jobs are coming to play an

increasingly important role in the labor force, especially the rapid growing of part-time work (Eichar, Norland, Brady, and Fortinsky, 1991).

In the absenteeism model of Steers and Rhodes (1978), age is regarded as one of a number of personal characteristics that influence employee values, expectations and ability to attend. Age-related factors associated with ability to attend include illness, accidents, and family responsibilities. As Rhodes (1983) noted, "the relationship between age and voluntary absenteeism is indirect, with several intermediate steps, including employee values and expectations, satisfaction with the job situation, and attendance motivation. On the other hand, age is more directly related to involuntary absenteeism through its effect on ability to attend" (p. 360).

Eichar, Norland, Brady, and Fortinsky (1991) studied the association between work orientation and job satisfaction among 198 older workers who had begun new, mostly part-time jobs. The results showed that the intrinsic indicators of skill and autonomy had a significant impact on job satisfaction. None of the extrinsic indicators, such as job wages, fringe benefits, medical insurance and flexible schedules reached a level of significance. This means that the older workers derive the greatest satisfaction from meaningful jobs. Moreover, the study also finds that the lack of previous autonomy seems to reinforce the negative consequences of work that allows for little decision latitude. The researchers notice that "to the extent that the growing number of part-time jobs are relatively low-skilled, and to the extend that older workers in new jobs are influenced most by intrinsically rewarding work, there appears to be a growing mismatch between an occupational niche and those who are being sought to fill it" (p. 609).

Hackett (1990) argues that little attention has been given to either the overall size of the relationship between age/tenure and absenteeism, or the impact of statistical artifacts. He conducts a meta-analysis of the literature and reveals that age (but not tenure) is inversely associated with avoidable absences for males (but not for females). This finding is consistent with those of Nicholson, Brown, and Chadwick-Jones (1977) who offered an explanation in terms of a growth in "attachment to work" with age. Older people may have an increasing need for stability and regularity while younger people may not have become "socialized" into particular work behavior (Clegg, 1983). Absenteeism may arise here, because the younger employees are not pulled in to work, either by their own needs or as a result of a social learning process. The findings partially support the aspect of the Steers and Rhodes' (1978, 1984) model that described age and tenure as indirectly related to voluntary absenteeism and directly related to involuntary absenteeism.

The most definitive finding of Hackett's (1990) study was the lack of relationship between tenure and avoidable absence. He suggested that the age-absence relationship is not due to collected organizational rewards or an implicit job satisfaction mechanism. This finding also supports Nicholson, Brown, and Chadwick-Jones (1977) conclusion, "the available evidence suggests that the tenure-absence link is too tenuous to lay claim to further social scientific attention for its own sake" (p. 327).

Integrating with other research, Hackett (1990) challenges the widespread belief that performance declines with age. Personnel policies that discriminate against older workers should be carefully examined, not simply for legal and ethical reasons, but

because of an organization's need to effectively use their manpower. He stresses that older people may make for productive and reliable workers.

Absence Culture and Work Group Norms Johns (1987b) noticed the growing awareness that much absenteeism may be the product of a complex web of social influence. This social influence involves what co-workers and supervisors do and say about absence, and this is partly a function of occupational factors, technology, and plant or office layout. The Brooke's model (1986) applies "organizational permissiveness" as the extent absence which are accepted without negative consequence. Johns and Nicholson (1982) use the term " absence culture" to describe "the set of shared understandings about absence legitimacy... and the established 'custom and practice' of employee absence behavior and its control" (p. 136).

Early research have pointed to the importance of work-group norms as an influence on absenteeism (Gibson, 1966; and Steers and Rhodes, 1978). Steers and Rhodes (1984) argued that there were many work settings in which there was little variation in absenteeism among the employees. In fact, Chadwick-Jones, et al. (1982) found few consistent relationships between attitudes and absence, and suggested that the sample of sixteen plants differed in their "causal climates". In other words, the differences between plants were more enlightening than the differences within them. This finding is supportive to the case of one Canadian manufacturing organization (Johns, 1987a). The time lost due to absence varies from 5% to 12% across plants. Within various plants, departmental absence rates range from 1% to 20%. It seems that none of the medical,

deviance, withdrawal, and economic models proposed by Johns (1987a) proposed can fully explain these differences, and that the cultural model would prove useful.

On one hand, strong absence cultures may involve the development of specific norms concerning attendance. For example, group norms may encourage women's absences. This concept is based on the beliefs that family responsibilities are permanent and important to women after all, and the stereotype on women causes inequitable treatment in the workplace (Johns and Nicholson, 1982). Hence, this norm may support high absence of female employees due to inequity, feelings of being not needed, and excuses of family matters. On the other, some absence cultures may be fairly weak when attendance is more critical to the individual's needs, such as financial pressures.

Chadwick-Jones, et al. (1982) conclude that it should be considered a group phenomenon as opposed to an individual response. They show how absence rates differ radically among different work cultures such as those of hospitals, banks, a clothing factory, a foundry, and a public transport company, supporting their group hypothesis.

Martocchio (1994) examined the effects of absence culture on individual absenteeism among 264 employees within five clerical units. One of the study results was that an individual's absence decision is a trivial antecedent of absence -- only 5% of the variance in absence was accounted for by individual decision. When considering the financial cost of over-months absence, however, such small effects should not be regarded as unimportant unless the final effects are found insignificant. The other result indicated that the structure of the absence policy explained the absence positively related with encouraging outcomes of social factor. For example, a worker may use one day of

paid leave for absence which is actually caused by poor supervision. Moreover, the effects of encouraging and deterrent outcomes factors on absenteeism are more prevalent at the unit level. In terms of social influence, it is because "either co-workers' absence activity or the organization's absence policy sets a standard for acceptable absence, the level of agreement among co-workers rather than an individual's beliefs about the potential outcomes of absence will probably influence the level of acceptable absence in the organization" (Martocchio, 1994, p. 258).

Person-Environment Congruence The concept of congruent fit between individuals and their work and home environments has been expressed in various areas of psychology, particularly occupational and vocational psychology. The theory of person-environment (P-E) fit studies an individual's vocational choice based upon the need of congruence between his/her interests, preferences, and abilities, and the factors inherent in the environment (Furnham and Walsh, 1991; and Holland, 1973). Congruent environments provide job satisfaction because people are among others with similar tastes and values where they can perform tasks that they are able to do and enjoy (Mount and Munchinsky, 1978).

Furnham and Walsh (1991) examine the relationship between consistency, congruence, and differentiation and absenteeism and frustration for a sample of psychiatric nurses. Contrary to predictions, two measures of absenteeism (days off, and number of occasions) were positively correlated with congruence, while congruence was negatively correlated with frustration as expected. There was no relationship between

frustration and absenteeism. Nurses with higher grades suffered more frustration and showed less congruence. This finding is consistent with Chadwick-Jones and his colleagues' (1982) study that absences are tied up with the nature of the work. For example, nurses are the work group associated with high burn-out and high levels of dissatisfaction.

Researchers also consider P-E fit correlated with mental health. Erikson, Edwards, and Gunderson (1973) examined the relationship between mental ill-health and the status of incongruency. They found that sailors had more psychiatric illness when they perceived their responsibilities and promotional levels as inconcordant with their age and experience. These individuals were doing various specialist jobs, which did not use their abilities fully, and was not commensurable with their self-esteem. Furnham and Schaeffer (1984) found a clear and predictable relationship between P-E fit, job satisfaction, and mental health among 82 full-time adults. Most people were in occupational environments congruent with their personality, but those in incongruent environments had symptoms indicating poor mental health and low job satisfaction. This prediction may change, however, in a situation of widespread unemployment. Unemployment makes job market offer no chance of a congruent job to subjects. This situation leads to stress, either because of P-E misfit or the effects of unemployment, and this stress may in turn lead to long-term mental health problems (Holland, 1973). Furnham and Schaeffer (1984) suggested more investigations on the consequences of P-E incongruence, such as high labor turnover, voluntary absenteeism, poor production and decline in the physical and mental health of the workforce.

Incentives Used to Reduce Employee Absenteeism

Absenteeism is not only going to become a more important issue in the future, but a more difficult problem to deal with. Changing human rights legislation, changing worker's compensation, changing arbitration jurisprudence and a changing work force, are all combining to complicate the task of reducing absenteeism (Kelly, 1990).

Quality of Work Life Improvements

A Quality of Work Life (QWL) Program makes work more meaningful and satisfying, and provides motivation, dignity and greater personal participation in the decision-making. Employees receive adequate job security, compensation and fair treatment, work in a safe and healthy environment, have opportunities to develop human capacities, social integration, constitutionalism, and are free from invasion on personal life as well. These efforts regard QWL as humanization of the work (Kahn, 1972). An increasing attention has been paid to this subject in the foodservice industry (Liu, 1992; Segress, 1993; and Woods, 1992).

Health care executives have urgently demanded to increase operating efficiency and raise employee morale in their organizations. A number of quality of work life (QWL) projects have been widely conducted in the health care industry since 1970s. The first QWL project at Parkside Hospital failed because of lack of union and management

ownership, physician support, and poor feedback process (Hanlon and Gladstein, 1984). A later QWL process conducted at Northville Regional Psychiatric Hospital was successful and continued, however (Luke, 1989). This process formed the quality circle (QC) by gathering dietitians and physicians, social workers and housekeepers, psychiatrists and secretaries as equal to communicate, brainstorm, and problem-solve about the workplace irritations on a daily basis. The QC teams identified and solved an outstanding 85% of the problems. The results increased self-esteem and staff morale, and developed a team spirit and a sense of trust among employees. The improvement of organizational commitment and job involvement was obvious because more and more employees requested to receive the QC training.

Workplace Flexibility Workplace flexibility is a concept which pays attention to the "whole" of the employee's life (including work and life issues and issues of diversity), and investigates creative ways of enhancing the fit between people and their work roles (Hall and Parker, 1993). It is a key to corporate competitiveness and survival as the future workforce will include more diversity than the current norm. The companies which can attract, retain, motivate, and engage the most talented within the diverse groups are most likely to succeed.

Foodservice managers have to face a challenge from the increasing number of their foreign-born employees. These employees have distinct training needs for skills and language proficiency. Management groups must encounter multicultural issues in another dimension, different from the one presented by the diversity of homegrown

Americans. The management of immigrants have to make much more efforts to deal with the complexity between the concerns of language, hiring, training, managing and cross-cultural awareness(Solomon, 1993).

Creating workplace flexibility enables employers to assist these employees to express, rather than suppress, the identities (i.e. women, Asian-Americans) and the non-work roles (i.e. caregiver of young children, economical provider of a family, or college student). Hall and Parker (1993) emphasized that flexibility could help recognizing the transitions and conflicts between the employees' work, personal lives, and the adaptation. This recognition could actually increases the employee's psychological availability for work. Introducing more flexibility into the workplace is to result in higher morale, less absenteeism, improved productivity, and reduced turnover (Cox, Lobel, and McLeod, 1991).

Rewarding Factors Efforts described in the literature to address absenteeism have focused on developing ways to reward reliable attendance (Durand, 1983; Kopelman and Schneller, 1981; and Stephens and Burroughs, 1978). Reward procedures have included both monetary and non-monetary, such as offering cash lotteries and additional or preferred time off for good attendance. Durand (1983) gave mental retardation technicians eight hours additional time off for one month of perfect attendance and found improved attendance for 13 of 17 employees.

Stephens and Burroughs (1978) offered hospital nurses and nurses' assistants opportunity to win $20 in a lottery for good attendance over a 3-week period. Nurses'

absenteeism rate dropped by 31% while the contingency was in place. It, however, increased by about 38% over the preintervention rate once the lottery was removed. Similarly, Kopelman and Schneller (1981) designed a cash-back, leave benefit package with face value offering a potentially stronger reinforcer. They found that unscheduled absences were lower by 90%. Other economical bonuses, compensation, and employee stock ownership have been distributed for hospital employee motivation in Hawaii, Dallas, Irving (Texas), and Tennessee. The trend of using these benefits to boost productivity and to improve job satisfaction is increasing (Lutz, 1990).

Morale Factors The editors of Supervision Magazine (1992) conducted a survey asking the managers of 24 large companies to rank 10 morale factors in the order they perceived their employees would rank them. At the meanwhile, the employees in the same companies also ranked top 10 morale factors for themselves. The results clearly indicate that the most desired morale factors of today's employees are underrated. The employees expected more belongingness, management's appreciation to them, and higher need for mentors or assistance.

The president of a hospital in Oklahoma City uses recognition as a motivation tool (Lutz, 1990). The hospital management gives testimonials in each ceremony about honored employees and about what they have done to deserve recognition. Specific elements to be recognized include: (the foodservice taff's) appearance, attitude, interest in customer, cooperation, work attendance, creativity, attitude about professional growth and training, and willingness to "go the extra mile" when necessary ("Giving credit",

1992). The recognition of the value and contributions of each individual is especially important to entry-level service employees (Marchant, 1988). Recognizing them through effective communication is of the utmost importance in keeping them satisfied and encouraging full attendance; and thereby, providing excellent customer service.

Stress Management Intervention From an organizational perspective, the interests in stress management is straightforward. Employers paid 80% of all private health insurance premiums (Clement and Gibbs, 1983). Worker compensation laws increasingly included provisions for awarding benefits for injuries stemming from stress incurred at the workplace (Ivancevich, Matteson, and Richards, 1985). The importance of a healthy workforce demands that organizational psychologists develop a thorough understanding of the effectiveness of the various intervention strategies that are available.

Worksite stress management intervention is defined as "any activity, program, or opportunity initiated by an organization, which focuses on reducing the presence of work-related stressors or on assisting individuals to minimize the negative outcomes of exposure to these stressors" (Ivancevich, Matteson, Freedman, and Phillips, 1990, p. 252). The intervention is to change the degree of potential stress in a situation, help employees to modify their appraisal of a stressful situation, or help employees to cope more effectively with the consequences of stress. The type of training that psychologists receive in problem diagnosis and treatment is vital to the success of interventions that improve employee's coping behavior.

The value of stress management interventions ranges from the safety and welfare of employees to far more general societal benefits, such as reduced health care costs, legal costs, and lower costs for goods and services (Hollander and Lengermann, 1988; and Walsh, 1988). Ivancevich and his associates (1990) recognized a growing list of companies which have committed to and benefited from ongoing stress management programs. For example, Equitable Life Assurance established its Emotional Health Program, and found significant reductions in stress-related outcomes including anxiety, headaches, and health center visits. The STAYWELL program designed by Control Data and the Johnson & Johnson Live for Life encompassed multiple component corporate health promotions, including stress management. Both of the programs were evaluated, and the results showed positive physical (e.g. lower blood pressure), psychological (e.g. job satisfaction), and behavioral outcomes (e.g. decreased alcohol use) for the stress management components.

Worksite Health Promotions American companies have increased their awareness of the importance of physical fitness and wellness in the workplace since 20 years ago. The dramatic growth of worksite health promotion programs partially results from the belief that an organization should take some responsibility for the welfare of its valuable human resource (Gebhardt, and Crump, 1990). Since 1950's, the management has been providing health screening, employee assistance, and health education programs. These services promote positive management and labor relations, and decrease the danger of infectious disease, and assist employees with personal problems (e.g.

alcoholism) (Fuchs and Richards, 1985). These programs furnished educational materials to employees. They, however, usually neither provided appropriate time, space, and change of worksite routine, nor did they reflect a genuine commitment from top management (Ardell, 1985).

Positive effects of fitness and wellness programs on disease risk factors and injuries include reducing health care costs, improving worker morale, decreasing absenteeism, and improving behaviors that are associated with increased worker productivity (Regin, 1987; and Sharkey, 1986). Studies showed that absenteeism dropped anywhere from 20% to 55% for programs ranging in length from one to five years (Bowne, Russell, Morgan, Optenberg, and Clarke, 1984; Shephard, Corey, Renzland, and Cox, 1982). Another study found that female exercisers had significantly fewer sick hours than non-exercising females. The two male groups, exercises and non-exercises, were not significantly different. The male and female exercisers' sick hours tended to be inversely related to increase in age, whereas the non-exercisers' sick hours increased with age (Baun, Bernacki, and Tsai, 1986). Gebhardt and Crump (1990) concluded that top management must make a concerted effort to promote participation in fitness and wellness programs among non-participants, "at risk" individuals, and blue collar workers.

Attendance Policy and Absence Control Program According to Bula (1984), it is management's responsibility to develop an organizational philosophy and policy regarding employee attendance. This policy should include a written statement of management commitment and expectations of perfect attendance and be given to every employee. This policy should be aimed at reducing and controlling absenteeism and include procedures for handling absenteeism. Cole and Kleiner (1992) offered the five basic elements of an effective absenteeism control program: maintain detailed attendance records, determine the reason for the absence, summarize and analyze attendance data, take decisive action, and provide quality leadership.

There are two traditional approaches to controlling absenteeism: punishment of poor attendance, or rewarding good attendance. Some OBM programs have used a mixed-consequence system including both punishers and reinforcers (Briggs, 1990; Kempen and Hall, 1977). In Brigg's study, the sick time policy adopted in a large, urban, state residential facility included a means of addressing good attendance records as well as questionable absenteeism. Staff whose absenteeism was continuously 2 or less days per quarter were acknowledged in a sequence of oral recognition, in a written letter of commendation with a copy placed in their official records, and a priority consideration of promotion. Those with questionable absenteeism experienced a series of progressive disciplinary actions, such as a warning letter, requirement of medical proof for sick leave, unpaid sick time, severe records in the personal file, and termination for attendance abuse. Briggs's reinforcement approach reduced 17% in overtime and 27% absenteeism

of 130 direct-care staff over a 12-month period. The punishment increased by 11% turnover which suggested a function of termination.

Kempen and Hall (1977) made non-monetary privileges (e.g. freedom from punching a clock) contingent on attendance, while applying progressive disciplinary warnings for excessive or worsening attendance for 7,500 production workers. There were significant decreases in absenteeism for one of the two experimental plants. In contrast, only one of the 11 control plants and neither of the salaried employee groups showed slight improvement in attendance during the experimental year.

To encourage attendance, rather than discourage absenteeism, some practitioners operated the Attendance Incentive Program, for example, that emphasized positive rewards for good attendance (Long and Ormsby, 1987). Also, some researchers were more interested in positive attendance improvement programs for three reasons (Markham and Scott, 1981; Scott and Markham, 1982; and Scott, Markham and Robers, 1985). First, these programs do not involve sanctions or disciplines that are difficult to administer. Second, these programs specify desired employee behavior. Third, these programs do not create other negative outcomes associated with punishment. The results of all the three studies consistently supported that companies which recognized good attendance had lower absenteeism than those which did not.

Employer-Sponsored Work and Family Initiatives

Flexible Work Arrangements There are several ways to staff up or down to meet business demands without having to routinely hire and fire. Flexible work schedule, including flextime, part-time positions, job sharing, a compressed workweek, and telecommuting, may be the key to competing for top-notch talent when high salaries and elaborate benefits programs are out of reach.

Flextime Under flexible work hours, or flextime, employees may choose their arrival and departure times at and from work within limits set by management. Many employers have found that flexibility generally does not disrupt operations, but rather improves employee morale and commitment, as well as retention and recruiting efforts. It also increases productivity and decreases turnover, tardiness, and absenteeism (Geber, 1993; Lussier, 1990; Sommer & Malins, 1991).

Part-time work Part-time work refers to all work schedules less than full-time. The U.S. Department of Labor defines part-time workers as employees who work less than 35 hours during a "reference" week (i.e. the week that includes the 12th of the month). Employing part-time workers can overcome temporary labor shortages, when more labor is needed. These temporary part-time workers received lower hourly pay and benefits than full-time employees (Kahne, 1985). Employees and employers increasingly see part-time work as an opportunity to combine family responsibilities with work, even a career. Nollen (1982) reported that employers list the following main benefits from a part-time work schedule:

1. reduced labor cost from a) less overtime, due to a better match between the size of the workload and the size of the labor input made possible by part-time staffing, and from b) reduced turnover costs, due to the retention of valuable, trained employees who cannot continue to work full-time;
2. better balance for workers between work life and home life or other interests, due simply to more time spent outside the workplace, and its implications for conflict and stress level;
3. higher productivity due to less absence and idle time, greater efficiency at either mentally stressful jobs or devious routines, and higher morale; and
4. job opportunities for people who are not able to work full-time but who require some labor earnings, such as students, older workers, and parents with young children.

Job sharing Job sharing is a version of part-time employment that combines some of the advantages of part-time and full-time employment. That means the job is full-time but the job holders are part-time. Part-time work structured in this way is not inherently supplemental, since it has not been established to overcome a temporary labor shortage. The jobs under this system are those need full-time attention. Job sharing provides employees who are interested in reduced hours with the opportunity to pursue a career on a part-time basis. The job sharers take the responsibility for the job as well as salary and benefits. Kahne (1985) found that, when blue-collar workers were permitted to find a partner and convert to a job-shared position, the absenteeism rate decreased from 7.6 percent to 0.4 percent. It is important that job sharing allows the work of a part-time job which still remains the work flow and require as much commitment and skill as full-

time jobs. Today, many women are more educated, carrying family responsibility, and also interested in a career rather than just supplementing the spouse's income. This type of part-time schedule not only is very appealing to these individuals, but also will be an important personnel management tool under the predicted diversity of the labor market.

Child Day Care By the year 2005, women are expected to constitute 57% of all new entrants and almost 50% of the workforce. Keeping pace with this trend is the urgent demand for comprehensive and dependable child care assistance (Whigham-Desir, 1993). Out of a total of 6 million U.S. employers, only 1% offer child-care assistance to their employees (Maynard, 1994). The hospital industry has taken the lead in providing child care benefits. Surveys show that 2 out of 5 hospitals offer some type of child care service for their personnel, while an additional 38% plan to do so in the 1990s (Mosher, 1992).

Goff, Mount, and Jamison (1990) examined the relations among employer-supported child care, work-family conflict, and absenteeism. They concluded that supportive supervision and satisfaction with child care arrangements were related to less work-family conflict. Specifically, successful on-site employer-supported child care service decreased the rate of employee turnover, absenteeism, and tardiness; heightened morale and motivation; and increased the ability to attract employees (Magid, 1983; Maynard, 1994; Mosher, 1992; US Department of Labor, Women's Bureau, 1989).

Elderly Care About one out of every four employees has eldercare responsibilities. These people who have to take care for their parents, spouse, grandparents, or other dependent person over age 65 typically spend an average of 6 to 13 hours per week on providing this care. Eldercare responsibilities range from preparing a

meal or visiting an ill or disabled parent in the hospital to more complex tasks such as managing another's finances or selecting medical practitioners. This dual role may last 4 to 5 years for caregivers (Sullivan and Gilmore, 1991).

Many experts believe that eldercare may be the human resources problem in the future for three major reason. First, by the year 2010, the ratio of elderly to workers will be 22 elderly per 100 workers; and by 2050, the ratio may jump to 38 per 100. Second, the workforce in the 1990s there will be 44% fewer people in the age of 18 to 25 than in 1980s. Female employees who will compose 75% of the caregivers will make up almost half of the workforce by 2000. Third, the dual role of a working person and a caregiver is often conflicting, stressful, and lower in productivity. Caregivers tend to be absent more frequently than others, make excessive use of the telephone during working hours, and are unavailable for overtime hours (Durity, 1991; Perterson, 1992; and Sullivan and Gilmore, 1991). Management should response to the changing social environment affecting employees and provide them with the flexibility they need to pursue and advance their careers while minimizing the impact on their personal lives (Ritter, 1990).

Organizational executives have regarded eldercare as a business issue. When IBM started offering employees the eldercare assistance in 1988 and continues to improve the existing programs, a number of Fortune 500 companies have also established good examples (Halcrow, 1988; Perterson, 1992; and Ritter, 1990). Most of the programs and services were evaluated both formally and informally. The results indicate that eldercare programs are provided through various channels: dependent care spending account, part-time and flextime work options, resources and referral services

(in-house or contract with agencies), extended leave, counseling, financial reimbursement, and so on (Perterson, 1992; and Sullivan and Gilmore, 1991).

The eldercare program results in impressive paybacks from improved productivity and morale, and from reduced absenteeism, tardiness, and turnover (Friedman, 1987; Ritter, 1990). The eldercare service is an effective way to attract and keep skilled employees. It can promote the positive media attention that enhance the company's public image and strengthen the recruiting initiatives (Marler and Enz, 1993; and Ritter, 1990). Moreover, based on studies that show 20% of the workforce carry eldercare responsibilities, an organization with 1,000 employees can save $400,000 each year with an eldercare program (Durity, 1991; and Perterson, 1992).

Work-Related Incentives

Work Team Building: Quality Circle (QC)

Buch (1992) proposed the theoretical approach to QC and his study found that QC interventions have a positive effect on reducing employee absenteeism and turnover. The effect of QC on employee withdrawal behaviors is based on the application of Alderfer's (1972) theories of boundaries and relationships to QC interventions. Improved attendance and retention are predictable as a result of the boundary-tightening effect of QC on employee work units, since absenteeism and turnover tend to be higher in systems having loose or ill-defined boundaries. QC interventions tighten boundaries around work units by increasing the clarity of goals, role definitions and relationships for group members. QC process of

participative problem-solving and upward communication opens the boundaries between management and employee groups, thereby, increases the mutuality of management-worker relationships.

A boundary-tightened system facilitates the emergence of positive feelings between group members, and they learn to cooperate to control the chaos that have or will threaten to overwhelm their system. Moreover, QC program imparts a shared theory or philosophy based on improvements through widespread employee involvement and better use of human resource. Finally, by tightening the boundaries around a group operating with a flight/fight mentality, a QC can change withdrawal to inclusion; thereby, affecting the behaviors of absenteeism and turnover.

Training and Education

Self-Management Training Self-management training teaches people to assess problems, set specific hard goals in relation to those problems, monitor ways in which the environment facilitates or hinders goal attainment, and identify and/or administer reinforcers for working toward goal attainment (Kanfer, 1980; Karoly and Kanfer, 1982). This special training was given to a group of unionized employees working for a state government to increase their attendance at the work site (Frayne and Latham, 1987). The results indicated that, first, employees become able to develop a contract with themselves in the training, in addition to self-administering reinforcers and punishers to facilitate goal commitment. Secondly, when employees are exposed to organizational rewards and

penalties regarding attendance and absenteeism, they have a desire to increase their attendance at work. The amount of absenteeism is relatively reduced when self-management teams are implemented (Beekun, 1989; Cohen, and Ledford, Jr., 1994).

Continuing Education and Tuition break Continuing education appears important for both white- and blue-collar foodservice employees. Dietetic personnel with managerial responsibilities have traditional education which provides them with only the skills and knowledge to allow them to just begin a career. Continuing education strengthens them with professional standards and keeps them abreast of an ever-changing field (Laramee, 1989; and Loushine and Vaden, 1985). The trainees at lower-level positions are often those who are new immigrants, assembly-line workers laid off after decades in a truck plant, recently divorced mothers and fathers with young children, or untrained foodservice employees referred by their supervisors (Kidd, 1991). Needs and preferences of continuing education for both parties could be determined by the individual's work setting, current duties, future plans, and, perhaps most strongly, years of experience (Klevans and Parrett, 1990).

Continuing education has its non-economic and economic benefits, according to the findings of Partlow, Spears, and Oaklief's (1989) study. Among the 13 non-economic or personal benefits, the biggest was perceived as "becoming informed about some subject", followed by " improving interests and skills in learning" and "gaining from self-improvement". The most economic benefit rated was "learning recent job knowledge", followed by "gaining new qualification". The experience of continuing

education, and the ability and expertise of the instructor were regarded as the most important strength of job satisfaction.

Loushine and Vaden (1985) compared the salaries and benefits of entry-level health care professionals among 168 hospitals. They found that more than 80% of the hospitals provided reimbursement for continuing education, well above the 60% of employers in the private sector in 1980. The capital varied from $50 to $2,000 in the hospitals, and the most common limits were $500, $1,000, or $1,500. Several hospitals allowed assistance for 3 to 18 university credits per year.

CHAPTER III

METHODOLOGY

There is a number of studies in the literature on employee absenteeism. The intent of this study was to assess management dietitians' perceptions toward 1) the reasons for absence given by foodservice employees in the health care systems, and 2) the incentive factors that would be helpful to enhance employees' attendance. This chapter has four sections: the research design; population and sample; data collection which includes planning and development, instrumentation, and procedures; and data analysis.

RESEARCH DESIGN

Descriptive research was the research design used to meet the objectives of the study. According to Best (1981), descriptive research is concerned with conditions or relationships that exist; practices that prevail; beliefs, points of view, or attitudes that are held; processes that are going on; affects that are being felt; or trends that are developing. At times, descriptive research seeks how what is or what exists is related to some preceding event that has influenced or affected a present condition or event. Descriptive research at its best represents considerably more than asking questions and reporting

answers; it involves careful design and execution of each of the components of the research process, including the formulation of hypotheses, and may describe variables and relationships between variables (Gay, 1992).

This study applied survey research, one of the two classifications of descriptive research (Best, 1981). A survey is an attempt to collect data from members of a population in order to determine the current status of that population with respect to the opinions, attitudes, preferences, and perceptions of interest to the research (Gay, 1992). Survey research typically employs questionnaires and/or interviews. The questionnaire is to collect basic descriptive information from a broad sample, and the interviews could be used to follow up the questionnaire responses in depth for a smaller sample (Borg, 1987).

POPULATION AND SAMPLE

All the dietitian members in the practice group of Management in Health Care Systems (N=1776) of American Dietetic Association comprised the population in this study. The initial research sample were 1,000 members randomly selected from the population. After excluding those who retired, associates members, and employed in academic and unionized environments, 987 management dietitians were mailed the research questionnaire.

DATA COLLECTION

Planning and Development

Planning and development of the research began during the spring of 1995 and continued through the fall semester of the same year. Data collection procedures were determined and data analysis techniques appropriate to test the research hypotheses were selected at the same time.

Instrumentation

The researcher designed the research questionnaire mainly based on relevant literature regarding absenteeism, turnover, and quality of work life. During Spring, 1995, the Oklahoma State University dietetic interns working in selected medical centers in Oklahoma State were involved in the pilot study to test validity, reliability, and readability of the instrument. The final draft was developed and field tested with more than 100 foodservice employees representing medical centers in OK. The foodservice employees suggested more reasons for their absence such as attending funerals, parent/teacher conference, doctor's appointment, and repair work at home. These comments and those suggested by the graduate committee of the researcher were then incorporated into a three-page questionnaire (Appendix B).

The research instrument first asked the respondent to check whether he/she supervised employees in the foodservice unit of the institution. The instrument was consisted four parts. Part One requested general information about the management dietitian and his/her institution. Part Two anticipated the dietitian to provide, in percentages, background information of the foodservice personnel under his/her supervision. In Part Three, the dietitian was asked to rate each of the listed reasons used by the employees for not coming to work, according to the 4-point scale:

1	2	3	4
Never used	Seldom used	Sometimes used	Often used

Part Four provided relevant incentive factors and asked the dietitians to indicate yes (Y) if they were using the incentive, no (N) if they were not, or not applicable (NA) under the 3 columns: currently using, found helpful in the past, and would like to implement.

Scoring

The dietitian's perceptions toward each of the reasons for absence used by his/her employees were scored as follows:

Often Used	4 points
Seldom/sometimes used	2 points
Never Used	1 point

The scores for each of the incentive factors that the dietitian perceived under the 3 columns were presented as follows:

Yes	3 points
No	1 point
Not applicable	0 point

Procedure

On May 24, 1995, the researcher mailed the selected sample a package including a cover letter (Appendix A), the research questionnaire and a self-addressed stamped envelope for returning the completed instrument. The envelope was coded to track non-respondents. The participants were asked to return them by June 15, 1995. A follow-up letter (Appendix A) and the same questionnaire with the self-addressed stamped envelope were mailed to 200 members randomly chosen from the non-respondents on August 15, 1996. They were inquired to reply by August 30, 1995.

DATA ANALYSIS

The returned questionnaires were coded and data collected were transcribed into the computer using the software program PC-File III. The data analysis process applied Statistical Analysis Systems (SAS) computer program (Helwing and Council, 1979). Standard statistical procedures, including frequency tables, t-test, and Chi-square were used to analyze the data (Steele and Torrie, 1980).

For more accurate statistical analysis and for more effective comparison of the personal and institutional characteristics, part of the categories were further condensed to the following groupings:

Highest educational level: 1) B.S. and 2) advanced degrees (M.S., and Ph.D.)

Route to ADA full membership: 1) Internship/AP4, and 2) others

Years employed in the dietetic profession: 1) 15 or less, 2) 16-25, and 3) 26-35 years, and 4) 36 and more

Years in current position: 1) 10 or less, 2) 11-20, and 3) 21 years or more

Size of facility (beds, clients, students, or participants): 1) small-- 299 and less, 2) medium-- 300-799, and 3) large-- 800 and more

Number of employees the dietitian supervises: 1) 30 or less, 2) 31-60, and 3) 61-90, 4) 91-120, and 5) 121 and more

Marital status (of foodservice personnel): 1) single, and 2) other (married, divorced, separated, and widowed)

The distance employees travel to facility: 1) 10 miles and less, 2) 11-20 miles, and 3) 21 miles and more

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this study was to assess the prevailing reasons conveyed to the employers by foodservice employees for being absent and the incentive factors perceived by management dietitians as helpful to minimize the absenteeism rate in health care systems. Data were obtained using the research instrument described in Chapter III, "Methodology". The questionnaires were mailed to 987 randomly selected management dietitians from the ADA Practice Group: Management in Health Care. The response rate was 32% (N=317), however, due to non-supervisory status, retirement, and unemployment of some of the respondents at the time the survey was conducted, only 23% (N=228) of the questionnaires were used for analysis of data.

Characteristics of Survey Participants

Demographic Information

Table III lists the frequencies, and percentages of the respondents' gender, age, highest degrees obtained, categories of degree majors, and route to ADA full membership. Specific degree majors may be found in Appendix C.

TABLE III

FREQUENCIES AND PERCENTAGES OF THE RESPONDENTS' CHARACTERISTICS

Characteristics	Frequency	Percentages
A. Demographic Variables		
Gender		
Female	220	96.5
Male	5	2.2
Not Answered	3	1.3
Age		
21-40	18	7.9
41-60	194	85.1
61 and older	15	6.6
Not Answered	1	0.4
Highest Degree		
Bachelor	118	51.8
Master	106	46.5
Doctoral	3	1.3
Not Answered	1	0.4
Major of Highest Degree		
Dietetics/Food & Nutrition	113	49.6
Management/MBA	21	9.2
Administration/FNIA	45	19.7
Nutrition Education	12	5.3
Public Health	13	5.7
Others	14	6.1
Not Answered	10	4.4
Route to ADA		
Internship/AP4	161	70.6
CUP	12	5.3
Traineeship	29	12.7
Others	24	10.5
Not Answered	2	0.9

TABLE III (continued)

Characteristics	Frequency	Percentages
B. Institutional Variables		
Job Title Categories		
Director of Dietary Department or Food & Nutrition Services	87	38.2
Administrative/Supervising R.D.	56	24.6
Manager/Director of Clinical Nutrition	39	17.1
Asst./Assoc. Dir. of the Department	17	7.5
Management at Operational Level	14	6.1
Multiunit Manager	7	3.0
Educational Area	5	2.2
Consultant Area	3	1.3
Number of Years in the Dietetic Profession		
≤ 15	18	7.9
16-25	118	51.7
26-35	70	30.7
36 and more	18	7.9
Not Answered	4	1.8
Number of Years on the Current Job		
≤ 10	140	61.4
11 -20	64	28.1
21 and more	21	9.2
Not Answered	5	2.2
Size of Facility (beds, participants, clients)		
Less than 300	126	55.2
300-799	69	30.3
800 and more	28	12.3
Not Answered	5	2.2
Location of Facility		
Rural	82	36.0
Urban	136	60.0
Not Answered	10	4.0

TABLE III (continued)

Characteristics	Frequency	Percentages
B. Institutional Variables		
Number of Employees Under Supervision		
≤ 30	92	40.3
31-60	67	29.4
61-90	31	13.6
91-120	19	8.3
121 and more	12	5.2
Not Answered	5	2.2

Of the 228 respondents, 98% (N=220) were female, and only 2% were male. Due to this skewed distribution, the gender of the respondents was disregarded as a valid variable in the statistical analysis. The majority of the respondents were between 41 and 60 years of age (86%, N=194). Fifty-two percent (N=118) completed their Bachelor degrees in the field of food and nutrition or dietetics (52%, N=113), while 47% (N=106) completed the M.S. degree. Most of the management dietitians' (N=161, 71%) route to ADA full membership was through Internship/AP4.

Institutional Information

Table III lists the frequencies and percentages of the respondents' job title categories, number of years in the dietetic profession, number of years in the current job,

facility sizes, location of the facility, and the number of employees the management dietitian was supervising. Details of their job titles are in Appendix D.

Job Title Categories More than one third of the dietitians (N=87, 38%) were working as the "Director of Dietary Department or Food and Nutrition Services", while almost one fourth (N=55, 24%) were as "Administrative Dietitian or Supervising R.D.". Seventeen percent of the respondents (N=39) were titled as "Chief or Director of Clinical Nutrition"; and the rest of the respondents were Managers in Operational Level, Consultants and Educators.

Number of Years in the Dietetic Profession and on the Current Job More than half of the respondents (N=118, 52%) have been in the dietetic profession for 16 to 25 years. One third of the respondents (N=70, 31%) have from 26 to 35 years of professional experiences. Very few have less than 15 years or more than 36 years of experiences in this profession.

About two-thirds of the management dietitians (N=140, 62%) have been on their current positions 10 years or less. Almost one third of the respondents (N=64, 28%) have been on their current jobs for 11 to 20 years, while only 10% (N= 24) have had 21 or more years in their workplaces.

Size and Location of Facility More than half of the respondents (N=126, 55%) worked in smaller-sized facilities (less than 300 beds, participants, or clients). The

dietitians working in a medium-sized facility (300 to 799) numbered 69 (30%). Only 12% of the respondents (N=28) worked in large institutions with more than 800 beds, participants or clients. Most of the dietitians' facilities were located in urban settings (N=136, 60%). In contrast, 82 facilities (36%) were in rural areas.

Number of Employees the Dietitian Supervised The number of employees supervised by the respondents ranged from 4 to, at least, 250. One dietitian reported supervising 1,000 employees. Presumably, this person is a multiunit manager. Forty percent of the dietitians (N=92) supervised a small group of employees ($\leq$ 30). Almost one third of the dietitians (N=67, 29%) supervised 31 to 60 employees, while 14% (N=31) had 61-90 employees. Another 14% of the respondents (N=31) had more than 90 employees under his/her supervision.

Characteristics of the Employees Under the Dietitian's Supervision

Table IV listed the frequencies and percentages of the demographic and institutional characteristics of the employees who were supervised by the respondents. The respondents were asked to provide the employees' information as percentages to facilitate an estimation in the event that the management dietitians cannot access exact or changing information from the personnel department.

Demographic Information

Gender and Marital Status Of the 228 respondents, 73% (N=167) supervised predominantly female employees, while only 13% of the dietitians (N=29) supervised more male employees. Ten percent of the respondents (N=23) supervised only female employees.

Less than half of the employees that 70% of the respondents (N=159) managed were married, divorced, separated, or widowed. Eleven percent of the dietitians (N=26) had more single employees (51-100% of the total), while eight dietitians' (3.5%) employees were all married.

With Preschool Children or Elderly At Home More than half of the dietitians (61%, N=138) had one-third or less employees raising preschool children at home, while 25 dietitians (11%) reported that they had 30-85% employees having young

TABLE IV

FREQUENCIES AND PERCENTAGES OF THE CHARACTERISTICS OF THE RESPONDENTS' EMPLOYEES

Employees' Characteristics	Frequency	Percentages
A. Demographic Variables		
Gender		
100% Female	24	10.1
1-50% Male	167	73.2
51-100% Male	29	12.7
Not Answered	7	3.1
Marital Status		
100% Married	8	3.5
1-50% Single	159	69.7
51-100% Single	26	11.4
Not Answered	35	15.4
With Preschool Children at Home		
0%	20	9.0
1-30%	138	60.5
31%+	25	11.0
Not Answered	45	19.7
With Elderly Relatives at Home		
0%	58	25.4
1-10%	71	31.1
11%+	19	8.3
Not Answered	80	35.1
Ethnicity		
Black: 0%	57	25.0
1-25%	76	33.3
26-50%	32	14.0
51%+	50	21.9
Not Answered	13	5.7
Asian: 0%	127	55.7
1-25%	75	32.9
26%+	11	4.8
Not Answered	15	6.6

TABLE IV (continued)

Employees' Characteristics		Frequency	Percentages
A. Demographic Variables			
Hispanic:	0%	123	54.0
	1-25%	67	29.4
	26%	22	9.6
	Not Answered	16	7.0
Ethnicity			
White:	0-25%	58	25.4
	26-75%	65	28.5
	76-98%	53	23.2
	99%	35	15.4
	Not Answered	17	7.5
Native American:	0%	167	73.3
	1-93%	29	12.7
	Not Answered	32	14.0
Age Range			
Under 20:	0%	90	39.5
	1-10%	70	30.7
	11-25%	21	9.2
	26%+	24	10.5
	Not Answered	23	10.1
21-40:	0-25%	41	18.0
	26-50%	85	37.3
	51-75%	57	25.0
	76%+	23	10.1
	Not Answered	22	9.6
41-60:	0-25%	59	26.0
	26-50%	107	46.9
	51%+	40	17.5
	Not Answered	22	9.6
61 and older:	0%	71	31.1
	1-10%	90	39.5
	11%+	32	14.0
	Not Answered	35	15.4

TABLE IV (continued)

Employees' Characteristics		Frequency	Percentages
B. Institutional Variables			
Employment			
Full time:	0-50%	48	21.1
	51-90%	125	54.8
	91-99%	12	5.0
	100%	32	14.0
	Not Answered	11	4.8
Monthly Absence Rate			
0-5%		105	46.1
6-10%		38	16.7
11%+		47	20.6
Not Answered		38	16.7
1994 Turnover Rate			
0%		17	7.5
1-10%		80	35.0
11-20		48	21.1
20%+		56	24.6
Not Answered		27	11.8
Distance Traveled to Work			
1-10 miles		133	58.3
11-20 miles		68	29.8
More than 21 miles		7	3.0
Not Answered		20	8.8

children with them. Twenty dietitians' (9%) employees did not have preschool children at home.

One-third of the respondents (N=71) had a few (1-10%) employees with elderly relatives at home, while one-fourth (N=58) said that their employees did not have any elderly living with them. Nineteen dietitians (8%) noticed that they had more than 10% employees with elderly at home. A number of the dietitians, however, were not able to answer whether their employees had dependents living with them or not (Table IV).

Ethnicity The ethnic backgrounds investigated in this study included percentages of Black, Asian, Hispanic, White and Native American employees under the dietitians' supervision.

One-third of the respondents (N=76) reported that they had a few (1-25%) Black employees, while one-fourth (N=57) did not supervise any Black employees. One-fifth of the dietitians (N=50) hired employees who were predominately Black (53-100%), while a few dietitians (N=32, 14%) had Black employees at the 26-50% range.

More than half of the respondents (N=127, 56%) did not manage any Asian employees. Over one third (N=75) said they had a few employees (1-25%) who were Asian, while 11 dietitians (5%) supervised more than one fourth of the employees who were Asian. Similarly, a majority of the dietitians (N=167, 73%) did not have any Native American employees, while a small number (N=29, 13%) reported otherwise.

Again, more than half of the dietitians (N=123, 54%) did not have any Hispanic employees. One-third (N=67) reported that their Hispanic employees were less than one-fourth, while one-tenth of the dietitians hired more Hispanic employees (27-91%).

Almost one third of the respondents (N=65, 28.5%) employed one- to three-fourths of the workers who were White, while 1/4 (N=58) of the respondents have less than a fourth. Almost 40% of the dietitians (N=88) managed many White employees, while 35 dietitians' employees were all White.

Age Range Ninety respondents' (40%) employees were all above 20 years old. Another 40% (N=91) said that one-fourth of their employees were under 20 years, while 10% (N=24) had more teenaged employees. Over one-third of the dietitians (N=85, 37%) reported that they had between one-fourth to one-half of their employees between 21 to 40 years old, while one-fourth had between one-half to three-fourths; almost one-fifth (N=41, 18%) hired less employees at this age range.

Almost half of the dietitians (N=107, 47%) indicated that one-fourth to a half of their employees were between 41 to 60 years of age. In contrast, over one-fourth of the respondents (N=59, 26%) reported they had a few employees (≤25%) at the age of 41-60, while 40 dietitians (17%) stated that more than half of their employees were at this age range.

Forty percent of the dietitians (N=90) had about one-tenth of their workers older than 60. Over 30% (N=71) did not have any older employees, while 14% hired more than 10% older workers in the foodservice department.

Employment Status More than half of the dietitians (N=125, 55%) employed between 51-90% full-time employees, and 21% (N=48) indicated that less than half of their workers were working full time. Almost 20% of the respondents (N=44) had predominately full-time workers, while 14% offered no part-time jobs.

Absence and Turnover Rates Almost one half of the dietitians (N=105, 46%) reported that their absence rate was below 5% per month, while 2% reported no absence rate at all. One-fifth of the dietitians (N=47, 21%) reported monthly absence rate from 12% to 80%, while 38 dietitians (17%) reported having a 6-10% monthly absence rate.

Eighty respondents (35%) indicated turnover rates in the foodservice department at 1-10% in 1994. One-fourth of the respondents (N=56) had turnover rates higher than 20%, up to 100% in the past year. Over 1/5 of the dietitians (N=48, 21%) noticed a medium turnover rate, 12-20%, among their employees, while only 8% (N=17) reported zero turnover in 1994. One dietitian noted that all turnover of his/her department occurred in the sanitation area. This observation is a good reminder that the manager should pay attention on effective training for the replacement and other employees to ensure quality dietary service.

More than 10% of the dietitians did not provide information on absence and turnover rates. Perhaps they had no access to all employee records, or, as a few of them indicated, they did not understand how to calculate the rates. It is suggested that a

formula should be provided in the future research, so that the respondents can figure out the absence / turnover rates more easily and accurately.

Travel Distance to Workplace The study also asked the dietitians about the average distance that their employees travel to work. A majority of them (N=133, 58%) indicated that the distance traveled was between 1 to 10 miles, while one-third (N=68) estimated 11 to 20 miles. Only 3% (N=7) indicated that their employees had to travel 25 to 50 miles to the workplace.

Reasons for Absence Used by the Respondents' Employees

Usage Frequency and Ranking

The dietitians were asked to rate the reasons reported by their employees for not coming to work using a four-point scale from 1 (never used) to 4 (often used). The percentages and average scores of the reasons are presented in Table V. According to 96% of the dietitians, personal illness was the reason most commonly used by their employees, followed by family/friend illness (75%) and doctor's/dental appointments (63%). Almost half of the respondents said that their employees were absent due to transportation problem (46%) and attending funerals (45%), while 20% to 30% of the foodservice directors indicated that reasons given were misread time sheet (29%), family activity/reunion (29%), jury duty (24%), and bad weather (23%). In other situations, the

TABLE V

THE PERCENTAGES AND SCORES OF REASONS FOR ABSENCE USED BY THE RESPONDENTS' EMPLOYEES

Absence Reasons	Percentage	Score*
Personal illness (major, minor)	95.6	3.80
Family/friends illness	75.1	3.00
Doctor's/dental appointment	62.7	2.76
Transportation problem	46.4	2.40
Funeral	45.5	2.46
Misread time sheet	29.1	2.10
Family activity/reunion	28.7	1.96
Jury duty	24.1	2.15
Bad weather	22.5	1.94
Repair work at home	17.6	1.81
Parent/teacher conference	15.5	1.77
Emotional problems	13.3	1.66
Physical fatigue	8.7	1.51
Too little time off	6.9	2.50
Job stress	6.4	1.42
Overworked	6.4	1.40
Frustrated with work	5.1	1.34
Hangover	5.0	1.38
Just doesn't want to work	4.7	1.29
Unhappy with coworkers	3.2	1.39
Mental health day	2.8	1.23
Unhappy with supervisor	2.3	1.31

*1 = never used, 2 = seldom used, 3 = sometimes used, and 4 = often used

employees were not able to work because of repair work at home (18%), attending parent/teacher conference (16%), and emotional problems (13%). Less than 10% of the dietitians said that absenteeism was caused by workers' physical fatigue, too little time off, job stress, overworked, work frustration, hangover, just doesn't want to work, unhappiness with supervisor or co-workers, and mental health day.

The study results found poor health to be a primary cause of absenteeism in the foodservice department. Data on absences due to personal or family illness are unreliable because much illness are self-reported and self-diagnosed. Dilts, et al. (1985) and Johns (1987a, 1987b) explained that people tend to justify behavior that may be viewed negatively by others, such as absenteeism, in terms of factors beyond their control. And since sickness is a culturally accepted reason for staying home, one that is largely beyond a person's control, it is reasonable for people to explain their absence in medical terms. Thus, it is even possible that, using health-related reasons, foodservice employees could escape from the unpleasant job-related environment, such as too little time off, overworked, or unhappiness with supervisor or co-workers.

Perhaps, the finding of another study could offer more insight to explain why the job-related reasons have been underreported by foodservice employees. Digh and Dowdy (1994) listed 54 management tasks of four management groups and investigated clinical dietitians' involvement in completing these tasks. The group of personnel management included 11 tasks. Most dietitians on the positions of management and clinical completed employee evaluation, trainings, application screening, and employment interviews. A very limited number of dietitians dealt with collective bargaining, employee exit

interview, and employee grievance. This circumstance which leads to the employee's frustration in maintaining a respectable and happy relationship with the supervisor, in Alderfer's ERG theory, may cause him/her to redirect efforts toward escaping from the situation using other excuses due to the fear of losing the job or making bad image in the supervisor's impression.

Incentives Perceived by the Respondents to Reduce Employee Absenteeism

Currently Using

The incentives that management dietitians were currently using were rank-ordered in Table VI. The top 10 most used incentives were: fair treatment, on-the-job training, preventive health programs, continuing education, eliminate work hazards, job rotation, job redesign, tuition break, flexible work schedule, and workgroups. Management dietitians have found these incentives to effectively control absenteeism in the past, hence they are still providing them to foodservice employees.

To boost employee motivation, a number of foodservice directors provided personal counselor, public transportation, salary raise, free meals, non-monetary compensation for no absence, job sharing, self-management training, and cultural socialization. The respondents also specified other incentives and non-monetary compensations implemented in their facilities (Appendix F and G).

TABLE VI

A COMPARISON (IN %) OF INCENTIVES THAT MANAGEMENT DIETITIANS WERE CURRENTLY USING, FOUND HELPFUL IN THE PAST, AND WOULD LIKE TO IMPLEMENT TO REDUCE EMPLOYEE ABSENTEEISM

Dietitians' Perceptions (N=238) Towards Incentives					
Currently Using	%	Found Helpful in the Past	%	Would like to Implement	%
Fair treatment	99.0	Fair treatment	89.8	Child care center	52.1
On-the-job training	93.7	On-the-job training	82.4	Workgroups	49.6
Preventive health program	91.0	Preventive health programs	76.6	Monetary compensation for no absence	49.3
Continuing education	89.0	Continuing education	74.4	Bonus or gainsharing	49.0
Eliminate work hazards	85.1	Eliminate work hazards	74.4	Self-management training	48.2
Job rotation	78.9	Job rotation	69.1	Non-monetary compensation for no absence	45.3
Job redesign	73.9	Job redesign	66.4	Job redesign	41.0
Tuition break	66.7	Flexible work schedule	53.1	Job sharing	40.3
Flexible work schedule	65.3	Tuition break	50.8	Ombudsman/Personal counselor	33.9
Workgroups	59.7	Ombudsman/Personal counselor	50.8	Eliminate work hazards	33.0
Ombudsman/Personal counselor	53.8	Workgroups	50.4	Elderly care center	31.5
Public transportation	49.7	Public transportation	48.1	Salary raise	28.6
Salary raise	44.6	Salary raise	40.4	Job rotation	26.3
Free meals	42.4	Non-monetary compensation for no absence	38.2	Continuing education	25.7
Non-monetary compensation for no absence	40.9	Job sharing	36.6	Preventive health programs	25.2

* Percentages were based on the number of dietitians answering "YES" under each of the three columns.

TABLE VI (Continued)

Dietitians' Perceptions					
Currently Using	%	Found Helpful in the Past	%	Would like to Implement	%
Job sharing	40.0	Free meals	35.2	Flexible work schedule	24.6
Self-management training	30.5	Cultural socialization	31.7	Cultural socialization	23.8
Cultural socialization	28.6	Monetary compensation for no absence	28.4	Fair treatment	22.6
Monetary compensation for no absence	28.3	Self-management training	26.2	Tuition break	20.7
Bonus/Gainsharing	24.7	Bonus or gainsharing	24.4	Free meals	19.4
Child care center	21.7	Child care center	20.4	Public transportation	16.5
Group betting pool	19.0	Group betting pool	20.2	On-the-job training	16.3
Elderly care center	4.0	Elderly care center	5.0	Group betting pool	11.2

* Percentages were based on the number of dietitians answering "YES" under each of the three columns.

Very few management dietitians were using monetary compensation, bonus or gainsharing, child care service, group betting pool, or elderly care center when the study was conducted. Some dietitians did comment that a few of the listed incentives were impossible in the military structure or the unionized medical center. The incentives of monetary compensation or gainsharing was also controlled by the hospital policies. Group betting pool was prohibited by the state law or hospital rules, however, Vassar, and Gines's (1985) study found that a gaming program offering contingent reward might be implemented on a continuing basis in order to reduce absenteeism.

Job sharing was hardly used which supported Hoffman's (1993) study. Perhaps, on one hand, employees in hospital foodservice are more interested solely in full-time employment or work better alone than in concert with someone else and would not be interested in a job-share situation. On the other hand, the initial costs to the director to establish a jobshare is higher than the costs for a single employee. Finally, several dietitians indicated that child care or elderly care service was provided in the facility to everyone; hence, it might be difficult for them to assess its helpfulness or impact in preventing employee absenteeism in the foodservice area.

Found Helpful in the Past

More than half of the respondents identified that 11 of the incentives had an impact on controlling absenteeism: fair treatment, on-the-job training, preventive health programs, continuing education, eliminate work hazards, job rotation, job redesign,

flexible work schedule, tuition break, ombudsman, and workgroups (Table VI). These findings are consistent with a number of industrial studies discussed in the literature review. The first 7 incentives were ranked in the same order as listed in the "currently using" column.

Fair treatment is regarded as a part of supervisory style that is responsive to worker needs (Munchinsky, 1977), and it is the number-one helpful incentive in reducing absenteeism in the present study. This finding is also supported by a number of earlier studies. Kunze and Branner (1944) and Noland (1945) stated that the foreman was instrumental in reducing absenteeism by exercising fair treatment in dealing with all employees. In other words, absenteeism increases when employees perceive their supervisors as frequently inequitable, and domineering, overbearing, and abusive with the managerial power (Gerstenfeld, 1969; and May, 1984). Receiving sufficient and equitable treatment to meet expectations represents a significant factor in the employee's decision to contribute his/her best toward the primary goals of the organization (Telly, French, and Scott, 1971).

Preventive health programs was also an effective method to improve health-related behaviors of foodservice personnel (Table VI). This result is consistent with the findings of Berry, Danish, Rinke, and Smicklas-Wright (1989). The institution sponsoring the wellness program gains workers who are more positive in their attempts at self-renewal, which can spill over into positive attitudes about the work-site. In addition, the result also supports Haschke's (1983) prediction that employers expect their investments in health promotion programs to reduce absenteeism and turnover, to

improve morale and productivity, and to bring savings in insurance costs. Hospital employee who joined the on-site wellness program reported an increase in motivation, job involvement, and positive attitude towards the workplace (Miller, and Edelstein, 1990).

Seven of the top 10 helpful incentives were job-related improvement: on-the-job training, continuing education, eliminate work hazards, job rotation, job redesign, flexible work schedule, and workgroup building. Gordon (1992) pointed out that education and training have a vital impact on the employee performance and productivity, and the future success of the foodservice industry. Soneff, McGeachy, Davison, McCargar, and Therien (1994) further suggested that, for a significant result, a training workshop should be accompanied with a manual and follow-up, and offered when there is a change of manager or staff and at regular scheduled intervals.

The study result that the improvements of job safety and job content contributed to absenteeism control is supported by other studies in Munchinsky's (1977) review. In the review, absenteeism was found positively related with the degree of task repetitiveness, and negatively associated with the amount of autonomy, responsibility, task identity, and one's own pace of work. Taylor (1981) found that the job design of non-supervisory positions in the foodservice department would lead to job dissatisfaction and organizational withdrawal. Sneed and Herman (1990) suggested that in designing and redesigning jobs, the foodservice director should consider job variety and feedback which are the two job characteristics most related to job satisfaction and organizational commitment.

Management dietitians in this study stated that flexible work schedule and workgroups were helpful on reducing employee absenteeism. As previously noted, theorists are consistent that flexible scheduling may affect the motivation to attend, possibly through increases in autonomy, responsibility, job satisfaction, and organizational commitment (Blau, 1986; Dalton, and Mesch, 1990; and Hackett and Guion, 1985). Welch and Gordon (1980) specifically suggested that the decline in absenteeism was due to the elimination of the reason for much of the absenteeism--employees were now more able to attend to their personal business.

Workgroups have different names, such as task force (Moore, and Kovach, 1989), self-management teams (Baer, 1986; and Cohen, and Ledford, 1994), Quality Circles (QC) (Elizur, 1990), and workplace teams (Textile/Clothing Technology Corp. $[TC]^2$ Manufacturing Team, 1995). These studies suggested that workgroup building might have an indirect impact on absenteeism control. Building a workgroup involves the processes of participative management, group decision-making, and better solutions on improving quality, productivity, and quality of work life. Moore and Kovach (1989) indicated that a task force is highly structured through strong group cohesiveness, thereby enhancing efficiency and minimizing the frustrations of each participant. Effective team development can result in employees taking control of their jobs and sharing responsibilities for a successful outcome without constant direction (Baer, 1986; Elizur, 1990; and $[TC]^2$ Manufacturing Team, 1995), and enhance job satisfaction through job enrichment, job growth. Some studies reported, however, the implementation of self-

management teams does not significantly decrease absence behavior (Cordery, Mueller, and Smith, 1991; and Cohen and Ledford, 1994).

Would Like to Implement

The incentives which have not been widely used in the foodservice facilities but which management dietitians would like to implement on reducing employee absenteeism were child care center, workgroups, monetary and non-monetary compensations, bonus or gainsharing, and self-management training (Table VI). It is possible that, on one hand, the management dietitian has noticed the increasing demand of caring for dependents in the demographic change of their workforce. On the other hand, the hospital administration may be gradually expanding the job autonomy and flexibility of the management dietitian to utilize the financial source in his/her own department. In addition, the foodservice director pays more attention on team-building with self-management training. Self-management permits employee self-regulation or self-control over changing conditions facing the group (Cohen, and Ledford, 1994). It is conceivable that the director should coach the team with a continuing self appraisal on the part of each member, as the health care can no longer remain autocratic and solve the problems of a system that is becoming increasingly competitive (Bennett, 1983; and Moore, 1985).

Statistical Analysis

Testing of H_1:

H_1 - There will be no significant association between the absenteeism rate and the selected demographic variables of foodservice employees in the health care systems: gender, marital status, with preschool children at home, with elderly families at home, ethnic background, and age range.

Absenteeism Rate by Employees Demographic Variables

Chi-square analyses indicated that the employee absenteeism rate was significantly ($p \leq 0.05$, Table VII) associated with the percentages of males, and Blacks, and Whites employed in the foodservice department. Absenteeism rate was associated with an increasing percentage of male workers. When there were less than 50% male employees in the department, the absenteeism rate was as low as 5% or less. As the number of male employees increased to 50% and more, the absenteeism rate rose to 6-10% and over. This finding is not congruent with many reports in the literature focusing on the relationship of gender to absenteeism (e.g. Hackett and Guion, 1985; Porwoll, 1980; Schenet, 1945), but was supported by Hedge's (1973), McClellan (1990), and Wharton and Baron's (1987) studies.

The rate of absenteeism for women was usually higher than for men due to the differences in social roles females and males play. Hedges (1973) postulated that this aggregate rate difference could be explained in part by job factors which are frequently

associated with gender. For example, the lower paying and less skilled jobs in which women are more likely to be employed are associated with higher rates of absenteeism. Hedges contended that as employment conditions and cultural roles of men and women became more similar, their patterns of absenteeism will be similar as well. Hedges (1973) found that when job level was held constant, the gender differences in absenteeism rates narrowed.

TABLE VII

CHI-SQUARE DETERMINATIONS INDICATING ASSOCIATIONS BETWEEN MONTHLY ABSENTEEISM RATE AND EMPLOYEES' GENDER* AND ETHNICITY*

	Employees' Gender	Employees' Ethnicity	
Monthly Absenteeism Rate	Male	Black	White
df	4	6	6
X^2	11.93	15.24	12.80
p	0.018	0.018	0.046

*Only listed the variables at $p \leq 0.05$

McClellan (1990) examined the differences believed to be related to absenteeism behavior in a research setting where men and women held jobs at the same pay levels. The study confirmed that women take a significantly higher number of days off than men but that the actual number of occurrences of women's absenteeism is not significantly greater. When asked to give the reason for their most recent absences, women were more likely to report a major illness, and a sick child than men. Men, however, are more likely

to be absent because of childcare problems, and for sporting or other leisure activities. As a matter of fact, role conflict, number of dependents and job involvement are important factors in explaining levels of absenteeism for both men and women.

Wharton and Baron's (1987) study investigated the effect of occupational gender desegregation and found an impact of increasing diversity on the majority. Men in mixed work settings reported significantly lower job-related satisfaction and self-esteem and more job-related depression than men in either male- or female-dominated work settings. This evidence can explain the higher absenteeism among male employees, as an increasing number of diverse labor force is hired in the foodservice department.

The present study also found that the increasing number of Black employees working in the foodservice department was related to a growing absenteeism rate (Table VII). As the percentage of Black workers increased, there was a significant ($p=0.018$) increase in the absenteeism rate. The reverse is true when there were more Whites in the work place, the absenteeism rate decreased (Table VII). These results are contrary to the research conducted by Zwerling and Silver (1992), who examined the racial differential in job dismissals in a federal government workplace. Black postal employees were less likely to be in high absenteeism categories than White employees, however, absenteeism did not appear to account for Black's greater likelihood of being fired.

Based on the above analysis, the researcher rejected null hypothesis H_1 in part. When considering the impact of other demographic variables, such as, dependents at home, age range and other races of employees, the researcher failed to reject null hypothesis H_1.

Testing of H_2:

H_2 - There will be no significant association between the absenteeism rate and the selected institutional variables of foodservice employees in the health care systems: employment status, and average distance traveled to facility.

Absenteeism Rate by Employees' Institutional Variables

No significant associations were found between monthly absenteeism rate and the part-time or full-time status of the foodserivce employees, and the distance they travel from home to the work place. The researcher, therefore, failed to reject the null hypothesis H_2.

Testing H_3:

H_3 - There will be no significant association between the 1994 turnover rate and the selected demographic variables of foodservice employees in the health care systems.

1994 Turnover Rate by Employees Demographic Variables

The 1994 turnover rate of the hospital foodserivce departments was found significantly associated with employees' marital status, having preschool children at home, and age range (Table VIII). The results showed that, as the percentage of foodservice workers who were single, having youngsters at home, and at the age under 20 or above 60 increased, the turnover rate also increased. The researcher, therefore,

rejected the null hypothesis H_3 in part. There were no significant associations between other variables of employees demographic background with turnover rate, such as gender, with elderly at home, and ethnicity, so the researcher failed to reject the null hypothesis H_3 in part.

Obviously, people who are not married and able to support his/her own life style have higher mobility (and less stability). When the job cannot fulfill his/her needs or career plans, the individual will easily leave the workplace and find a better one in another place if there was no other family responsibility other than self. Perhaps, on one hand, these employees are very young who have not had children yet, or older, whose children have grown up and left home, and they may also be satisfied on their current jobs. On the other hand, individuals who are single are also mobile and can raise the turnover rates.

TABLE VIII

CHI-SQUARE DETERMINATIONS INDICATING ASSOCIATIONS BETWEEN 1994 TURNOVER RATE AND EMPLOYEES' MARITAL STATUS*, HAVING DEPENDENT AT HOME*, AND AGE RANGE*

	Marital Status	Dependent At Home	Age Range	
1994 Turnover	Single	Preschool Children	< 20	>60
df	6	6	9	6
X^2	16.91	19.21	22.47	15.81
p	0.010	0.004	0.007	0.015

*Only listed the variables at $p \leq 0.05$

Employees under 20 may also lack career vision and stability. They only need to work for a period of time to earn for their tuition, or to obtain some work experiences. It is easy for them to leave a job when they think they have learned enough or the job is too hard or not challenging enough. They also choose to leave the job when they are confronted with problems of interpersonal relationships, or varying schedules.

Older workers are the population who will soon retire, and may decide to quit earlier and enjoy his/her life. They may also tend to have more disability on the job, or become severely ill and unable to work. These are all possible reasons to explain that the presence of older workers is related to a higher turnover rate among employees.

Testing of H_4:

H_4 - There will be no significant association between the turnover rate and the selected institutional variables of foodservice employees in the health care systems.

1994 Turnover Rate by Employees' Institutional Variables

One of the employee's institutional variables, the travel distance to facility, was found to be significantly related ($p \leq 0.05$) to the turnover rate in the foodservice department in the past year (Table IX). Therefore, the researcher rejected the null hypothesis H_4 in part. When considering the other employee's institutional variable of employment status, however, the researcher failed to reject H_4.

TABLE IX

CHI-SQUARE DETERMINATIONS INDICATING ASSOCIATIONS BETWEEN THE 1994 TURNOVER RATE AND THE DISTANCE TRAVELED TO THE FACILITY

1994 Turnover Rate	Travel Distance to Facility
df	6
X^2	12.90
p	0.045

Based on the result reported in the Chi-square cross-table (Appendix H), long distance traveled (≥20 miles) was found associated with zero turnover rate. The rate, however, increased as employees traveled less than 20 miles to work. One explanation may be that employees driving more than 20 miles to work are those living in the rural areas or in the suburbs. It is more difficult for them to find and change to another job opportunity because of where they live, or because of availability of public transportation, hence, they may stay on the current jobs. Another explanation was offered by Taylor and Pocock (1972) that employees who commute a long distance are paid more and are more committed to their jobs. They concluded a positive association between commuting and absenteeism for number of absence spells, but not length of absences.

Testing of H_5:

H_5 - There will be no significant association between the selected demographic variables of foodservice employees and the perceived reasons of absence: personal illness, family/friends illness, job stress, funeral, physical fatigue, emotional problems, frustrated with work, too little time off, jury duty, doctor's/dental appointment, mental health day, bad weather, unhappy with supervisor, overworked, parent/teacher conference, misread time sheet, hangover, unhappy with co-workers, transportation problem, family activity/reunion, repair work at home, and just doesn't want to work.

Employees Demographic Variables by Reasons for Absence

Table X showed the associations between employees' demographic and institutional variables and the reasons for not coming to work. The study results indicated that there were significant associations ($p \leq 0.05$) between all reasons for absence and employees' demographic variables, except gender: marital status, having dependents at home, ethnicity, and age range. Thus, the researcher rejected the null hypothesis H_5.

TABLE X

THE ASSOCIATIONS* BETWEEN' THE DEMOGRAPHIC AND INSTITUTIONAL VARIABLES OF FOODSERIVCE EMPLOYEES AND THEIR REASONS FOR ABSENCE

Employees' Variables	Absence Reasons	p
Demographic Variables		
Marital Status:		
Single Employees	Personal illness	0.020
Dependents At Home:		
Employees with preschool children at home	Jury duty	0.001
	Parent/Teacher conference	0.003
	Transportation problem	0.000
	Family activity/reunion	0.003
Employees with elderly at home	Funeral	0.015
	Emotional problems	0.003
	Frustrated with work	0.001
	Too little time off	0.018
	Doctor's/Dental appts.	0.010
	Unhappy with supervisor	0.000
	Overworked	0.001
	Parent/Teacher conference	0.011
	Hangover	0.007
	Unhappy with co-workers	0.001
	Repair work at home	0.016
Ethnicity**:		
Black Employees	Overworked	0.020
	Transportation problem	0.012
	Family activity/reunion	0.001
White Employees	Transportation problem***	0.019
Hispanic Employees	Personal illness	0.045
	Emotional problem	0.029
	Frustrated with work	0.012
	Bad weather	0.000
	Unhappy with supervisor	0.002

* Only listed those at $p \leq 0.05$

** There was no significant association between "Asian" and all the absence reasons.

*** The cross-table of Chi-square analysis showed a negative association between these two variables.

TABLE X (continued)

Employees' Variables	Absence Reasons	p
Ethnicity**:		
Native American Employees	Bad weather	0.014
	Hangover	0.008
Demographic Variables		
Age Range:		
	Hangover	0.001
Younger than 20 years old	Job stress	0.026
	Emotional problem	0.005
Age between 21-40 years old	Emotional problems	0.005
	Funeral	0.013
Older than 60 years old	Emotional problems	0.015
	Family activity/reunion	0.034
	Repair work at home	0.010
Institutional Variable#		
Distance to Workplace	Transportation problem	0.004
	Bad weather	0.008
	Family activity/reunion	0.022

* Only listed those at $p \leq 0.05$

** There was no significant association between "Asian" and all the absence reasons.

*** The cross-table of Chi-square analysis showed a negative association between these two variables.

There was no significant association between "employment status" and all the absence reasons.

The marital status (being single) and Hispanic backgrounds of the employees were found to be significantly associated with personal illness. The cross-table (Appendix H) showed that when the number of single Hispanic employees increased, personal illness as a reason for absence was used more frequently.

Employees with young children at home had a higher possibility to be absent for serving in the jury. These employees sometimes had to, without a doubt, be excused for attending parent/ teacher conferences or arranging family activity/reunion. Moreover, transportation was another problem causing their absences once in a while. As McClellan (1990) mentioned, when the car broke down and the children did not have a ride to the day care center, the parent-employee might need to call in absent and stay at home with their young children. Providing public transportation and an on-site child care center could eliminate this problem.

Having elderly relatives at home was a variable associated with most of the reasons for absence. The absence of this group of employees include: funeral, emotional problems, doctor's or dental appointments, hangover, and repair work at home. Job-related factors, however, such as work frustration, too little time off, overworked, unhappy relationships with supervisor or co-workers, and some emotional problems on the job, also made these employees to take more time off.

Ethnicity was another variable found significantly associated ($p \leq 0.05$) with many reasons for absence. It is noticeable that, as the percentage of Whites increased in the work place, the absenteeism caused by transportation problem significantly decreased. This situation was reverse where there were more Blacks employed in the dietary

department. Black employees also failed to show up because of feeling overworked or attending a family activity.

Hispanic and Native American employees used different reasons for being absent. Personal illness and emotional problems at the personal level caused Hispanic employees to be absent from work once in a while. In addition, when Hispanics felt frustrated with work or have conflicts with the supervisor, they tended to take a break from the scheduled work to relieve their anxieties and frustrations. Moreover, both of these minority groups tended to be absent during bad weather conditions. This may, however, be related to transportation availability and where they actually live.

Finally, the foodservice director perceived that Native American workers had more absenteeism due to hangover. These findings were consistent with Baker and Pocock's (1982) conclusion that Caucasians report the fewest number of absences, while Asians and West Indians report the greatest. Baker and Pocock, however, did not identify the causes for absences among these diversed workforce.

When employees were confronted with emotional problems, they tended not to come to work. It is significant that this situation happened in the facility which had workers at different age level, except those who were between 41 to 60 years. Young employees (under 20 years old) also experienced job stress and alcohol abuse which caused them not to work on time. The absenteeism caused by hangover became more severe when more young workers were hired in the department.

The mechanism by which organizational and job characteristics may affect alcohol misuse and attitudes toward alcohol by employees is through their contribution to

feelings of self-estrangement and powerlessness (Levy, Reichman, and Herrington, 1979; Markowitz, 1987). The younger employee, in the present study, is more likely still a student and working part-time as a dietary aid. Presumably, he/she works with a lack of sense of personal fulfillment, or boredom on the job which does not hold intrinsic value for him/her. Or, he/she perceives a deficiency in the amount of control over the job. These organizational and job aspects facilitate the onset or continuance of an alcohol problem for younger employees.

Testing of H_6:

H_6 - There will be no significant association between the selected institutional variables of foodservice employees and the perceived reasons of absence.

Employees' Institutional Variables By Reasons for Absence

Distance to the workplace was significantly associated ($p \leq 0.05$) with three of the reasons for absence: transportation problem, bad weather, and family activity/reunion (Table X). Thus, the researcher rejected the null hypothesis H_6 in part. There was no significant evidence to support that the status of employment was related to any of the reasons for absence, therefore, the research failed to reject H_6 in part.

Employees who traveled less than 20 miles to work used these three aforementioned reasons for being absent much more than those who traveled 25 or 30 miles. The data analysis indicated that bad weather, such as heavy snow or flooding, usually caused those who lived near the facility to be unable to take local roads to work.

Transportation problem, on one hand, could also be the car's breaking down because of severe weather conditions. On the other hand, it is possible that the employee who has to travel a long way missed the bus and lost work for a few hours or half a day. Fewer employees who traveled 10 or less miles were absent from work because of family activities. Probably, they could easily leave and get back to work after the activity because they lived close to the hospitals.

This finding is supported by Isambert-Jamati's (1962) research which indicated that there might be an interaction between distance to work and gender. Isambert-Jamati (1962) found a positive relationship between distance to work and absenteeism rates for women but not for men. It was theorized that women who drive long distances to work were more likely to be absent because of fatigue associated with a full work day, child care and home responsibilities and the long commute. Furthermore, when car problems do occur, women may be more likely to sacrifice work attendance than their husbands. Finally, women who are single heads of household are likely to have less disposable income than men and may not be able to afford the same quality of transportation as men could.

Testing of H_7:

H_7 - There will be no significant association between the perceived reasons for absence and the selected demographic variables of management dietitians in health care systems: age, highest degree attained, major, and route to ADA full membership/ registration.

Dietitians Demographic Variables by Employees Reasons for Absence

Young and middle-age dietitians had more employees call in sick than did those above 60 years old, while older dietitian's employees were absent for funerals more often. Young dietitians also experienced time lost for production because of employee absence due to bad weather.

Dietitians with management or administration background identified job stress as a reason for absence while those with other backgrounds did not (Table XI). Therefore, the researcher rejected the null hypothesis H_7. No significant associations were found among the dietitian's highest educational degree and route to ADA full membership, and the employee's reasons for absence, hence, the researcher failed to reject H_7 in part.

The researcher was not expecting this result. Studies conducted by Yates, Shaklin, and Gorman (1987) showed that health care administrators rated most of the personnel management competencies as very important to foodservice directors. The researcher expected that dietitians with management or administration background should explore a significant amount of job-related absence reasons more than those without management background. The reason could be that a half of the study sample have been

TABLE XI

THE ASSOCIATIONS* BETWEEN THE DIETITIANS' DEMOGRAPHIC AND INSTITUTIONAL VARIABLES AND EMPLOYEES' REASONS FOR ABSENCE

Dietitians' Variables	Employees Absenteeism Reasons	p
Demographic Variables**		
Age	Personal illness (major, minor)	0.003
	Funeral	0.002
	Bad weather	0.035
Major	Job stress	0.004
Institutional Variables***		
Job title	Funeral	0.000
Number of years in current position	Jury duty	0.011
	Repair work at home	0.025
Size of facility	Emotional problem	0.020
	Misread time sheet	0.000
Number of employees under supervision	Job stress	0.006
	Emotional problem	0.000
	Frustrated with work	0.000
	Jury duty	0.025
	Mental health day	0.008
	Unhappy with co-workers	0.004
	Hangover	0.003
	Misread time sheet	0.002
	Parental/teacher conference	0.000
	Overworked	0.001
	Unhappy with supervisor	0.001
	Family activity/reunion	0.013
	Repair work at home	0.003

*Only listed those at $p<0.05$

**There was no significant association between dietitians' gender, highest degree attained, and route to ADA membership and employees' absenteeism reasons.

***There was no significant association between dietitians' number of years employed in the dietetic profession and location of facility, and employees' absenteeism reasons.

trained primarily in undergraduate generalist programs which emphasized more on the foundations and applications of nutrition, and gave much less concentration on the various facets of management (Fruin, 1983).

Testing of H_8:

H_8 - There will be no significant association between the perceived reasons for absence and the selected institutional variables of management dietitians in health care systems: job title, number of years employed in the dietetic profession, number of years in current position, size of facility, location of facility, and number of employees under supervision.

Dietitians Institutional Variables by Employees Reasons for Absence

The researcher rejected null hypothesis H_8 because the results indicated that dietitians' institutional factors were significantly associated ($p \leq 0.05$) with perceived employees' reasons for absence. The respondents whose positions were in upper-level and lower-level management, and clinical area reported that their employees tended to take the day off for funerals. Those with more than 11 years in their current jobs had employees who, occasionally, would serve the jury or stay at home for repair work. The respondents also reported that, working in a mid-sized facility, they usually have employees who are absent because of emotional problems or misreading the time sheet. The results also showed that whether the respondents supervised a large or small group of

employees had a significant impact on most of the reasons which employees used for absence (Table XI).

Interestingly, all the cross-tables (Appendix H) which showed a statistical significance ($p \leq 0.05$) revealed that, as the size of the work group increased, the dietitians perceived a more varied reason for absence. Personnel employed in large institutions tended to be absent due to most of the job-related and organizational reasons, rather than personal ones. Porter and Steers (1973) offered the following explanation: "For example, increase in size could result in lower group cohesiveness, higher task specialization, and poorer communications. Such results could make it more difficult to fulfill one's expectations, resulting in increased dissatisfaction that would lead to increased tendencies to withdraw. We would expect such an explanation to be more applicable to blue-collar than to white-collar employees since, on the whole, white-collar employees have more autonomy in their jobs and are usually in a better position to discover alternative avenues to intrinsic rewards" (p. 159).

Testing of H_9:

H_9 - There will be no significant association between the selected demographic variables of foodservice employees and the incentives: flexible work schedule, free meals, child care center, elderly care center, non-monetary compensation for no absence, salary raise, monetary compensation for no absence, job sharing, on-the-job training, tuition break, availability of public transportation, self-management training, job rotation,

ombudsman/personal counselor, preventive health programs, bonus/gainsharing, eliminate work hazards, continuing education, job redesign, fair treatment, cultural socialization, group betting pool, and workgroups which the respondents were either: a) currently using, b) found helpful in the past, or c) would like to implement.

Employees' Demographic Variables by Perceived Incentives

The Chi-square analysis indicated a significant association ($p \leq 0.05$) between most of the 23 incentives that were currently being used to motivate employees to work with different demographic variables of employees in the foodservice department. A few of the incentives listed in the study were found helpful in minimizing employee absenteeism, hence, the respondents expressed that they would like to implement others which have not been widely used in their workplaces (Table XII). Thus, the researcher rejected the null hypothesis H_9.

Management dietitians indicated that for single employees, incentives which were more effective included flextime, monetary rewards, preventive health programs and continuing education, and rotating their jobs. They would like to implement public transportation if available. The survey results also proved that personal counselor and tuition break were helpful in increasing single employees' attendance. Perhaps, this group of individuals need more time, financial source, and advice to plan and fulfill their lives and careers.

TABLE XII

THE ASSOCIATIONS* BETWEEN THE DEMOGRAPHIC AND INSTITUTIONAL VARIABLES OF FOODSERVICE EMPLOYEES AND PERCEIVED INCENTIVES

Employees' Variables	Perceived Incentives	p** CU***	FHP***	WLI***
Demographic Variables				
Gender:				
Male	Available public transportation	0.006	0.014	
Marital Status:				
Single	Flexible work schedule	0.001		
	Monetary compensation	0.034		
	Job rotation	0.004		
	Preventive health programs	0.001		
	Continuing education	0.035		
	Tuition break	0.044		
	Ombudsman/personal counselor		0.008	
	Available public transportation			0.009
Dependents At Home:				
With preschool children at home	Bonus/gainsharing	0.007		
	Fair treatment		0.039	
	Tuition break			0.038
With elderly at home	Child daycare center	0.035		
	Non-monetary compensation	0.026		
	Available public transportation	0.011	0.003	
	Cultural socialization	0.020		
	Preventive health programs		0.013	0.004
	Continuing education			0.047

TABLE XII (continued)

Employees' Variables	Perceived Incentives	p** CU***	FHP***	WLI***
Ethnicity:				
Black employees	Non-monetary compensation	0.027		
	Job sharing	0.043		
	Available public transportation	0.000	0.005	0.003
Hispanic employees	Available public transportation		0.044	
	Bonus/gainsharing			0.017
	Continuing education			0.023
	Fair treatment			0.031
White employees	Non-monetary compensation	0.018		
	On-the-job training	0.024		
	Available public transportation	0.000	0.001	
	Self-management training	0.018		
	Bonus/gainsharing	0.031	0.013	0.020
Asian employees	On-the-job training	0.020		0.023
	Available public transportation	0.001	0.002	
	Preventive health programs	0.000		
	Fair treatment	0.013		
	Tuition break			0.008
	Continuing education			0.001
	Eliminate work hazards			0.020
Native American employees	Monetary compensation		0.032	
	Free meals			0.024
Age Range:				
Younger than 20 years old	Free meals	0.048		
	Preventive health programs		0.009	0.022
	Bonus/gainsharing		0.028	

TABLE XII (continued)

Employees' Variables	Perceived Incentives	p** CU***	FHP***	WLI***
Between 21-40 years old	Monetary compensation	0.026		
	Bonus/gainsharing	0.036		
	Non-monetary compensation			0.024
	Cultural socialization			0.031
Between 41-60 years old	Available public transportation	0.025	0.033	
	Eliminate work hazards	0.027		
	Group betting pool		0.009	0.019
	Workgroups		0.021	
	Tuition break			0.034
Older than 60 years old	Preventive health programs	0.019		
	Flexible work schedule			0.000
	Salary raise			0.007
Institutional Variables				
Employment Status:				
Full-time employees	Preventive health programs	0.014	0.035	
	Tuition break			0.006
Distance to workplace:				
	Non-monetary compensation	0.041		
	On-the-job training	0.032		
	Self-management training	0.012		
	Continuing education		0.047	

*Only listed those at $p < 0.05$

**Those without p values were not significantly associated.

***CU=Currently Using; FHP=Found Helpful in the Past; WLI=Would Like to Implement.

The management dietitian administered monetary or non-monetary bonus, childcare services, public transportation, and cultural socialization as incentives for employees with dependents at home. A number of research have shown the effectiveness and importance of public transportation and employer-sponsored childcare services in decreasing the absences among parent-employees (e.g. Leigh, 1991; Pines, Skulkao, Pollak, Peritz, and Steif, 1985; Taylor and Pocock, 1972; Travnichek, 1990). Fair treatment, public transportation, and preventive health programs were found beneficial to these employees' regular attendance in the present study. It may be also useful to implement tuition break and continuing education for these employees, not only because they can receive promotion with advanced education, for there is also the need for retention of skilled staff in hospitals (Adolf, 1988; Auerbach, 1988).

As the workforce diversity increased, the present study found that foodservice managers applied not only bonus/gainsharing, public transportation, non-monetary compensation, and preventive health programs, but also more techniques to improve job characteristics and employees ability, such as job sharing, on-the-job training, and self-management training. Moreover, public transportation, bonus, and monetary rewards were found very important to enhance the job satisfaction for these workers who left their previous residence and start making a living in a different culture. Finally, besides public transportation and bonus/gainsharing, the management dietitians also believed that free meals and fair treatment, and the elimination of work hazards for the diverse employees were effective incentives to use. The management dietitian were also more likely to

provide flexible time and financial aid to the workers who wish to obtain further education for better performance on the job.

Management dietitians emphasized rewarding incentives (e.g. free meals, bonus, and monetary compensation) for the workers under 40 years. The dietitians found that preventive health programs and bonus/gainsharing were also helpful to encourage younger people's attendance. Other dietitians would like to provide cultural socialization and non-monetary compensation for no absence for personnel between ages 21-40.

Public transportation and preventive health programs, as well as eliminating work hazards, were chosen by the respondents as incentives for foodservice workers 40 years and older. Different from the younger group, middle-aged and older workers maintained regular attendance when the management provided group betting pool or established workgroups such as self-directed teams. Moreover, the results indicated that dietitians would most likely use other betting games, tuition break, flexible schedules, or salary raise to improve the job satisfaction for these employees.

Testing of H_{10}:

H_{10} - There will be no significant association between the selected institutional variables of foodservice employees and the perceived incentives which the respondents were either: a) currently using, b) found helpful in the past, or c) would like to implement.

Employees' Institutional Variables by Perceived Incentives

The survey results showed that two of the employees' institutional variables: employment status and distance to work were significantly associated ($p \leq 0.05$) with some of the incentives which would be used to reduce absenteeism (Table XII). Again, the researcher rejected the null hypothesis H_{10}.

Management dietitians used the preventive health program and found it helpful to improve the attendance when there were more full-time employees in the foodservice department. The dietitians said they would plan to provide their part-time employees with tuition break to encourage stable attendance. This finding matched the profile characteristics of foodservice employees indicated by Rice-Ratcliff (1990). Part-time workers tended to be younger, and have less work experience and less tenure on the job, and they may be students in school. Once hired, tuition break becomes the very effective incentive to support the academic study of young part-timers and enhance their morale and productivity.

The distance that foodservice employees have to travel to work was divided into three categories: short (under 10 miles), middle (11 to 20 miles), and long (more than 20 miles) distances. The research findings showed that dietitians provided on-the-job training to those traveling for a short distance; self-management training to those traveling long distances; and non-monetary compensation for no absence to both groups. Continuing education was another effective incentive for the employees who traveled the least number of miles to work.

Comparing with the profile characteristics of foodservice employees as reported by Rice-Ratcliff (1990), employees in the present study who live close to the hospital (8 miles) are more likely to be part time while those living about 25 miles from the facility are full time. Part-time employees should have adequate training and more education to develop the skills needed in the position so that they will grow within the company through participation, counseling, and rewards. Full-time employees tend to be older (≥20 years), have been out of school for a long time with at least a high school education, and have more job experiences. Their absenteeism usually is caused by reasons rather than illness or hospitalization. Self-management training can teach them to improve perceived self-efficacy and outcome expectancies, because they may judge themselves to be unable to cope with relevant environmental demands.

Testing of H_{11}:

H_{11} - There will be no significant association between the selected demographic variables of the management dietitians and the incentives which the respondents were either: a) currently using, b) found helpful in the past, or c) would like to implement in the future.

Dietitians' Demographic Variables by Perceived Incentives

Except for gender, the results found that the respondents' demographic variables were significantly associated ($p \leq 0.05$) with some of the perceived incentives (Table XIII),therefore, the researcher rejected the null hypothesis H_{11}. The management dietitians, under 60 years of age provided preventive health programs in their facilities. This finding is consistent with the opinion of the former ADA president, Marilyn Haschke (1983). Regardless of their age, employers who pay a major amount of the total cost of health care will increase their demands and use their power to help control health care costs. Support of employers for employee health promotions will continue through the increasing numbers of wellness programs in the workplace.

The dietitians with bachelor's degrees said that they used free meals to improve their employees' job satisfaction and would like to implement non-monetary compensation for no absence in the future. Those with advanced degrees indicated that non-monetary compensation for no absence and workgroup building were effective incentives.

The management dietitians with the background of the institutional administration or business management noticed that bonus and gainsharing were helpful to employee attendance. Some of those who majored in food, nutrition, and/or dietetics said that they believe that the availability of public transportation would reduce employee absenteeism. Moreover, the dietitians who joined the ADA as full members through AP4 or Internship

TABLE XIII

THE ASSOCIATIONS* BETWEEN THE DEMOGRAPHIC AND INSTITUTIONAL VARIABLES OF THE MANAGEMENT DIETITIANS AND THE PERCEIVED INCENTIVES

Dietitians' Variables	Perceived Incentives	p** CU***	FHP***	WLI***
Demographic Variables				
Age range	Preventive health programs	0.007		
Highest degree attained	Free meals	0.044		
	Non-monetary compensation	0.022		0.048
	Workgroups	0.005		
Major	Bonus/gainsharing		0.022	
	Public transportation			0.033
Route to ADA membership or registration	Salary raise		0.023	0.006
Institutional Variables				
Job title	Ombudsman/personal counselor	0.049		
	Preventive health programs	0.000		
	Continuing education	0.011		
	Job redesign	0.038		
	Group betting pool	0.024		
	Childcare center			0.012
Number of years employed in the dietetic profession	Group betting pool	0.020		
	Job rotation		0.050	
	Eliminate work hazards		0.024	
	Fair treatment		0.008	
	Childcare center			0.006
	Monetary compensation			0.003

TABLE XIII (continued)

Dietitians' Variables	Perceived Incentives	p** CU***	FHP***	WLI***
Number of years in current position	Job redesign	0.049		
	Self-management team		0.016	
	Bonus/gainsharing		0.031	
Size of facility	Flexible work schedule	0.002		0.033
	Free meals	0.000		
	Job sharing	0.025		
	Continuing education	0.042		
	Fair treatment			0.028
	Cultural socialization			0.046
Location of facility	Public transportation	0.000	0.001	
	Job rotation	0.015		
Number of employees the dietitian supervised				
	Flexible work schedule	0.020		0.009
	Free meals	0.015		
	Childcare center	0.023		
	Preventive health programs			0.012
	Fair treatment			0.040

*Only listed those at $p < 0.05$

**Those without p values were not significantly associated.

***CU=Currently Using; FHP=Found Helpful in the Past; WLI=Would Like to Implement.

perceived salary raise as helpful to encourage attendance, while those through other routes (e.g. CUP, or Traineeship) would like to implement this incentive in their workplaces in the future.

Testing of H_{12}:

H_{12} - There will be no significant association between the selected institutional variables of the management dietitians and the perceived incentives which the respondents were either: a) currently using, b) found helpful in the past, or c) would like to implement in the future.

Dietitians' Institutional Variables by Perceived Incentives

The researcher rejected the null hypothesis H_{12} because all the dietitian's institutional variables were found to be significantly associated ($p \leq 0.05$) with a number of the incentives (Table XIII). Dietitians' job titles could be identified in four groups: upper-level management (e.g. chief, director, or manager of the department or of the multiunit); lower-level management (e.g. assistant or associate director, operational manager, or administrative dietitian); in clinical area; and others (e.g. in consultation, public health or education). Foodservice directors in the upper level and in the clinical area emphasized personal counselor and health programs for employees' quality of work life. They also provided opportunities for continuing education and job redesign to their employees. They were interested in doing childcare center in their facilities, while the managers of clinical nutrition services were not. As to the managers in the lower levels,

group betting pool was the incentive that they would like to use to make the job more attractive for employees.

Dietitians who entered this profession more than 25 years ago would improve employee attendance with lottery or betting on ball games. They, along with dietitians whose experiences were less than 15 years, not only perceived job rotation, fewer work hazards, and fair treatment as important to employees job satisfaction, but also hoped to provide childcare service in the near future. Those with professional experience from 26 to 30 years indicated a likelihood to give monetary compensation for no absence.

Foodservice directors working more than 11 years in their current positions redesigned employees' jobs to improve job satisfaction. Building self-management teams among employees or sharing bonus with them were helpful to minimize absenteeism when the dietitian newly started a managerial position.

The results showed that small-sized health care institutions (<300 beds) were more efficient for foodservice directors to accommodate employees with flexible schedule, job sharing, and continuing education to minimize absenteeism, while flexible schedule could be effective in mid-sized facilities (between 300 to 800). In contrast, employees in the organizations of either small or large sizes received free meals as an incentive. For the dietitians working in medium to large sized facilities, continuing education and fair treatment were the two likely incentives they would like to implement in the future.

Management dietitians whose workplaces were in rural areas said that they constantly rotated the employees' jobs to make their work life more challenging and

meaningful. For the foodservice employees working in urban areas, the availability of public transportation did help employees maintain good attendance.

The respondents who supervised less than 60 employees practiced flextime and free meals, while those with more than 90 employees provided childcare service to cope with the absenteeism problem. Again, flexible schedule was found helpful among the workgroups up to 90 employees, and the directors of these groups further indicated that they plan to implement preventive health programs and fair treatment to encourage higher attendance.

Testing of H_{13}:

H_{13} - There will be no significant association between the monthly absenteeism rate and 1994 turnover rate of foodservice employees in health care systems.

Turnover by Absenteeism

The Chi-square analysis indicated that there was no significant association ($p=0.22$) between the absenteeism rate and turnover rate of the foodservice personnel in health care systems. Thus, the researcher failed to reject the null hypothesis H_{13}. This result was consistent with Porter and Steers's review (1973) that, of the 22 studies testing the relationships between turnover and absenteeism, only 6 were found to be significant. More specifically, absenteeism differs from turnover in three ways: 1) the negative consequences associated with absenteeism for the employee are usually less than those associated with turnover; 2) absenteeism is more likely to be a spontaneous and relatively easy decision, whereas turnover is typically more carefully considered over time; and 3)

absenteeism can be a substitute for turnover, especially if the labor market situation is unfavorable for the individual (Porter and Steer, 1973). It is important to compare the two types of withdrawal as they simultaneously relate to specific factors in the work environment.

Testing of H_{14}:

H_{14} - There will be no significant association between the monthly absenteeism rate and the reasons for absence.

Monthly Absenteeism Rate By Reasons for Absence

The study results found that monthly absence rate of foodservice personnel was significantly associated ($p \leq 0.05$) with attending funerals (Table XIV); thus, the researcher rejected the null hypothesis H_{14} based on this one reason. The researcher, however, failed to reject H_{14} for the rest of the 21 non-associations. When the monthly absenteeism rate went higher than 11%, the dietitians noticed that employees were more often excused from work for attending funerals. Those with the absenteeism rate under 10% reported that their employees only asked to attend funerals occasionally.

TABLE XIV

THE ASSOCIATIONS* BETWEEN THE MONTHLY ABSENTEEISM AND THE 1994 TURNOVER RATE OF FOODSERVICE EMPLOYEES AND THEIR REASONS FOR ABSENCE

	Reasons for Absence	p
Monthly Absenteeism Rate	Funeral	0.005
1994 Turnover Rate	Jury duty	0.000
	Misread time sheet	0.010
	Transportation problem	0.001
	Repair work at home	0.017

Testing of H_{15}:

H_{15} - There will be no significant association between the 1994 turnover rate and the reasons for absence.

1994 Turnover Rate By Reasons for Absence

The chi-square analysis revealed that the 1994 turnover rate of foodservice personnel was significantly associated ($p \leq 0.05$) with four of the absence reasons: jury duty, misread time sheet, transpiration problem, and repair work at home (Table XIV). Based only on these four associations, the researcher rejected the null hypothesis H_{15} partially. When 18 other associations are considered, however, the researcher failed to reject the null thesis H_{15}.

The chi-square cross table (Appendix H) showed that these four reasons were rarely used by employees for being absent as the turnover rate increased. In other words, these four reasons did not have a significantly impact on the turnover rate.

Testing of H_{16}:

H_{16} - There will be no significant association between the absenteeism rate and the incentives which the respondents were either: a) currently using, b) found helpful in the past, or c) would like to implement in the future.

Absenteeism Rate By Perceived Incentives

Six incentives that were currently being used by the respondents, namely flexible schedule, free meal, non-monetary compensation, monetary compensation, availability of public transportation, and ombudsman/ personal counselor, were significantly associated ($p \leq 0.05$) with the absenteeism rate (Table XV). Only the incentive of non-monetary compensation which was found helpful in the past and the elderly care center which dietitians would like to implement were significantly related ($p \leq 0.05$) with the absenteeism rate. Therefore, the null hypothesis H_{16} was rejected partially. When considering the other non-associations were considered, the researcher failed to reject the null hypothesis H_{16}.

TABLE XV

THE ASSOCIATIONS* BETWEEN' THE MONTHLY ABSENTEEISM RATE AND 1994 TURNOVER RATE OF FOODSERIVCE EMPLOYEES AND THE INCENTIVES PERCEIVED BY MANAGEMENT DIETITIANS

	Perceived Incentives	p**		
		CU***	FHP***	WLI***
Monthly Absenteeism Rate	Flexible work schedule	0.029		
	Free meal	0.023		
	Non-monetary compensation	0.000	0.049	
	Monetary compensation	0.005		
	Availability of public transportation	0.009		
	Ombudsman/personal counselor	0.040		
	Elderly care center			0.016
1994 Turnover Rate	Free meal			0.002
	Salary raise			0.039
	Job rotation			0.005
	Preventive health programs			0.021

*Only listed those at $p < 0.05$

**Those without p values were not significantly associated.

***CU=Currently Using; FHP=Found Helpful in the Past; WLI=Would Like to Implement.

The respondents who currently provided flextime and non-monetary compensation in their facilities reported a low absenteeism rate (≤5%). They also found that non-monetary compensation did help to control absence in the part. For the foodservice personnel, flexible work schedule is of benefit not only to those who have dependents at home, but also for those who are part-time workers or holding two jobs. Most of the non-monetary compensations specified by the respondents (Appendix H) are bonus time off or extended vacation. These incentives are usually employed, along with monetary rewarding, in the organizational attendance policies or the absentee-control program. The effectiveness of these incentives on controlling absenteeism has been reported by Green (1989) and Markowich (1989). In addition, personal recognition has a powerful force for healing stressed attitudes and developing new management-employee relationships. A well-planned recognition program is communication-based, performance-focused, and empowered with symbolism. Motivation is more likely to occur when a reward is personalized and announced to the public. Today's workers will invest in their jobs at about the same rate they are recognized and appreciated by their employers (Stephenson, 1995; Wixom, 1995).

While implementing free meals, monetary compensation, public transportation, and personal consultation in the foodservice institutions, the management dietitian still experienced an absenteeism rate of 6% and more per month. Regardless of the absenteeism level occurring in their institutions, all the respondents expressed an interest in implementing elderly care service to ease the work-family pressure for their

employees. This result reflects the fact that the management dietitian wants to institute eldercare as a proactive response to the undeniable demographic trends.

Testing of H_{17}:

H_{17} - There will be no significant association between the 1994 turnover rate and the incentives which the respondents were either: a) currently using, b) found helpful in the past, or c) would like to implement in the future.

Turnover Rate By Perceived Incentives

The researcher failed to reject H_{17} because no significant evidence ($p \leq 0.05$) showed that the incentives being used currently or effective in the past had an impact on the turnover rate. Some of the incentives, however, may indeed affect employee performance according to the respondents. Dietitians managing turnover rates over 20% would like to increase employee salary to boost their employee morale. Those who reported a relatively low turnover rate ($\leq 10\%$) wanted to offer free meal, rotate jobs, and initiate preventive health activities to improve their employees' job satisfaction.

CHAPTER V

SUMMARY, RECOMMENDATIONS, AND IMPLICATIONS

Summary

The purpose of this study was to assess the prevailing reasons for absenteeism given by foodservice employees, and the incentive factors perceived by management dietitians to minimize the absenteeism rate in the health care systems. The following objectives were established to determine: the associations between the characteristics of foodservice employees and perceived reasons for absence, perceived incentives, absenteeism rate, and turnover rate; the associations between the characteristics of management dietitians and perceived reasons for employees' absence, perceived incentives, absenteeism rate, and turnover rate; and the relationship between absenteeism and turnover of the foodservice personnel. As a result of these objectives, 17 hypotheses were postulated. Survey questionnaires were sent to 987 randomly selected dietitian members in the practice group of Management in Health Care Systems of the American Dietetic Association (ADA).

The questionnaire had 4 sections: general information of the dietitian; background information of the foodservice personnel under the dietitian's supervision; reasons for

absence used by the employees; and the relevant incentives that the dietitians were using, found helpful in the past, and would like to implement in the future. Data obtained from 228 questionnaires (23%) were analyzed using frequency, percentage, and Chi-square.

Characteristics of Respondents

The majority of the respondents were female, between the ages of 41 and 60, completed at least a B.S. in the field of food, nutrition, or dietetics, and obtained ADA full membership and registration status through Internship/AP4. Most of the dietitians' job titles was that of "Director" of the department or the unit. More than 1/2 of the respondents have been in the dietetic profession for 16-25 years, and on their current positions no more than 10 years. They supervised 30 employees or less in small facilities in an urban area.

Characteristics of Foodservice Employees

The employees under the dietitians' supervision were mostly married, female, without dependents at home. Almost all the dietitians reported that their employees were ethnically diversed between the ages of 41 and 60, and employed full time. According to over 1/3 of the dietitians, the monthly absenteeism rate in the foodservice department was below 5%, and the 1994 turnover rate was between 1-10%. More than half of the

respondents stated that the average distance that their employees traveled to the workplace was under 10 miles.

Reasons for Absence Given by Foodservice Personnel

Health-related problems were found to be the major reasons for being absent according to foodservice workers in health care facilities. A number of dietitians reported that illness and family-related business were the most likely reasons that caused their employees not to attend work. Job-related reasons were used less often than illness or personal reasons.

Perceived Incentives to Reduce Employee Absenteeism

Management dietitians are currently using most of the incentives in their workplaces which they found helpful in the past in minimizing absenteeism. For example, fair treatment, training and education with tuition break, health promotions, flextime, job content improvements, and team building were motivational tools which have been used effectively in the past, were also the ones currently minimizing absence in their workplaces. Furthermore, the respondents indicated an interest in implementing other incentives which they believe might be beneficial in their work environments. These incentives were child or elderly care services, monetary and non-monetary

compensations, job sharing, as well as workgroup building, job redesign, and having an ombudsman in the workplace for personal consultation.

Absenteeism in hospital foodservices was found to be positively associated with number of Black, male employees. Turnover was significantly associated with the employees who were either younger (<20) or older (>60), single, with children at home, and traveling less than 10 miles to the workplace.

Hypotheses Testing

The associations between the characteristics of the dietitian's employees and employee absenteeism and turnover were shown in Tables VII, VIII, and IX. The level of significance was $p \leq 0.05$. The researcher fully rejected H_8, H_9, H_{10}, H_{11}, H_{12}, and H_{14}; partially rejected or failed to reject H_1, H_3, H_4, H_5, H_6, H_7, H_{15}, H_{16}, and H_{17}; and fully failed to reject H_2, and H_{13} (CHAPTER IV).

Recommendations

The following recommendations are offered for future studies:

1. To specify exactly which measure(s) and type(s) of absenteeism are being studied to properly interpret the results. The measures of absenteeism include the frequency or the number of incidents of absence, and the duration or length of absence. Providing a formula in the research instrument would be helpful to the respondents. Or,

the question can be simply modified as " On the average, how many days (or hours, times) did the employees miss during the past 12 months?"

2. To investigate absenteeism and impact of incentives on absenteeism by directly surveying foodservice employees. Special attention should be given to the "meaning" and "role" of absenteeism from the absentee's perspective (Hackett, 1989; Johns and Nicholson, 1982). It will be interesting to compare the dietitians' perspectives regarding reasons for absence and incentives to minimize absenteeism with the perspectives of foodservice employees. Similarities and/or differences may enrich the understanding of why people fail to work as scheduled.

3. To provide incentives to maximize the response rate, as well as sending a follow-up letter or telephone call to non-respondents.

4. Some of the respondents recommended that future research should examine the potential moderating effects of union and/or government presence on employee absenteeism and use of incentives.

Implications

The literature abounds with results of studies stating that organizations have a problem with excessive absenteeism which costs them a tremendous amount of money. Absenteeism represents a very difficult disruptive behavior to control, and is often considered a critical problem that needs addressing by management.

The present study investigated perceived reasons for employee absenteeism and incentives from the management's view point in the foodservice area. The following implications are based on this study's findings, and directed toward the foodservice director and the human resource manager in the health care system.

1. Medical-related problems appear to be the major reason that foodservice employees fail to attend work. A number of absenteeism studies have indicated that "illness" could be a "vogue" used by employees to report or interpret their absence. The management dietitian should recognize the difference between "reasons for absence" and "causes of absence" (Kelly, 1990). He/she should strengthen the incentives or any absenteeism control program implemented in the facility to effectively locate the causes of worker discontent and minify them or eliminate them entirely. In other words, when the management dietitian deals with the real reasons why workers stay home, it becomes unnecessary for them to look for or discern which illness or why illness was used (Levine, 1994).

2. Job-related reasons were rarely used by foodservice employees, however, job stress was found to be the top reason used to explain absence behaviors in this category. The management dietitian needs to know that the nationwide organizations and their internal environments are growing increasingly complex, such as mergers, reengineering, and transformation. The fear and uncertainty that this level of activity generated among blue-collar employees, as well as the resulting job loss, may trigger the need for specialized stress management intervention.

3. Foodservice directors should not ignore the fact that "unhappy with supervisor" was rarely used as a reason for absence. Workers may be fearful of losing their jobs and are, therefore, less likely to use this as a reason. On the contrary, special attention must be given to this reason based on Levine's study (1994). To find out the real causes for worker discontent, Gene Levine Associates distributed questionnaires to 3,000 workers in 18 factories and asked five questions relative to their employment. The five questions asked the employee's attitude toward "pay", "overworked", "image of the company", "physical working conditions", and "the supervisor". The answers to the five questions were then analyzed based on /or compared with absentee records. The finding clearly stated that 55% of the surveyed employees rated their supervisors as poor, followed by 30% poor working conditions, 9% overworked, 6% pay, and 5% company image. The employees who rated their supervisors as very poor stayed home every chance they could.

The best way for the management dietitian to identify whether poor supervision causes the absence is to talk over the reasons for absence with the absentee as soon as he/she returns (Levine, 1994). Delay in discussing reasons for the absence may give the impression that the dietitian not only accepts the absenteeism, but only condones it. The dietitian may emphasize with the employee relative to his/her difficulty which prevented him/her to work, yet impress upon the worker, the problems the absence caused, and maintain the communication with putting their needs and sense of responsibility on the line.

4. Availability of public transportation was one of the most popular incentives used by the employers in institutions that employed more male, diversed, middle to older employees with elderly at home. This incentive was found helpful in the past to motivate the employees' attendance, and many respondents would like to implement this incentive for single, Black workers who have young children at home. Additionally, preventive health programs were perceived as a prevalent and helpful incentive for single, Asian, older, and full-time workers.

5. The management dietitian, as well as the health care administrator, should address the importance of child care and elderly care services for the increasing number of employees who are women, working parents, and single-parent families. Many research have shown that employer-sponsored work-family balances can release a great amount of pressure, stress, competition for time for this type of employees, and increase organizational effectiveness. The management of health care systems has to consider the possibilities of such a positive plan and not automatically reject this type of control measure because of the initial dollar output for the awards or other seemingly easier methods of controlling this type of absenteeism.

6. The management dietitians and human resource managers of health care systems should pay a great attention to the population change and labor force dynamics. As moving to the year 2020, the average American will be 41 years old. The American corporation, the American government, most of the dominant institutions are framed around the world of the 1950's and 1960's, instead of a geriatric, aging of middle-aged society (Coates, 1987). This group of workers will increase the need for innovative

compensation practices, new methods of career development and better ways to maintain employee motivation. Other important changes in the labor force will include dealing with cultural differences, increased employment of older workers, the growing influence *9/-of handicapped employees and the continued challenge of highly educated individuals who are over-qualified for the available job openings (Gutteridge, 1988).

7. The management dietitians and human resource managers of health care systems should also recognize the change of employees' work ethic. Since late 1980's, many experts have characterized the work force as being rather self-oriented, concerned less with job security and monetary benefits. They are motivated more by psychic rewards such as challenging work, personal growth, autonomy, respect, recognition and opportunities for self-management. Additionally, the organizational management would have to deal with individuals who are jobless or underemployed, while the supposed disinterest in economic benefits and job security is clearly overstated. The fact remains that there is an emerging American work ethic which holds that employment should be fulfilling and enjoyable, an integrated part of a whole life plan (Gutteridge, 1988).

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APPENDIXES

APPENDIX A

CORRESPONDENCES:
COVER LETTER AND FOLLOW-UP LETTER

Oklahoma State University

COLLEGE OF HUMAN ENVIRONMENTAL SCIENCES

Department of Nutritional Sciences
Stillwater, Oklahoma 74078-0337
425 Human Environmental Sciences
405-744-5040

May 25, 1995

Dear Colleague:

As a management dietitian, you are well aware that employee attendance is closely associated with organizational effectiveness, such as proficiency in food preparation and services, maintenance of food safety conditions, cooperative work relationships, and other quality dietetic services. In addition, the control of employee absenteeism is a two-way responsibility and prevention is the best cure. While employees are required to take actions as necessary to meet reasonable attendance, management's responsibility is to address the underlying causes to prevent absenteeism and to create conditions conducive to desired attendance. Thus, the enclosed survey is to assess the relevant reasons that foodservice employees would use for not coming to work and the incentive factors that you perceive as helpful to minimize the absenteeism rate. Your assistance in completing the survey is highly appreciated.

We want to assure you that the results will remain strictly confidential. We do not request your name or any other identifying information on the survey and the only interest we have in the data is in aggregate form. The survey will take you approximately 20-30 minutes to complete.

Please finish the survey by **June 15, 1995,** and use the enclosed self-addressed stamped envelop to return. The survey results will be reported in MARKET-LINK and a manuscript will be sent to the Journal of American Dietetic Association. Hopefully, the results will identify areas in which decision-makers in health care systems can positively change, and your participation will be the key to improve employee attendance. In our effort to create an environment that is conducive to provide quality nutrition care, this study is critical.

Thank you for your time and interest in the absenteeism survey. If you have any question, please call us at 1-(405)-744-8294.

Yuan-an Liu

Yuan-an Liu, M.S.
Graduate Research Associate

Lea L Ebro

Lea L. Ebro, PhD, RD/LD
Professor and Dietetic Internship Director
(Member, Management in Health Care Systems)

Oklahoma State University

COLLEGE OF HUMAN ENVIRONMENTAL SCIENCES

Department of Nutritional Sciences
Stillwater, Oklahoma 74078-0337
425 Human Environmental Sciences
405-744-5040

August 15, 1995

Dear Colleague:

In June, 1995 we mailed out an Absenteeism Questionnaire to 1,000 members of PG-41, and we received a response rate of 22%. If you have already completed and returned yours, please accept out thanks and appreciation. If you have not completed one, please fill out the survey as soon as possible, and use the enclosed self-addressed and postage-paid envelop to return before **August 30, 1995**. It takes about 20 minutes to complete. If your position is other than that of Director of the foodservice unit of your institution, please give this questionnaire to the person in your institution in that position. We will report the survey results, which will not identify any person or institution in any way, in MARKET-LINK.

Your participation will be the key to improve employee attendance. In our effort to create an environment that is conducive to provide quality nutrition care, this study is critical.

Your time and interest in the absenteeism survey is highly appreciated. If you have any question, please call us at 1-(405)-744-8294.

Yuan-an Liu

Yuan-an Liu, M.S.
Graduate Research Associate

Lea L. Ebro

Lea L. Ebro, PhD, RD/LD
Professor and Dietetic Internship Director
(Member, Management in Health Care Systems)

APPENDIX B

RESEARCH INSTRUMENT

Incentives Perceived by Administrative Dietitians to Reduce Absenteeism Rate of Hospital Foodservice Personnel

Survey Questionnaire

***Do you supervise employees in the foodservice unit of your institution?**

_____ **Yes. (Please proceed to complete the questionnaire)**

_____ **No. (Please give this survey to the RD who supervises foodservice employees, or return using the enclosed self-addressed envelope)**

I. General Background of Yourself and Your Workplace

Directions: Please check or fill in

1. Gender: ___Male ___Female
2. Age Range: ___21-40 ___41-60 ___61 and older
3. Highest degree attained ___Bachelor ___Master ___Doctorate
   ___Other: _____
4. Route to ADA membership: ___Intership/AP4 ___CUP Program ___Traineeship
   ___Three-year's planned work experience ___Master's with 6-month work experience
   ___Other, specify:_____
5. Your job title:_____
6. Number of years employed in the dietetic profession: _____years
7. Number of years in current position: _____years
8. Size of facility (beds, participants, clients): ___Less than 100 ___100-299 ___300-499
   ___500-799 ___800-999 ___1000 and more
9. Location of your facility: ___Rural ___Urban

II. Demographic Information of The Foodservice Personnel Under Your Supervision

Directions: For the following items, fill in the percentage of your employees who fit each category. Please be as accurate as possible.

1. Number of employees you supervise: _____
2. Gender: Male_____% Female_____%
3. Marital Status: Single_____% Married_____% Divorced_____%
   Separated_____% Widowed_____%
4. Employees with preschool children at home _____%
   Employees with elderly families at home _____%
5. Ethnic Background: Black_____% Asian_____% Hispanic_____%
   White_____%Native American_____%
   Other (specify:) _____ _____%
6. Age Range: Under 20_____% 21-40_____% 41-60_____% 61 & older_____%

7. Part-time employees _____%; Full-time employees _____%

8. Average monthly absence rate of your employees:_____%

9. Turnover rate of your employees during the year of 1994: _____%

10. The distance employees travel to facility: average _____ miles.

III. Reasons Used By Your Employees For Not Coming To Work.

Direction: Please rate **each reason** using the scale from 1 (never used) to 4 (often used) to describe the particular situation in your department.

1.....2.....3.....4
Never used **Seldom used** **Sometimes used** **Often used**

___ 1. personal illness (major, minor)
___ 2. family/friends illness
___ 3. job stress
___ 4. funeral
___ 5. physical fatigue
___ 6. emotional problems
___ 7. frustrated with work
___ 8. too little time off
___ 9. jury duty
___ 10. doctor's/dental appoinment
___ 11. bad weather
___ 12. unhappy with supervisor
___ 13. overworked
___ 14. parent/teacher conference
___ 15. misread time sheet
___ 16. hangover
___ 17. unhappy with coworkers
___ 18. transportation problem
___ 19. family activity/reunion
___ 20. repair work at home

Please specify any other reason for being absent not listed above:

___ 21. _____
___ 22. _____
___ 23. _____

IV. Incentives To Minimize Employees Absenteeism

Direction: For **each incentive**, please fill in the appropriate response **1=Yes, 2=No, or 3=Not Applicable** under each of the 3 column (Currently using, Found helpful in the past, and Would like to implement).

	Currently using	Found helpful in the past	Would like to implement
1. flexible work schedule	_____	_____	_____
2. free meals	_____	_____	_____
3. child day care center	_____	_____	_____
4. elderly day care center	_____	_____	_____

	Currently using	Found helpful in the past	Would like to implement
5. non-monetary compensation for no absence, specify:_____	_____	_____	_____
6. salary raise	_____	_____	_____
7. monetary compensation for no absence	_____	_____	_____
8. job sharing	_____	_____	_____
9. on-the-job training	_____	_____	_____
10. tuition break	_____	_____	_____
11. availability of public transportantion	_____	_____	_____
12. self-management training	_____	_____	_____
13. job rotation	_____	_____	_____
14. ombudsman / personal counselor	_____	_____	_____
15. preventive health programs (e.g. flu shots, medical check-ups, wellness plan....)	_____	_____	_____
16. bonus, or gainsharing	_____	_____	_____
17. eliminate work hazards (e.g. air quality, lighting, work station redesign, safety training)	_____	_____	_____
18. continuing education	_____	_____	_____
19. job redesign	_____	_____	_____
20. fair treatment	_____	_____	_____
21. cultural socialization (e.g. Mexican Night)	_____	_____	_____
22. group betting pool (e.g. lottery, ball games)	_____	_____	_____
23. workgroups (e.g. Quality Circle, self-management team)_____	_____	_____	_____
Please specify any other incentive not listed above:			
24 _____	_____	_____	_____
25 _____	_____	_____	_____
26. _____	_____	_____	_____

Please return before ***June 15, 1995***.
Thank you very much for your time and assistance!

APPENDIX C

MAJORS OF THE HIGHEST DEGREES THAT THE RESPONDENTS OBTAINED

The purpose of this appendix was to describe the majors of the highest level degrees that the respondents specified they obtained. Explanations follow in the order of food and nutrition/dietetics; management/business/administration; food, nutrition, and institutional management or hotel administration; nutrition and/or education; public health / health administration; and "other" majors.

Foods & Nutrition / Dietetics

Dietetics
Foods and Nutrition
Food Science and Nutrition
Dietetics -- Foods and Nutrition
Nutrition
Nutrition Research
Food and Nutrition -- Dietetics
Human Nutrition
Hospital Dietetics
Nutrition / Biochemistry
Clinical Nutrition
Dietetics and Experimental Foods

Management, Business, and/or Administration

Management
Business
Public Administration
MBA in Healthcare Management
Business Administration
Management/Administration (Doctorate)
MBA -- Business
Administration and Leadership

Foods & Nutrition / Institutional Management or Hotel Administration

Food, Nutrition, and Institutional Administration
Institutional Management
Institutional Administration
Food Systems Administration
Food Service Administration / Food Sciences
Nutrition -- Institutional Management
Hotel Restaurant Institutional Management and Dietetics
Dietetics -- Institutional Management
Hospital Dietetics and Institutional Management
Dietetics and Institutional Administration
Foods and Nutrition / Business Administration
Institutional Management in Hotel and Restaurant
Foodservice Management (Home Economics)
Food Sciences and Institutional Management
Human Nutrition and Food Management
Institutional Management and Management of Organization
Foodservice and Housing Administration
Dietetics and Food Administration
Food Service Administration and Nutrition
Institutional Administration and Gerontology
Restaurant Management
MBA plus Dietetics

Nutrition and/or Education

Education
Nutrition Education
Adult Education
Allied Health / Education
Health Education
Education / Gerontology

Public Health / Health Care Administration

Health Service Administration
Public Health
Health Care Administration
Health Care Management
Public Administration -- Health Care
Nutrition in Public Health

Others

Home Economics
Applied Science
Human Relations
Health Science Education / Business
Foods / Journalism plus Education / Business
Communications
ADA Dietetic Internship, Graduate Course
Graduate Work in Public Administration
Graduate Work (15 Hrs.)
A.S. Foodservice Administration (P.S. - 2-year-degree associate)

APPENDIX D

THE RESPONDENTS' JOB TITLES

This appendix describes the job titles that the respondents worked as while this study was being conducted. Explanations follow in the order of departmental director of food/nutrition services; director of clinical services; assistant/associated director; administrative dietitian; manager at operational level; director of multiunit services; positions at consulting area; and positions at educational area.

DIRECTOR OF THE FOOD/NUTRITION SERVICE

Dietary Director
Chief, Nutrition and Food Service
Director of Patient Foodservice
Chief, Administrative Section
Administrative Director
Chief, Production and Service Branch
Director, Dietary and Dietetic Internship
Director of Dietary Services
Director of Dietetics (Services)
Director, Food and Nutrition Services
Director, Dietetics and Nutrition
Director, Nutritional Services
Manager of Nutrition Services
Director of Nutrition Services/Dietitian
Director, Food and Nutrition
Director of Diet and Nutrition
Coordinator of Dietary Services
Manager of Nutritional Services
Chief, Nutrition Care Division

DIRECTOR OF CLINICAL NUTRITION

Clinical Nutrition Manager
Chief, Clinical Dietitian
Director of Clinical Operations
Clinical Dietitian
Regional Clinical Manager
Chief, Nutrition Care Director
Director of Nutritional Medicine Service
Chief, Nutritional Medicine Flight
Chief Dietitian
Nutrition Care Coordinator

ASSISTANT/ASSOCIATE DIRECTOR OF
FOOD/ CLINICAL NUTRITION SERVICES

Associate Director - Nutrition & Foodservice
Assistant Director, Nutrition Service
Assistant Director of Foodservice
Assistant Chief, Nutrition Department
Assistant Chief, Nutrition and Foodservice
Assistant Director, Housing and Dining Services
Assistant Administrator
Assistant Director, Production
Associate Director, Dining Services

ADMINISTRATIVE / SUPERVISORY DIETITIAN

Administrative RD
Senior Administrative Dietitian
Dietitian Supervisor
Dietitian Manager
Foodservice Director
Manager of Foodservice and Dietitian
Supervisor, Residence and Dining Services
Foodservice Administrator
Director of Foods
Food Administrator
Dietitian, Food Manager
Supervisory Dietitian

DIRECTOR OF MULTIUNIT SERVICES

Director of Support Services
Director, Food/Nutrition, Environmental Services, Security/Parking
Corporate Director, Nutrition Services
Regional Director of Operations
Director, Nutrition and Linen Services

MANAGER AT OPERATIONAL LEVEL

Manager
Operations Manager
Lead Supervisor (for patient trayline)
Assistant Coordinator
Patient Meal Service Manager
Production Director
Dietary Purchasing Manager
Patient Service Manager
Site Manager
Project Manager
Food Supervisor
Systems Manager

CONSULTING AREA

Nutrition Services Consultant
Foodservice Consultant
Consultant Dietitian for Health Care Facilities and Clinical (Dietitian at AVH)

EDUCATIONAL AREA

Executive Director, NFSMI
Director of Hospitality
Department Head
Chairman HRI
Nutrition Specialist

APPENDIX E

OTHER REASONS FOR ABSENCE OF FOODSERVICE PERSONNEL SPECIFIED BY THE RESPONDENTS

Other Absence Reasons Of Foodservice Personnel Specified By The Respondents

Reasons	Scores*
Unfinished projects for school	2
Employee kidnapped	
Overslept entire shift	2
Babysitter sick	3
Failure to return from out of town trip	3
School fund raising activity	
Little league field day	
Out of town guests	
Planned vacation	4
Stranded out of town	2
Jail	2 & 3
Personal business-- buy a house, see a lawyer	3
Need to study for critical test	3
Pets going to vet	2
Getting married / special day for tour visiting friends	
Going home to outside US territory	
Poor operation of machinery use	2
Once in a blue moon mater	
Moving	2
Family / friends hospitalized	2
Study for exams / tests (college students employees)	3 & 4
Civil or weather disturbance	3
Job action (union activity)	3
Chemical abuse (most seniors attendance problems)	
Spousal abuse	3
Drug usage	3
Go for a welfare appointment	4
Court appearance	4
Military leave (monthly)	4
School conflict (part-time employees)	3
No babysitter	3 & 4
School activity	3
Other job conflict	3
Problems with children	
Injury-- mostly at home, some at work	2 & 4
Stayed at other job	2
Earthquake	2
Home robbery or car theft	2
Drive - by shooting	2
Good weather/condition for skiing or surfing	2
Quit (inadequate notice)	4
Take care of business	2
Personal business (lawyer appts, driver license renewal, bank/financial appts)	
Friend having baby	2

*1=never used; 2=seldom used; 3=sometimes used; 4=often used

APPENDIX F

OTHER INCENTIVES SPECIFIED BY THE RESPONDENTS

Other Incentives Specified By The Respondents

Incentives	Currently using	Found Helpful	Like to Implement
Employee of month	yes	yes	NA
Plus person of quarter	yes	yes	NA
Employee month birthday celebration	yes	yes	NA
Praise coupons redeemed for items-- (T-shirt, watches,...)	yes		
Attendance paint system	yes	yes	
Extra paid annual leave for perfect attendance	no	yes	yes
Department play day	yes		
Family Christmas open house	yes		
Birthday as free day off			
Praise and thanks	yes		yes
Education by dietitian	yes		yes
Meetings for employee input	yes		yes
Quarterly & annual-- awards/gifts			
Monthly reception			
Personal annual leave program	yes	yes	NA
3 personal leaves days/year-- allows 24 hr. notice for use with appointments, etc			
Rap sessions	no	no	yes
Stress groups	no	no	yes
Less number of patients / paperwork	no	yes	yes
Bonus pay for call-in	yes		
Employee day -- work prayer & fun	yes		
Birthdays-- off	yes		
Paid vacations	yes		
No money to take bus			
Employee of the month in department	no	yes	yes
Recognition Day-- paid day off for every 4 months perfect attendance	yes	yes	NA
Certificates/awards	yes	yes	NA
Letter to employee file	yes	yes	NA
Regular department "fun" gathering (4x/yr.)	yes	yes	
Sickleave & vacation in same accrual pool	yes	yes	
Managers who respect, care, and listen	yes	yes	
Appreciation picnic (July); appreciation party (Oct.); Award of excellent (Jan.)	yes	yes	
Noted on yearly evaluation and it does play a part in yearly raises	yes		
Praise in the public / congratulation	yes		

Other Incentives Specified By The Respondents
(continued)

Incentives	Currently using	Found Helpful	Like to Implement
Point system-- 1 point for unscheduled absence regardless of reason; 7^{+} points disciplinary action	yes	yes	
Able to accumulate sick time	no	yes	yes
Paid time off for sick days (no vacation, no holiday, is individual choice)	yes		
Hospital policy-- counseling (6 absences) and self-termination (8 absences)	yes	yes	
Peer pressure	yes		
Craft groups		yes	
Birthday recognition		yes	
(Monetary) Sell unused sick time up to 40 hours		yes	yes
Pool Of Days	yes		
Days not used count towards retirement	yes	yes	
Quarterly award for outstanding employees	yes		
Commendation letters	yes		
Personal coaching by supervisor	yes		
PIE (productivity - all disciplines meet goals up to 4% yearly salary)	yes		
Self-responsibility		yes	
Volunteer Assistance Development		yes	
Promotions on shift changes	yes		

APPENDIX G

NON-MONETARY COMPENSATIONS FOR NO ABSENCE SPECIFIED BY THE RESPONDENTS

Non-Monetary Compensations for No Absence
Specified by The Respondents

Non-monetary Compensations	Currently using	Found Helpful	Like to Implement
Recognition awards		yes	yes
Combined time-off (vacation, holiday,...)	yes		
Acknowledgment -- name posted	yes	yes	yes
Drawings, trips days off	yes	yes	NA
Full time 6 months no absence-- 4 hr. leisure or 4 hr. regular salary paid; and Full time 12 months no absence-- 8 hr. leisure or 8 hr. regular salary paid	yes		
Bonus day off if no illness or absence in any 6 months period (excluding funerals)	yes		
Extended breaks	yes		
Another day off		yes	
Recognition certificate	yes	yes	NA
Bonus time to be used at employee description			yes
Annual award certificate	no	yes	yes
Monthly drawing	yes		
Extra "personal" days	yes	yes	NA
Bonus holidays	yes	yes	NA
FTE using less than 4 hr. sick leave/ quarter earns 4 hours authorized absence	yes		
Extra days off	yes	NA	NA
Recognition pins/badges/certificate	yes	yes	yes
Monthly perfect attendance posted	yes	yes	NA
Entry in drawing for prizes			
Outstanding attendance luncheon	yes	yes	
Absence without pay	yes		
Authorized absence day	no	no	yes
Lunch tickets	yes		
Earned personal day next year	yes	yes	
Time accumulated	yes		
Don't use sick day will lose it	yes		
Day off	yes	yes	
Scheduled/planned days off with no pay	yes	yes	

Non-Monetary Compensations for No Absence
Specified by The Respondents
(continued)

Non-monetary Compensations	Currently using	Found Helpful	Like to Implement
Education days			
Flexible time off	yes		
Weekend off extra			yes
Recognition certificate	no	yes	yes
Gift certificate	yes		
Prizes	NA	yes	yes
Published in hospital newsletter	yes	yes	NA
Yearly recognition	yes		
Certificates and meal tickets	yes	yes	
2 perfect attendance days off	yes	yes	
Annual recognition with gift at awards banquet	yes	yes	
Breakfast	yes	no	
Bike drawing for employees with 3-mo. perfect attendance	yes	yes	
Yearly parties	yes		
Movie passes	yes		

APPENDIX H

CHI SQUARE FREQUENCY ANALYSIS TABLES

Key to Tables

In the following tables, the abbreviations used refer to questions on the questionnaire.

I. VARIABLES OF THE RESPONDENTS

AGE
1 = 21-40
2 = 41-60
3 = 61+

MAJOR: the major of the highest degree
1 = Food & Nutrition / Dietetics
2 = Food, Nutrition, & Institutional Administration (FNIA); and Business & Management
4 = Nutrition Education; Public Health; Consultant; and Others

JOBTITLE
dietetic
1 = Upper-level management
2 = Management in clinical area
3 = Lower-level management
7 = Others

GP-YR-CJ: the number of years in the current job
1 = 0-10
2 = 11-20
3 = 21 and more

LOCATION: the location of the facility under the
1 = Rural
2 = Urban

HD: the highest degree
1 = Bachelor
2 = Master
3 = Doctoral
4 = Other

ROUTE: the route to ADA membership
1 = Internship / AP4
2 = Others

GP-YR-PR: the number of years in the profession
1 = 0- 15
2 = 16-25
3 = 26-35
4 = 36 and more

SIZE: the size of the facility
1 = less than 300
2 = 300-799
3 = 800+

GP-NO-SU: the number of employees respondent's supervision
1 = 1-30
2 = 31-60
3 = 61=90
4 = 91-120
5 = 120+

II. VARIABLES OF THE RESPONDENT'S EMPLOYEES

MALE-PC: the percentage of the total employees is male
1 = 0% 2 = 1-50% 3 = 51-100%

SINGLE-PC: the percentage of the total employees is single
1 = 0-25% 2 = 26-50% 3 = 51-100%

PRESC-PC: the percentage of the total employees is having preschool children at home
1 = 0% 2 = 1-30% 3 = 31+%

ELDER-PC: the percentage of the total employees is having elderly relative(s) at home
1 = 0% 2 = 1-10% 3 = 11+%

BLACK-PC: the percentage of the total employees is Black
0 = 0% 1 = 1-25% 2 = 26-50% 3 = 51-100%

ASIAN-PC: the percentage of the total employees is Asian
0 = 0% 1 = 1-25% 2 = 26+%

HISP-PC: the percentage of the total employees is Hispanic
0 = 0% 1 = 1-25% 2 = 26+%

WHITE-PC: the percentage of the total employees is White
1 = 0-25% 2 = 26-50% 3 = 51-75% 4 = 76-100%

NAM-PC: the percentage of the total employees is Native American
0 = 0% 1 = 1+%

LT20-PC: the percentage of the total employees is less than 20 years old
0 = 0% 1 = 1-10% 2 = 11-25% 3 = 26+%

R21-40PC: the percentage of the total employees is between 21 and 40 years old
1 = 0-25% 2 = 26-50% 3 = 51-75% 4 = 76+%

R41-60PC: the percentage of the total employees is between 41 and 60 years old
1 = 0-25% 2 = 26-50% 3 = 51+%

GT61-PC: the percentage of the total employees is at the age of 61 years and older

FT-PC: the percentage of the total employees is full-time
1 = 0-50% 2 = 51-90% 3 = 91+%

DIST: the distance the employee travels to the workplace
1 = 1-10 miles 2 = 11-20 miles 3 = 21+ miles

ABS-PC: the monthly absenteeism rate
1 = 0-5% 2 = 6-10% 3 = 11+%

TURN-PC: the 1994 turnover rate
1 = 0% 2 = 1-10% 3 = 11-20% 4 = 21+%

III. THE RESONS FOR EMPLOYEE ABSENCE

1 = Never used 2 = Seldom/Sometiems used 4 = Often used

III-1: Personal illness
III-2: Family/Friend illness
III-3: Job stress
III-4: Funeral
III-5: Physical fatigue
III-6: Emotional problems
III-7: Work frustration
III-8: Too little time off
III-9: Jury duty
III-10: Doctor's/Dental appointment
III-11: Mental health day
III-12: Bad weather
III-13: Unhappy with supervisor
III-14: Overworked
III-15: Parent/Teach conference
III-16: Misread time sheet
III-17: Hangover
III-18: Unhappy with co-worker(s)
III-19: Transportation problem
III-20: Family activity/reunion
III-21: Repair work at home
III-22: Just don't want to work

IV. INCENTIVES TO MINIMIZE EMPLOYEE ABSENTEEISM

0 = Not applicable 1 = No 3 = Yes
CU = Currently using FHP = Found helpful in the past
WLI = Would like to implement

CU/FHP/WLI 1: Flexible work schedule
CU/FHP/WLI 2: Free meals
CU/FHP/WLI 3: Child day care center
CU/FHP/WLI 4: Elderly day care center
CU/FHP/WLI 5: Non-monetary compensation for no absence
CU/FHP/WLI 6: Salary raise
CU/FHP/WLI 7: Monetary compensation for no absence
CU/FHP/WLI 8: Job sharing
CU/FHP/WLI 9: On-the-job training
CU/FHP/WLI 10: Tuition break
CU/FHP/WLI 11: Availability of public transportation
CU/FHP/WLI 13: Job rotation
CU/FHP/WLI 14: Ombudsman / personal counselor
CU/FHP/WLI 15: Preventive health programs
CU/FHP/WLI 16: Bonus/gainsharing
CU/FHP/WLI 17: Eliminate work hazards
CU/FHP/WLI 18: Continuing education
CU/FHP/WLI 19: Job redesign
CU/FHP/WLI 20: Fair treatment
CU/FHP/WLI 21: Cultural socialization
CU/FHP/WLI 12: Self-management training
CU/FHP/WLI 22: Group betting pool
CU/FHP/WLI 23: Workgroups

TABLE OF ABS_PC BY MALE_PC

ABS_PC MALE_PC

Frequency Expected Cell Chi-Square Percent	1	2	3	Total
1	19 14.258 1.5772 8.60	105 103.52 0.021 47.51	13 19.217 2.0114 5.88	137 61.99
2	1 1.3529 0.0921 0.45	11 9.8235 0.1409 4.98	1 1.8235 0.3719 0.45	13 5.88
3	3 7.3891 2.6071 1.36	51 53.652 0.131 23.08	17 9.9593 4.9774 7.69	71 32.13
Total	23 10.41	167 75.57	31 14.03	221 100.00

Frequency Missing = 7

STATISTICS FOR TABLE OF ABS_PC BY MALE_PC

Statistic	DF	Value	Prob
Chi-Square	4	11.930	0.018

TABLE OF ABS_PC BY WHITE_PC

ABS_PC WHITE_PC

Frequency Expected Cell Chi-Square Percent	1	2	3	4	Total
1	37 47.039 2.1427 16.23	45 40.768 0.4394 19.74	33 33.241 0.0018 14.47	28 21.952 1.6664 12.28	143 62.72
2	5 4.2763 0.1225 2.19	2 3.7061 0.7854 0.88	4 3.0219 0.3166 1.75	2 1.9956 964E-8 0.88	13 5.70
3	33 23.684 3.6642 14.47	18 20.526 0.3109 7.89	16 16.737 0.0324 7.02	5 11.053 3.3145 2.19	72 31.58
Total	75 32.89	65 28.51	53 23.25	35 15.35	228 100.00

STATISTICS FOR TABLE OF ABS_PC BY WHITE_PC

Statistic	DF	Value	Prob
Chi-Square	6	12.797	0.046

TABLE OF ABS_PC BY BLACK_PC

ABS_PC BLACK_PC

Frequency Expected Cell Chi-Square Percent	0	1	2	3	Total
1	44 35.526 2.0215 20.47	48 47.367 0.0084 22.33	19 19.944 0.0447 8.84	23 31.163 2.1382 10.70	134 62.33
2	4 3.4465 0.0889 1.86	5 4.5953 0.0356 2.33	0 1.9349 1.9349 0.00	4 3.0233 0.3156 1.86	13 6.05
3	9 18.028 4.5209 4.19	23 24.037 0.0448 10.70	13 10.121 0.819 6.05	23 15.814 3.2654 10.70	68 31.63
Total	57 26.51	76 35.35	32 14.88	50 23.26	215 100.00

Frequency Missing = 13

STATISTICS FOR TABLE OF ABS_PC BY BLACK_PC

Statistic	DF	Value	Prob
Chi-Square	6	15.238	0.018

TABLE OF TURN_PC BY SINGL_PC

TURN_PC SINGL_PC

Frequency Expected Cell Chi-Square Percent	1	2	3	Total
1	3 0.5763 10.194 1.69	11 14.311 0.7659 6.21	3 2.113 0.3724 1.69	17 9.60
2	2 2.2712 0.0324 1.13	60 56.401 0.2296 33.90	5 8.3277 1.3297 2.82	67 37.85
3	0 0.8814 0.8814 0.00	24 21.887 0.204 13.56	2 3.2316 0.4694 1.13	26 14.69
4	1 2.2712 0.7115 0.56	54 56.401 0.1022 30.51	12 8.3277 1.6194 6.78	67 37.85
Total	6 3.39	149 84.18	22 12.43	177 100.00

Frequency Missing = 51

STATISTICS FOR TABLE OF TURN_PC BY SINGL_PC

Statistic	DF	Value	Prob
Chi-Square	6	16.912	0.010

TABLE OF TURN_PC BY PRESC_PC

TURN_PC	PRESC_PC			
Frequency Expected Cell Chi-Square Percent	1	2	3	Total
1	5 1.4824 8.3474 2.94	8 10.541 0.6126 4.71	1 1.9765 0.4824 0.59	14 8.24
2	6 6.7765 0.089 3.53	54 48.188 0.7009 31.76	4 9.0353 2.8061 2.35	64 37.65
3	0 2.9647 2.9647 0.00	22 21.082 0.0399 12.94	6 3.9529 1.0601 3.53	28 16.47
4	7 6.7765 0.0074 4.12	44 48.188 0.364 25.88	13 9.0353 1.7397 7.65	64 37.65
Total	18 10.59	128 75.29	24 14.12	170 100.00

Frequency Missing = 58

STATISTICS FOR TABLE OF TURN_PC BY PRESC_PC

Statistic	DF	Value	Prob
Chi-Square	6	19.214	0.004

TABLE OF TURN_PC BY LT20_PC

TURN_PC	LT20_PC				
Frequency Expected Cell Chi-Square Percent	0	1	2	3	Total
1	15 7.6053 7.19 7.89	2 5.9053 2.5826 1.05	0 1.7 1.7 0.00	0 1.7895 1.7895 0.00	17 8.95
2	35 33.553 0.0624 18.42	29 26.053 0.3334 15.26	5 7.5 0.8333 2.63	6 7.8947 0.4547 3.16	75 39.47
3	11 12.974 0.3003 5.79	11 10.074 0.0852 5.79	5 2.9 1.5207 2.63	2 3.0526 0.363 1.05	29 15.26
4	24 30.868 1.5283 12.63	24 23.968 416E-7 12.63	9 6.9 0.6391 4.74	12 7.2632 3.0892 6.32	69 36.32
Total	85 44.74	66 34.74	19 10.00	20 10.53	190 100.00

Frequency Missing = 38

STATISTICS FOR TABLE OF TURN_PC BY LT20_PC

Statistic	DF	Value	Prob
Chi-Square	9	22.472	0.007

TABLE OF TURN_PC BY GT61_PC

TURN_PC	GT61_PC			
Frequency Expected Cell Chi-Square Percent	0	1	2	Total
1	12 5.9556 6.1347 6.67	3 7.6444 2.8218 1.67	1 2.4 0.8167 0.56	16 8.89
2	18 26.8 2.8896 10.00	42 34.4 1.6791 23.33	12 10.8 0.1333 6.67	72 40.00
3	9 10.05 0.1097 5.00	14 12.9 0.0938 7.78	4 4.05 0.0006 2.22	27 15.00
4	28 24.194 0.5986 15.56	27 31.056 0.5296 15.00	10 9.75 0.0064 5.56	65 36.11
Total	67 37.22	86 47.78	27 15.00	180 100.00

Frequency Missing = 48

STATISTICS FOR TABLE OF TURN_PC BY GT61_PC

Statistic	DF	Value	Prob
Chi-Square	6	15.814	0.015

TABLE OF TURN_PC BY DIST

TURN_PC	DIST			
Frequency Expected Cell Chi-Square Percent	1	2	3	Total
1	8 10.91 0.7764 3.98	3 4.1443 0.3159 1.49	6 1.9453 8.4517 2.99	17 8.46
2	55 51.343 0.2604 27.36	16 19.502 0.629 7.96	9 9.1542 0.0026 4.48	80 39.80
3	20 19.896 0.0005 9.95	8 7.5572 0.0259 3.98	3 3.5473 0.0844 1.49	31 15.42
4	46 46.851 0.0154 22.89	22 17.796 0.9931 10.95	5 8.3532 1.3461 2.49	73 36.32
Total	129 64.18	49 24.38	23 11.44	201 100.00

Frequency Missing = 27

STATISTICS FOR TABLE OF TURN_PC BY DIST

Statistic	DF	Value	Prob
Chi-Square	6	12.902	0.045

TABLE OF SINGL_PC BY III_1

SINGL_PC III_1

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	0 0.1257 0.1257 0.00	4 1.0471 8.3271 2.09	4 6.8272 1.1708 2.09	8 4.19
2	2 2.4817 0.0935 1.05	17 20.681 0.6551 8.90	139 134.84 0.1285 72.77	158 82.72
3	1 0.3927 0.9393 0.52	4 3.2723 0.1619 2.09	20 21.335 0.0835 10.47	25 13.09
Total	3 1.57	25 13.09	163 85.34	191 100.00

Frequency Missing = 37

STATISTICS FOR TABLE OF SINGL_PC BY III_1

Statistic	DF	Value	Prob
Chi-Square	4	11.685	0.020

TABLE OF PRESC_PC BY III_9

PRESC_PC III_9

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	8 2.3464 13.623 4.47	12 17.43 1.6917 6.70	0 0.2235 0.2235 0.00	20 11.17
2	10 15.838 2.1519 5.59	123 117.65 0.2429 68.72	2 1.5084 0.1602 1.12	135 75.42
3	3 2.8156 0.0121 1.68	21 20.916 0.0003 11.73	0 0.2682 0.2682 0.00	24 13.41
Total	21 11.73	156 87.15	2 1.12	179 100.00

Frequency Missing = 49

STATISTICS FOR TABLE OF PRESC_PC BY III_9

Statistic	DF	Value	Prob
Chi-Square	4	18.373	0.001

TABLE OF PRESC_PC BY III_15

PRESC_PC III_15

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	14 7.1517 6.5578 7.87	5 11.848 3.9583 2.81	0 0 . 0.00	19 10.67
2	46 50.815 0.4562 25.84	89 84.185 0.2753 50.00	0 0 . 0.00	135 75.84
3	7 9.0337 0.4578 3.93	17 14.966 0.2764 9.55	0 0 . 0.00	24 13.48
Total	67 37.64	111 62.36	0 0.00	178 100.00

Frequency Missing = 50

STATISTICS FOR TABLE OF PRESC_PC BY III_15
(ROWS AND COLUMNS WITH ZERO TOTALS EXCLUDED)

Statistic	DF	Value	Prob
Chi-Square	2	11.982	0.003

TABLE OF PRESC_PC BY III_19

PRESC_PC III_19

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	5 2.5618 2.3206 2.81	14 15.051 0.0733 7.87	0 1.3876 1.3876 0.00	19 10.67
2	18 18.202 0.0022 10.11	112 106.94 0.2396 62.92	5 9.8596 2.3952 2.81	135 75.84
3	1 3.236 1.545 0.56	15 19.011 0.8463 8.43	8 1.7528 22.266 4.49	24 13.48
Total	24 13.48	141 79.21	13 7.30	178 100.00

Frequency Missing = 50

STATISTICS FOR TABLE OF PRESC_PC BY III_19

Statistic	DF	Value	Prob
Chi-Square	4	31.076	0.000

TABLE OF PRESC_PC BY III_20

PRESC_PC III_20

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	9 6.4045 1.0519 5.06	10 12.169 0.3865 5.62	0 0.427 0.427 0.00	19 10.67
2	42 45.506 0.2701 23.60	92 86.461 0.3549 51.69	1 3.0337 1.3633 0.56	135 75.84
3	9 8.0899 0.1024 5.06	12 15.371 0.7392 6.74	3 0.5393 11.227 1.69	24 13.48
Total	60 33.71	114 64.04	4 2.25	178 100.00

Frequency Missing = 50

STATISTICS FOR TABLE OF PRESC_PC BY III_20

Statistic	DF	Value	Prob
Chi-Square	4	15.922	0.003

TABLE OF ELDER_PC BY III_4

ELDER_PC III_4

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	5 2.3425 3.015 3.42	52 51.144 0.0143 35.62	0 3.5137 3.5137 0.00	57 39.04
2	1 3.3288 1.6292 0.68	71 72.678 0.0387 48.63	9 4.9932 3.2154 6.16	81 55.48
3	0 0.3288 0.3288 0.00	8 7.1781 0.0941 5.48	0 0.4932 0.4932 0.00	8 5.48
Total	6 4.11	131 89.73	9 6.16	146 100.00

Frequency Missing = 82

STATISTICS FOR TABLE OF ELDER_PC BY III_4

Statistic	DF	Value	Prob
Chi-Square	4	12.342	0.015

TABLE OF ELDER_PC BY III_6

ELDER_PC III_6

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	35	18	1	54
	24.718	28.521	0.7606	
	4.2767	3.8811	0.0754	
	24.65	12.68	0.70	38.03
2	25	54	1	80
	36.62	42.254	1.1268	
	3.687	3.2655	0.0143	
	17.61	38.03	0.70	56.34
3	5	3	0	8
	3.662	4.2254	0.1127	
	0.4889	0.3554	0.1127	
	3.52	2.11	0.00	5.63
Total	65	75	2	142
	45.77	52.82	1.41	100.00

Frequency Missing = 86

STATISTICS FOR TABLE OF ELDER_PC BY III_6

Statistic	DF	Value	Prob
Chi-Square	4	16.157	0.003

TABLE OF ELDER_PC BY III_7

ELDER_PC III_7

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	47	6	1	54
	37.268	16.352	0.3803	
	2.5416	6.5537	1.0099	
	33.10	4.23	0.70	38.03
2	44	36	0	80
	55.211	24.225	0.5634	
	2.2766	5.723	0.5634	
	30.99	25.35	0.00	56.34
3	7	1	0	8
	5.5211	2.4225	0.0563	
	0.3961	0.8353	0.0563	
	4.93	0.70	0.00	5.63
Total	98	43	1	142
	69.01	30.28	0.70	100.00

Frequency Missing = 86

STATISTICS FOR TABLE OF ELDER_PC BY III_7

Statistic	DF	Value	Prob
Chi-Square	4	19.956	0.001

TABLE OF ELDER_PC BY III_8

ELDER_PC III_8

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	45	9	1	55
	39.615	15	0.3846	
	0.7319	2.4	0.9846	
	31.47	6.29	0.70	38.46
2	50	30	0	80
	57.622	21.818	0.5594	
	1.0083	3.0682	0.5594	
	34.97	20.98	0.00	55.94
3	8	0	0	8
	5.7622	2.1818	0.0559	
	0.869	2.1818	0.0559	
	5.59	0.00	0.00	5.59
Total	103	39	1	143
	72.03	27.27	0.70	100.00

Frequency Missing = 85

STATISTICS FOR TABLE OF ELDER_PC BY III_8

Statistic	DF	Value	Prob
Chi-Square	4	11.859	0.018

TABLE OF ELDER_PC BY III_10

ELDER_PC III_10

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	8	43	5	56
	3.4759	42.869	9.6552	
	5.8886	0.0004	2.2445	
	5.52	29.66	3.45	38.62
2	1	62	18	81
	5.0276	62.007	13.966	
	3.2265	767E-9	1.1655	
	0.69	42.76	12.41	55.86
3	0	6	2	8
	0.4966	6.1241	1.3793	
	0.4966	0.0025	0.2793	
	0.00	4.14	1.38	5.52
Total	9	111	25	145
	6.21	76.55	17.24	100.00

Frequency Missing = 83

STATISTICS FOR TABLE OF ELDER_PC BY III_10

Statistic	DF	Value	Prob
Chi-Square	4	13.304	0.010

TABLE OF ELDER_PC BY III_13

ELDER_PC III_13

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	49	4	1	54
	39.169	14.451	0.3803	
	2.4675	7.5579	1.0099	
	34.51	2.82	0.70	38.03
2	47	33	0	80
	58.028	21.408	0.5634	
	2.0959	6.2762	0.5634	
	33.10	23.24	0.00	56.34
3	7	1	0	8
	5.8028	2.1408	0.0563	
	0.247	0.608	0.0563	
	4.93	0.70	0.00	5.63
Total	103	38	1	142
	72.54	26.76	0.70	100.00

Frequency Missing = 86

STATISTICS FOR TABLE OF ELDER_PC BY III_13

Statistic	DF	Value	Prob
Chi-Square	4	20.882	0.000

TABLE OF ELDER_PC BY III_14

ELDER_PC III_14

Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
1	46	8	54
	36.127	17.873	
	2.6983	5.454	
	32.39	5.63	38.03
2	44	36	80
	53.521	26.479	
	1.6938	3.4236	
	30.99	25.35	56.34
3	5	3	8
	5.3521	2.6479	
	0.0232	0.0468	
	3.52	2.11	5.63
Total	95	47	142
	66.90	33.10	100.00

Frequency Missing = 86

STATISTICS FOR TABLE OF ELDER_PC BY III_14

Statistic	DF	Value	Prob
Chi-Square	2	13.340	0.001

TABLE OF ELDER_PC BY III_15

ELDER_PC	III_15			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	27 20.625 1.9705 18.75	28 34.375 1.1823 19.44	0 0 . 0.00	55 38.19
2	22 30.375 2.3092 15.28	59 50.625 1.3855 40.97	0 0 . 0.00	81 56.25
3	5 3 1.3333 3.47	3 5 0.8 2.08	0 0 . 0.00	8 5.56
Total	54 37.50	90 62.50	0 0.00	144 100.00

Frequency Missing = 84

STATISTICS FOR TABLE OF ELDER_PC BY III_15
(ROWS AND COLUMNS WITH ZERO TOTALS EXCLUDED)

Statistic	DF	Value	Prob
Chi-Square	2	8.981	0.011

TABLE OF ELDER_PC BY III_17

ELDER_PC	III_17		
Frequency Expected Cell Chi-Square Percent	1	2	Total
1	44 36.887 1.3715 30.99	10 17.113 2.9563 7.04	54 38.03
2	46 54.648 1.3685 32.39	34 25.352 2.9499 23.94	80 56.34
3	7 5.4648 0.4313 4.93	1 2.5352 0.9297 0.70	8 5.63
Total	97 68.31	45 31.69	142 100.00

Frequency Missing = 86

STATISTICS FOR TABLE OF ELDER_PC BY III_17

Statistic	DF	Value	Prob
Chi-Square	2	10.007	0.007

TABLE OF ELDER_PC BY III_18

ELDER_PC	III_18		
Frequency Expected Cell Chi-Square Percent	1	2	Total
1	46 35.746 2.9411 32.39	8 18.254 5.7597 5.63	54 38.03
2	43 52.958 1.8724 30.28	37 27.042 3.6667 26.06	80 56.34
3	5 5.2958 0.0165 3.52	3 2.7042 0.0324 2.11	8 5.63
Total	94 66.20	48 33.80	142 100.00

Frequency Missing = 86

STATISTICS FOR TABLE OF ELDER_PC BY III_18

Statistic	DF	Value	Prob
Chi-Square	2	14.289	0.001

TABLE OF ELDER_PC BY III_21

ELDER_PC	III_21			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	27 19.697 2.7081 18.62	29 35.917 1.3322 20.00	0 0.3862 0.3862 0.00	56 38.62
2	19 28.49 3.1609 13.10	61 51.952 1.5759 42.07	1 0.5586 0.3487 0.69	81 55.86
3	5 2.8138 1.6986 3.45	3 5.131 0.8851 2.07	0 0.0552 0.0552 0.00	8 5.52
Total	51 35.17	93 64.14	1 0.69	145 100.00

Frequency Missing = 83

STATISTICS FOR TABLE OF ELDER_PC BY III_21

Statistic	DF	Value	Prob
Chi-Square	4	12.151	0.016

TABLE OF BLACK_PC BY III_14

BLACK_PC	III_14		
Frequency Expected Cell Chi-Square Percent	1	2	Total
0	44 35.478 2.0469 21.26	10 18.522 3.9208 4.83	54 26.09
1	48 48.618 0.0079 23.19	26 25.382 0.0151 12.56	74 35.75
2	19 21.024 0.1949 9.18	13 10.976 0.3733 6.28	32 15.46
3	25 30.879 1.1194 12.08	22 16.121 2.1441 10.63	47 22.71
Total	136 65.70	71 34.30	207 100.00

Frequency Missing = 21

STATISTICS FOR TABLE OF BLACK_PC BY III_14

Statistic	DF	Value	Prob
Chi-Square	3	9.822	0.020

TABLE OF BLACK_PC BY III_19

BLACK_PC	III_19			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
0	13 7.2344 4.5949 6.22	41 43.148 0.107 19.62	0 3.6172 3.6172 0.00	54 25.84
1	9 10.048 0.1093 4.31	60 59.928 0.0001 28.71	6 5.0239 0.1896 2.87	75 35.89
2	2 4.2871 1.2201 0.96	29 25.569 0.4603 13.88	1 2.1435 0.6101 0.48	32 15.31
3	4 6.4306 0.9187 1.91	37 38.354 0.0478 17.70	7 3.2153 4.4549 3.35	48 22.97
Total	28 13.40	167 79.90	14 6.70	209 100.00

Frequency Missing = 19

STATISTICS FOR TABLE OF BLACK_PC BY III_19

Statistic	DF	Value	Prob
Chi-Square	6	16.330	0.012

TABLE OF BLACK_PC BY III_20

BLACK_PC	III_20			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	23 18.344 1.1815 11.00	31 33.847 0.2395 14.83	0 1.8086 1.8086 0.00	54 25.84
1	27 25.478 0.0909 12.92	47 47.01 195E-8 22.49	1 2.512 0.9101 0.48	75 35.89
2	5 10.871 3.1705 2.39	27 20.057 2.4031 12.92	0 1.0718 1.0718 0.00	32 15.31
3	16 16.306 0.0058 7.66	26 30.086 0.555 12.44	6 1.6077 12.001 2.87	48 22.97
Total	71 33.97	131 62.68	7 3.35	209 100.00

Frequency Missing = 19

STATISTICS FOR TABLE OF BLACK_PC BY III_20

Statistic	DF	Value	Prob
Chi-Square	6	23.437	0.001

TABLE OF WHITE_PC BY III_19

WHITE_PC	III_19			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	7 9.3591 0.5946 3.18	55 56.477 0.0386 25.00	9 5.1636 2.8503 4.09	71 32.27
2	4 8.5682 2.4356 1.82	56 51.705 0.3569 25.45	5 4.7273 0.0157 2.27	65 29.55
3	9 6.5909 0.8806 4.09	39 39.773 0.015 17.73	2 3.6364 0.7364 0.91	50 22.73
4	9 4.4818 4.5548 4.09	25 27.045 0.1547 11.36	0 2.4727 2.4727 0.00	34 15.45
Total	29 13.18	175 79.55	16 7.27	220 100.00

Frequency Missing = 8

STATISTICS FOR TABLE OF WHITE_PC BY III_19

Statistic	DF	Value	Prob
Chi-Square	6	15.106	0.019

TABLE OF HISP_PC BY III_1

HISP_PC	III_1			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	1 1.7368 0.3126 0.48	20 15.053 1.6261 9.57	100 104.21 0.1701 47.85	121 57.89
1	1 0.9474 0.0029 0.48	2 8.2105 4.6977 0.96	63 56.842 0.6671 30.14	66 31.58
2	1 0.3158 1.4825 0.48	4 2.7368 0.583 1.91	17 18.947 0.2001 8.13	22 10.53
Total	3 1.44	26 12.44	180 86.12	209 100.00

Frequency Missing = 19

STATISTICS FOR TABLE OF HISP_PC BY III_1

Statistic	DF	Value	Prob
Chi-Square	4	9.742	0.045

TABLE OF HISP_PC BY III_6

HISP_PC	III_6			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	66 57.647 1.2103 32.35	53 60.588 0.9504 25.98	1 1.7647 0.3314 0.49	120 58.82
1	20 30.265 3.4814 9.80	41 31.809 2.6558 20.10	2 0.9265 1.2439 0.98	63 30.88
2	12 10.088 0.3623 5.88	9 10.603 0.2423 4.41	0 0.3088 0.3088 0.00	21 10.29
Total	98 48.04	103 50.49	3 1.47	204 100.00

Frequency Missing = 24

STATISTICS FOR TABLE OF HISP_PC BY III_6

Statistic	DF	Value	Prob
Chi-Square	4	10.787	0.029

TABLE OF HISP_PC BY III_7

HISP_PC	III_7			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	94 85.882 0.7673 46.08	26 33.529 1.6908 12.75	0 0.5882 0.5882 0.00	120 58.82
1	35 45.088 2.2572 17.16	27 17.603 5.0165 13.24	1 0.3088 1.5469 0.49	63 30.88
2	17 15.029 0.2584 8.33	4 5.8676 0.5945 1.96	0 0.1029 0.1029 0.00	21 10.29
Total	146 71.57	57 27.94	1 0.49	204 100.00

Frequency Missing = 24

STATISTICS FOR TABLE OF HISP_PC BY III_7

Statistic	DF	Value	Prob
Chi-Square	4	12.823	0.012

TABLE OF HISP_PC BY III_12

HISP_PC	III_12		
Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
0	33 33.809 0.0193 16.18	88 87.191 0.0075 43.14	121 59.31
1	11 17.324 2.3082 5.39	51 44.676 0.895 25.00	62 30.39
2	13 5.8676 8.6697 6.37	8 15.132 3.3617 3.92	21 10.29
Total	57 27.94	147 72.06	204 100.00

Frequency Missing = 24

STATISTICS FOR TABLE OF HISP_PC BY III_12

Statistic	DF	Value	Prob
Chi-Square	2	15.261	0.000

TABLE OF HISP_PC BY III_13

HISP_PC	III_13		
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	94	26	0	120
	85.294	34.118	0.5882	
	0.8886	1.9314	0.5882	
	46.08	12.75	0.00	58.82
1	33	29	1	63
	44.779	17.912	0.3088	
	3.0986	6.8641	1.5469	
	16.18	14.22	0.49	30.88
2	18	3	0	21
	14.926	5.9706	0.1029	
	0.6329	1.478	0.1029	
	8.82	1.47	0.00	10.29
Total	145	58	1	204
	71.08	28.43	0.49	100.00

Frequency Missing = 24

STATISTICS FOR TABLE OF HISP_PC BY III_13

Statistic	DF	Value	Prob
Chi-Square	4	17.132	0.002

TABLE OF NAM_PC BY III_17

NAM_PC	III_17		
Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
0	114	48	162
	108	54	
	0.3333	0.6667	
	60.32	25.40	85.71
1	12	15	27
	18	9	
	2	4	
	6.35	7.94	14.29
Total	126	63	189
	66.67	33.33	100.00

Frequency Missing = 39

STATISTICS FOR TABLE OF NAM_PC BY III_17

Statistic	DF	Value	Prob
Chi-Square	1	7.000	0.008

TABLE OF NAM_PC BY III_12

NAM_PC	III_12		
Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
0	49	114	163
	43.753	119.25	
	0.6293	0.2309	
	25.79	60.00	85.79
1	2	25	27
	7.2474	19.753	
	3.7993	1.394	
	1.05	13.16	14.21
Total	51	139	190
	26.84	73.16	100.00

Frequency Missing = 38

STATISTICS FOR TABLE OF NAM_PC BY III_12

Statistic	DF	Value	Prob
Chi-Square	1	6.054	0.014

TABLE OF LT20_PC BY III_3

LT20_PC	III_3		
Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
0	63	24	87
	57.411	29.589	
	0.5441	1.0556	
	31.98	12.18	44.16
1	38	29	67
	44.213	22.787	
	0.8731	1.6941	
	19.29	14.72	34.01
2	10	10	20
	13.198	6.802	
	0.7749	1.5035	
	5.08	5.08	10.15
3	19	4	23
	15.178	7.8223	
	0.9626	1.8678	
	9.64	2.03	11.68
Total	130	67	197
	65.99	34.01	100.00

Frequency Missing = 31

STATISTICS FOR TABLE OF LT20_PC BY III_3

Statistic	DF	Value	Prob
Chi-Square	3	9.276	0.026

TABLE OF LT20_PC BY III_6

LT20_PC	III_6			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	55	31	1	87
	42.838	42.838	1.3249	
	3.4532	3.2711	0.0797	
	27.92	15.74	0.51	44.16
1	20	45	2	67
	32.99	32.99	1.0203	
	5.1148	4.3724	0.9407	
	10.15	22.84	1.02	34.01
2	9	11	0	20
	9.8477	9.8477	0.3046	
	0.073	0.1348	0.3046	
	4.57	5.58	0.00	10.15
3	13	10	0	23
	11.325	11.325	0.3503	
	0.2478	0.155	0.3503	
	6.60	5.08	0.00	11.68
Total	97	97	3	197
	49.24	49.24	1.52	100.00

Frequency Missing = 31

STATISTICS FOR TABLE OF LT20_PC BY III_6

Statistic	DF	Value	Prob
Chi-Square	6	18.497	0.005

TABLE OF LT20_PC BY III_17

LT20_PC III_17

Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
0	70	17	87
	57.411	29.589	
	2.7604	5.356	
	35.53	8.63	44.16
1	39	28	67
	44.213	22.787	
	0.6147	1.1927	
	19.80	14.21	34.01
2	10	10	20
	13.198	6.802	
	0.7749	1.5035	
	5.08	5.08	10.15
3	11	12	23
	15.178	7.8223	
	1.1499	2.2312	
	5.58	6.09	11.68
Total	130	67	197
	65.99	34.01	100.00

Frequency Missing = 31

STATISTICS FOR TABLE OF LT20_PC BY III_17

Statistic	DF	Value	Prob
Chi-Square	3	15.583	0.001

TABLE OF R21_40PC BY III_6

R21_40PC III_6

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	28	31	0	59
	28.688	29.5	0.8119	
	0.0165	0.0763	0.8119	
	12.84	14.22	0.00	27.06
2	28	51	1	80
	38.899	40	1.1009	
	3.0538	3.025	0.0093	
	12.84	23.39	0.46	36.70
3	33	22	2	57
	27.716	28.5	0.7844	
	1.0076	1.4825	1.8838	
	15.14	10.09	0.92	26.15
4	17	5	0	22
	10.697	11	0.3028	
	3.7135	3.2727	0.3028	
	7.80	2.29	0.00	10.09
Total	106	109	3	218
	48.62	50.00	1.38	100.00

Frequency Missing = 10

STATISTICS FOR TABLE OF R21_40PC BY III_6

Statistic	DF	Value	Prob
Chi-Square	6	18.656	0.005

TABLE OF GT61_PC BY III_4

GT61_PC III_4

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	6	64	0	70
	2.9474	63.737	3.3158	
	3.1617	0.0011	3.3158	
	3.16	33.68	0.00	36.84
1	0	81	7	88
	3.7053	80.126	4.1684	
	3.7053	0.0095	1.9235	
	0.00	42.63	3.68	46.32
2	2	28	2	32
	1.3474	29.137	1.5158	
	0.3161	0.0444	0.1547	
	1.05	14.74	1.05	16.84
Total	8	173	9	190
	4.21	91.05	4.74	100.00

Frequency Missing = 38

STATISTICS FOR TABLE OF GT61_PC BY III_4

Statistic	DF	Value	Prob
Chi-Square	4	12.632	0.013

TABLE OF GT61_PC BY III_6

GT61_PC III_6

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	44	25	0	69
	34.129	33.758	1.1129	
	2.8549	2.2722	1.1129	
	23.66	13.44	0.00	37.10
1	33	50	3	86
	42.538	42.075	1.3871	
	2.1385	1.4926	1.8755	
	17.74	26.88	1.61	46.24
2	15	16	0	31
	15.333	15.167	0.5	
	0.0072	0.0458	0.5	
	8.06	8.60	0.00	16.67
Total	92	91	3	186
	49.46	48.92	1.61	100.00

Frequency Missing = 42

STATISTICS FOR TABLE OF GT61_PC BY III_6

Statistic	DF	Value	Prob
Chi-Square	4	12.300	0.015

TABLE OF GT61_PC BY III_20

GT61_PC III_20

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	33	33	3	69
	24.59	41.84	2.5691	
	2.876	1.8679	0.0723	
	17.55	17.55	1.60	36.70
1	22	62	4	88
	31.362	53.362	3.2766	
	2.7945	1.3984	0.1597	
	11.70	32.98	2.13	46.81
2	12	19	0	31
	11.048	18.798	1.1543	
	0.0821	0.0022	1.1543	
	6.38	10.11	0.00	16.49
Total	67	114	7	188
	35.64	60.64	3.72	100.00

Frequency Missing = 40

STATISTICS FOR TABLE OF GT61_PC BY III_20

Statistic	DF	Value	Prob
Chi-Square	4	10.407	0.034

TABLE OF GT61_PC BY III_21

GT61_PC III_21

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
0	36	33	0	69
	26.286	42.714	0	
	3.5901	2.2093	.	
	19.05	17.46	0.00	36.51
1	27	61	0	88
	33.524	54.476	0	
	1.2695	0.7813	.	
	14.29	32.28	0.00	46.56
2	9	23	0	32
	12.19	19.81	0	
	0.835	0.5139	.	
	4.76	12.17	0.00	16.93
Total	72	117	0	189
	38.10	61.90	0.00	100.00

Frequency Missing = 39

STATISTICS FOR TABLE OF GT61_PC BY III_21
(ROWS AND COLUMNS WITH ZERO TOTALS EXCLUDED)

Statistic	DF	Value	Prob
Chi-Square	2	9.199	0.010

TABLE OF DIST BY III_19

DIST III_19

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	19 19.245 0.0031 8.64	123 116.14 0.4056 55.91	4 10.618 4.125 1.82	146 66.36
2	5 6.5909 0.384 2.27	37 39.773 0.1933 16.82	8 3.6364 5.2364 3.64	50 22.73
3	5 3.1636 1.0659 2.27	15 19.091 0.8766 6.82	4 1.7455 2.9121 1.82	24 10.91
Total	29 13.18	175 79.55	16 7.27	220 100.00

Frequency Missing = 8

STATISTICS FOR TABLE OF DIST BY III_19

Statistic	DF	Value	Prob
Chi-Square	4	15.202	0.004

TABLE OF DIST BY III_20

DIST III_20

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	45 52.427 1.0522 20.45	98 88.927 0.9256 44.55	3 4.6455 0.5828 1.36	146 66.36
2	20 17.955 0.233 9.09	28 30.455 0.1978 12.73	2 1.5909 0.1052 0.91	50 22.73
3	14 8.6182 3.3608 6.36	8 14.618 2.9963 3.64	2 0.7636 2.0017 0.91	24 10.91
Total	79 35.91	134 60.91	7 3.18	220 100.00

Frequency Missing = 8

STATISTICS FOR TABLE OF DIST BY III_20

Statistic	DF	Value	Prob
Chi-Square	4	11.456	0.022

TABLE OF AGE BY III_1

AGE III_1

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	0 0.1622 0.1622 0.00	1 2.3514 0.7766 0.45	17 15.486 0.1479 7.66	18 8.11
2	1 1.7207 0.3019 0.45	23 24.95 0.1525 10.36	167 164.33 0.0434 75.23	191 86.04
3	1 0.1171 6.6556 0.45	5 1.6982 6.4197 2.25	7 11.185 1.5657 3.15	13 5.86
Total	2 0.90	29 13.06	191 86.04	222 100.00

Frequency Missing = 6

STATISTICS FOR TABLE OF AGE BY III_1

Statistic	DF	Value	Prob
Chi-Square	4	16.225	0.003

TABLE OF AGE BY III_4

AGE III_4

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	1 0.733 0.0972 0.45	16 16.371 0.0084 7.24	1 0.8959 0.0121 0.45	18 8.14
2	5 7.7376 0.9686 2.26	177 172.81 0.1018 80.09	8 9.457 0.2245 3.62	190 85.97
3	3 0.5294 11.529 1.36	8 11.824 1.2365 3.62	2 0.6471 2.8289 0.90	13 5.88
Total	9 4.07	201 90.95	11 4.98	221 100.00

Frequency Missing = 7

STATISTICS FOR TABLE OF AGE BY III_4

Statistic	DF	Value	Prob
Chi-Square	4	17.007	0.002

TABLE OF AGE BY III_12

AGE III_12

Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
1	1 5.1429 3.3373 0.46	17 12.857 1.3349 7.83	18 8.29
2	55 53.143 0.0649 25.35	131 132.86 0.026 60.37	186 85.71
3	6 3.7143 1.4066 2.76	7 9.2857 0.5626 3.23	13 5.99
Total	62 28.57	155 71.43	217 100.00

Frequency Missing = 11

STATISTICS FOR TABLE OF AGE BY III_12

Statistic	DF	Value	Prob
Chi-Square	2	6.732	0.035

TABLE OF MAJOR BY III_3

MAJOR III_3

Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
1	80 70.928 1.1603 38.28	29 38.072 2.1616 13.88	109 52.15
2	30 40.344 2.6524 14.35	32 21.656 4.9414 15.31	62 29.67
4	26 24.727 0.0655 12.44	12 13.273 0.122 5.74	38 18.18
Total	136 65.07	73 34.93	209 100.00

Frequency Missing = 19

STATISTICS FOR TABLE OF MAJOR BY III_3

Statistic	DF	Value	Prob
Chi-Square	2	11.103	0.004

TABLE OF GP_YR_CJ BY III_9

GP_YR_CJ	III_9			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	23 15.682 3.4152 10.45	112 119.81 0.509 50.91	3 2.5091 0.096 1.36	138 62.73
2	2 7.0455 3.6132 0.91	60 53.827 0.7079 27.27	0 1.1273 1.1273 0.00	62 28.18
3	0 2.2727 2.2727 0.00	19 17.364 0.1542 8.64	1 0.3636 1.1136 0.45	20 9.09
Total	25 11.36	191 86.82	4 1.82	220 100.00

Frequency Missing = 8

STATISTICS FOR TABLE OF GP_YR_CJ BY III_9

Statistic	DF	Value	Prob
Chi-Square	4	13.009	0.011

TABLE OF GP_YR_CJ BY III_21

GP_YR_CJ	III_21			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	52 50.833 0.0268 23.53	85 84.928 0.0001 38.46	0 1.2398 1.2398 0.00	137 61.99
2	18 23.376 1.2362 8.14	44 39.054 0.6263 19.91	1 0.5701 0.3241 0.45	63 28.51
3	12 7.7919 2.2727 5.43	8 13.018 1.9343 3.62	1 0.19 3.452 0.45	21 9.50
Total	82 37.10	137 61.99	2 0.90	221 100.00

Frequency Missing = 7

STATISTICS FOR TABLE OF GP_YR_CJ BY III_21

Statistic	DF	Value	Prob
Chi-Square	4	11.112	0.025

TABLE OF SIZE BY III_6

SIZE	III_6			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	67 59.581 0.9237 31.16	52 60.716 1.2513 24.19	3 1.7023 0.9892 1.40	122 56.74
2	22 31.744 2.9911 10.23	43 32.349 3.507 20.00	0 0.907 0.907 0.00	65 30.23
3	16 13.674 0.3955 7.44	12 13.935 0.2687 5.58	0 0.3907 0.3907 0.00	28 13.02
Total	105 48.84	107 49.77	3 1.40	215 100.00

Frequency Missing = 13

STATISTICS FOR TABLE OF SIZE BY III_6

Statistic	DF	Value	Prob
Chi-Square	4	11.624	0.020

TABLE OF SIZE BY III_16

SIZE	III_16			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	25 25.862 0.0287 11.52	97 94.452 0.0688 44.70	0 1.6866 1.6866 0.00	122 56.22
2	7 14.203 3.6528 3.23	57 51.871 0.5072 26.27	3 0.9263 4.6427 1.38	67 30.88
3	14 5.9355 10.957 6.45	14 21.677 2.7191 6.45	0 0.3871 0.3871 0.00	28 12.90
Total	46 21.20	168 77.42	3 1.38	217 100.00

Frequency Missing = 11

STATISTICS FOR TABLE OF SIZE BY III_16

Statistic	DF	Value	Prob
Chi-Square	4	24.650	0.000

TABLE OF JOBTITLE BY III_4

JOBTITLE	III_4			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	2 3.7297 0.8022 0.90	84 83.712 0.001 37.84	6 4.5586 0.4558 2.70	92 41.44
2	1 1.5811 0.2136 0.45	37 35.486 0.0646 16.67	1 1.9324 0.4499 0.45	39 17.57
3	3 3.4459 0.0577 1.35	78 77.342 0.0056 35.14	4 4.2117 0.0106 1.80	85 38.29
7	3 0.2432 31.243 1.35	3 5.4595 1.108 1.35	0 0.2973 0.2973 0.00	6 2.70
Total	9 4.05	202 90.99	11 4.95	222 100.00

Frequency Missing = 6

STATISTICS FOR TABLE OF JOBTITLE BY III_4

Statistic	DF	Value	Prob
Chi-Square	6	34.709	0.000

TABLE OF GP_NO_SU BY III_3

GP_NO_SU	III_3		
Frequency Expected Cell Chi-Square Percent	1	2	Total
1	66 60.798 0.4451 30.28	28 33.202 0.815 12.84	94 43.12
2	45 41.394 0.314 20.64	19 22.606 0.5751 8.72	64 29.36
3	16 19.404 0.5971 7.34	14 10.596 1.0933 6.42	30 13.76
4	12 12.289 0.0068 5.50	7 6.711 0.0124 3.21	19 8.72
5	2 7.1147 3.6769 0.92	9 3.8853 6.733 4.13	11 5.05
Total	141 64.68	77 35.32	218 100.00

Frequency Missing = 10

STATISTICS FOR TABLE OF GP_NO_SU BY III_3

Statistic	DF	Value	Prob
Chi-Square	4	14.269	0.006

TABLE OF GP_NO_SU BY III_6

GP_NO_SU	III_6			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	68 46.193 10.295 31.19	27 47.5 8.8474 12.39	0 1.3073 1.3073 0.00	95 43.58
2	23 31.119 2.1184 10.55	39 32 1.5313 17.89	2 0.8807 1.4224 0.92	64 29.36
3	9 14.587 2.14 4.13	20 15 1.6667 9.17	1 0.4128 0.8351 0.46	30 13.76
4	4 8.7523 2.5804 1.83	14 9 2.7778 6.42	0 0.2477 0.2477 0.00	18 8.26
5	2 5.3486 2.0965 0.92	9 5.5 2.2273 4.13	0 0.1514 0.1514 0.00	11 5.05
Total	106 48.62	109 50.00	3 1.38	218 100.00

Frequency Missing = 10

STATISTICS FOR TABLE OF GP_NO_SU BY III_6

Statistic	DF	Value	Prob
Chi-Square	8	40.245	0.000

TABLE OF GP_NO_SU BY III_7

GP_NO_SU	III_7			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	81 67.546 2.6799 37.16	14 27.018 6.2727 6.42	0 0.4358 0.4358 0.00	95 43.58
2	47 45.505 0.0491 21.56	17 18.202 0.0794 7.80	0 0.2936 0.2936 0.00	64 29.36
3	13 21.33 3.2533 5.96	16 8.5321 6.5364 7.34	1 0.1376 5.4043 0.46	30 13.76
4	12 12.798 0.0498 5.50	6 5.1193 0.1515 2.75	0 0.0826 0.0826 0.00	18 8.26
5	2 7.8211 4.3325 0.92	9 3.1284 11.02 4.13	0 0.0505 0.0505 0.00	11 5.05
Total	155 71.10	62 28.44	1 0.46	218 100.00

Frequency Missing = 10

STATISTICS FOR TABLE OF GP_NO_SU BY III_7

Statistic	DF	Value	Prob
Chi-Square	8	40.691	0.000

TABLE OF GP_NO_SU BY III_9

GP_NO_SU	III_9			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	19 10.909 6.0008 8.64	76 83.345 0.6474 34.55	1 1.7455 0.3184 0.45	96 43.64
2	4 7.1591 1.394 1.82	58 54.695 0.1997 26.36	1 1.1455 0.0185 0.45	63 28.64
3	2 3.4091 0.5824 0.91	28 26.045 0.1467 12.73	0 0.5455 0.5455 0.00	30 13.64
4	0 2.1591 2.1591 0.00	18 16.495 0.1372 8.18	1 0.3455 1.2402 0.45	19 8.64
5	0 1.3636 1.3636 0.00	11 10.418 0.0325 5.00	1 0.2182 2.8015 0.45	12 5.45
Total	25 11.36	191 86.82	4 1.82	220 100.00

Frequency Missing = 8

STATISTICS FOR TABLE OF GP_NO_SU BY III_9

Statistic	DF	Value	Prob
Chi-Square	8	17.587	0.025

TABLE OF GP_NO_SU BY III_11

GP_NO_SU III_11

Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
1	84 75.558 0.9432 39.07	11 19.442 3.6655 5.12	95 44.19
2	47 49.312 0.1084 21.86	15 12.688 0.4211 6.98	62 28.84
3	22 23.065 0.0492 10.23	7 5.9349 0.1912 3.26	29 13.49
4	13 14.316 0.121 6.05	5 3.6837 0.4703 2.33	18 8.37
5	5 8.7488 1.6064 2.33	6 2.2512 6.2429 2.79	11 5.12
Total	171 79.53	44 20.47	215 100.00

Frequency Missing = 13

STATISTICS FOR TABLE OF GP_NO_SU BY III_11

Statistic	DF	Value	Prob
Chi-Square	4	13.819	0.008

TABLE OF GP_NO_SU BY III_13

GP_NO_SU III_13

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	80 67.982 2.1247 36.70	15 26.583 5.0468 6.88	0 0.4358 0.4358 0.00	95 43.58
2	46 45.798 0.0009 21.10	18 17.908 0.0005 8.26	0 0.2936 0.2936 0.00	64 29.36
3	13 21.468 3.3401 5.96	16 8.3945 6.8907 7.34	1 0.1376 5.4043 0.46	30 13.76
4	12 12.881 0.0602 5.50	6 5.0367 0.1842 2.75	0 0.0826 0.0826 0.00	18 8.26
5	5 7.8716 1.0476 2.29	6 3.078 2.774 2.75	0 0.0505 0.0505 0.00	11 5.05
Total	156 71.56	61 27.98	1 0.46	218 100.00

Frequency Missing = 10

STATISTICS FOR TABLE OF GP_NO_SU BY III_13

Statistic	DF	Value	Prob
Chi-Square	8	27.736	0.001

TABLE OF GP_NO_SU BY III_14

GP_NO_SU III_14

Frequency / Expected / Cell Chi-Square / Percent	1	2	Total
1	74 62.752 2.016 33.94	21 32.248 3.9231 9.63	95 43.58
2	43 42.275 0.0124 19.72	21 21.725 0.0242 9.63	64 29.36
3	11 19.817 3.9225 5.05	19 10.183 7.633 8.72	30 13.76
4	10 11.89 0.3004 4.59	8 6.1101 0.5846 3.67	18 8.26
5	6 7.2661 0.2206 2.75	5 3.7339 0.4293 2.29	11 5.05
Total	144 66.06	74 33.94	218 100.00

Frequency Missing = 10

STATISTICS FOR TABLE OF GP_NO_SU BY III_14

Statistic	DF	Value	Prob
Chi-Square	4	19.066	0.001

TABLE OF GP_NO_SU BY III_15

GP_NO_SU III_15

Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	52 36.705 6.3739 23.64	43 57.864 3.8181 19.55	0 0.4318 0.4318 0.00	95 43.18
2	19 24.727 1.3265 8.64	45 38.982 0.9291 20.45	0 0.2909 0.2909 0.00	64 29.09
3	5 11.591 3.7478 2.27	25 18.273 2.4767 11.36	0 0.1364 0.1364 0.00	30 13.64
4	7 7.3409 0.0158 3.18	11 11.573 0.0283 5.00	1 0.0864 9.6653 0.45	19 8.64
5	2 4.6364 1.4991 0.91	10 7.3091 0.9907 4.55	0 0.0545 0.0545 0.00	12 5.45
Total	85 38.64	134 60.91	1 0.45	220 100.00

Frequency Missing = 8

STATISTICS FOR TABLE OF GP_NO_SU BY III_15

Statistic	DF	Value	Prob
Chi-Square	8	31.785	0.000

TABLE OF GP_NO_SU BY III_16

GP_NO_SU	III_16			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	31 20.295 5.646 14.09	63 72.977 1.3641 28.64	1 1.7273 0.3062 0.45	95 43.18
2	11 13.673 0.5225 5.00	53 49.164 0.2994 24.09	0 1.1636 1.1636 0.00	64 29.09
3	2 6.4091 3.0332 0.91	27 23.045 0.6786 12.27	1 0.5455 0.3788 0.45	30 13.64
4	1 4.0591 2.3055 0.45	16 14.595 0.1352 7.27	2 0.3455 7.9244 0.91	19 8.64
5	2 2.5636 0.1239 0.91	10 9.2182 0.0663 4.55	0 0.2182 0.2182 0.00	12 5.45
Total	47 21.36	169 76.82	4 1.82	220 100.00

Frequency Missing = 8

STATISTICS FOR TABLE OF GP_NO_SU BY III_16

Statistic	DF	Value	Prob
Chi-Square	8	24.166	0.002

TABLE OF GP_NO_SU BY III_17

GP_NO_SU	III_17		
Frequency Expected Cell Chi-Square Percent	1	2	Total
1	77 63.624 2.8122 35.32	18 31.376 5.7025 8.26	95 43.58
2	37 42.862 0.8018 16.97	27 21.138 1.6259 12.39	64 29.36
3	17 20.092 0.4758 7.80	13 9.9083 0.9647 5.96	30 13.76
4	10 12.055 0.3503 4.59	8 5.945 0.7104 3.67	18 8.26
5	5 7.367 0.7605 2.29	6 3.633 1.5421 2.75	11 5.05
Total	146 66.97	72 33.03	218 100.00

Frequency Missing = 10

STATISTICS FOR TABLE OF GP_NO_SU BY III_17

Statistic	DF	Value	Prob
Chi-Square	4	15.746	0.003

TABLE OF GP_NO_SU BY III_18

GP_NO_SU	III_18		
Frequency Expected Cell Chi-Square Percent	1	2	Total
1	73 61.009 2.3567 33.49	22 33.991 4.23 10.09	95 43.58
2	40 41.101 0.0295 18.35	24 22.899 0.0529 11.01	64 29.36
3	13 19.266 2.038 5.96	17 10.734 3.6579 7.80	30 13.76
4	9 11.56 0.5668 4.13	9 6.4404 1.0173 4.13	18 8.26
5	5 7.0642 0.6032 2.29	6 3.9358 1.0826 2.75	11 5.05
Total	140 64.22	78 35.78	218 100.00

Frequency Missing = 10

STATISTICS FOR TABLE OF GP_NO_SU BY III_18

Statistic	DF	Value	Prob
Chi-Square	4	15.635	0.004

TABLE OF GP_NO_SU BY III_20

GP_NO_SU	III_20			
Frequency Expected Cell Chi-Square Percent	1	2	4	Total
1	47 34.114 4.8678 21.36	46 57.864 2.4324 20.91	2 3.0227 0.346 0.91	95 43.18
2	18 22.982 1.0799 8.18	44 38.982 0.646 20.00	2 2.0364 0.0006 0.91	64 29.09
3	4 10.773 4.258 1.82	25 18.273 2.4767 11.36	1 0.9545 0.0022 0.45	30 13.64
4	8 6.8227 0.2031 3.64	10 11.573 0.2137 4.55	1 0.6045 0.2587 0.45	19 8.64
5	2 4.3091 1.2374 0.91	9 7.3091 0.3912 4.09	1 0.3818 1.0009 0.45	12 5.45
Total	79 35.91	134 60.91	7 3.18	220 100.00

Frequency Missing = 8

STATISTICS FOR TABLE OF GP_NO_SU BY III_20

Statistic	DF	Value	Prob
Chi-Square	8	19.415	0.013

TABLE OF GP_NO_SU BY III_21

GP_NO_SU / III_21	1	2	4	Total
1	48	46	1	95
	35.249	58.891	0.8597	
	4.6127	2.8219	0.0229	
	21.72	20.81	0.45	42.99
2	21	44	0	65
	24.118	40.294	0.5882	
	0.403	0.3408	0.5882	
	9.50	19.91	0.00	29.41
3	7	23	0	30
	11.131	18.597	0.2715	
	1.5333	1.0423	0.2715	
	3.17	10.41	0.00	13.57
4	4	15	0	19
	7.0498	11.778	0.1719	
	1.3194	0.8912	0.1719	
	1.81	6.79	0.00	8.60
5	2	9	1	12
	4.4525	7.4389	0.1086	
	1.3509	0.3276	7.3169	
	0.90	4.07	0.45	5.43
Total	82	137	2	221
	37.10	61.99	0.90	100.00

Frequency Missing = 7

STATISTICS FOR TABLE OF GP_NO_SU BY III_21

Statistic	DF	Value	Prob
Chi-Square	8	23.005	0.003

TABLE OF MALE_PC BY CU11

MALE_PC / CU11	0	1	3	Total
1	7	11	2	20
	3.3708	6.7416	9.8876	
	3.9075	2.6899	6.2922	
	3.93	6.18	1.12	11.24
2	19	40	71	130
	21.91	43.82	64.27	
	0.3865	0.333	0.7048	
	10.67	22.47	39.89	73.03
3	4	9	15	28
	4.7191	9.4382	13.843	
	0.1096	0.0203	0.0968	
	2.25	5.06	8.43	15.73
Total	30	60	88	178
	16.85	33.71	49.44	100.00

Frequency Missing = 50

STATISTICS FOR TABLE OF MALE_PC BY CU11

Statistic	DF	Value	Prob
Chi-Square	4	14.541	0.006

TABLE OF MALE_PC BY FHP11

MALE_PC / FHP11	0	1	3	Total
1	7	4	1	12
	2.9524	3.2381	5.8095	
	5.5492	0.1793	3.9817	
	5.56	3.17	0.79	9.52
2	18	26	52	96
	23.619	25.905	46.476	
	1.3368	0.0004	0.6565	
	14.29	20.63	41.27	76.19
3	6	4	8	18
	4.4286	4.8571	8.7143	
	0.5576	0.1513	0.0585	
	4.76	3.17	6.35	14.29
Total	31	34	61	126
	24.60	26.98	48.41	100.00

Frequency Missing = 102

STATISTICS FOR TABLE OF MALE_PC BY FHP11

Statistic	DF	Value	Prob
Chi-Square	4	12.471	0.014

TABLE OF SINGL_PC BY CU1

SINGL_PC / CU1	0	1	3	Total
1	0	0	8	8
	0.4162	2.1272	5.4566	
	0.4162	2.1272	1.1855	
	0.00	0.00	4.62	4.62
2	4	43	94	141
	7.3353	37.491	96.173	
	1.5165	0.8094	0.0491	
	2.31	24.86	54.34	81.50
3	5	3	16	24
	1.2486	6.3815	16.37	
	11.272	1.7918	0.0084	
	2.89	1.73	9.25	13.87
Total	9	46	118	173
	5.20	26.59	68.21	100.00

Frequency Missing = 55

STATISTICS FOR TABLE OF SINGL_PC BY CU1

Statistic	DF	Value	Prob
Chi-Square	4	19.176	0.001

TABLE OF SINGL_PC BY CU7

SINGL_PC / CU7	0	1	3	Total
1	2	3	0	5
	0.4698	3.0537	1.4765	
	4.9841	0.0009	1.4765	
	1.34	2.01	0.00	3.36
2	8	77	39	124
	11.651	75.732	36.617	
	1.1441	0.0212	0.155	
	5.37	51.68	26.17	83.22
3	4	11	5	20
	1.8792	12.215	5.906	
	2.3935	0.1208	0.139	
	2.68	7.38	3.36	13.42
Total	14	91	44	149
	9.40	61.07	29.53	100.00

Frequency Missing = 79

STATISTICS FOR TABLE OF SINGL_PC BY CU7

Statistic	DF	Value	Prob
Chi-Square	4	10.435	0.034

TABLE OF SINGL_PC BY CU15

SINGL_PC / CU15	0	1	3	Total
1	1	2	4	7
	0.0828	0.6627	6.2544	
	10.154	2.6984	0.8126	
	0.59	1.18	2.37	4.14
2	0	11	129	140
	1.6568	13.254	125.09	
	1.6568	0.3835	0.1223	
	0.00	6.51	76.33	82.84
3	1	3	18	22
	0.2604	2.0828	19.657	
	2.1013	0.4039	0.1396	
	0.59	1.78	10.65	13.02
Total	2	16	151	169
	1.18	9.47	89.35	100.00

Frequency Missing = 59

STATISTICS FOR TABLE OF SINGL_PC BY CU15

Statistic	DF	Value	Prob
Chi-Square	4	18.473	0.001

TABLE OF SINGL_PC BY CU13

SINGL_PC	CU13			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	2 0.2791 10.612 1.16	2 1.0814 0.7803 1.16	2 4.6395 1.5017 1.16	6 3.49
2	4 6.6512 1.0568 2.33	26 25.773 0.002 15.12	113 110.58 0.0532 65.70	143 83.14
3	2 1.0698 0.8089 1.16	3 4.1453 0.3165 1.74	18 17.785 0.0026 10.47	23 13.37
Total	8 4.65	31 18.02	133 77.33	172 100.00

Frequency Missing = 56

STATISTICS FOR TABLE OF SINGL_PC BY CU13

Statistic	DF	Value	Prob
Chi-Square	4	15.134	0.004

TABLE OF SINGL_PC BY WLI11

SINGL_PC	WLI11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	0 1.2072 1.2072 0.00	1 0.4324 0.7449 0.90	1 0.3604 1.1354 0.90	2 1.80
2	57 55.532 0.0388 51.35	23 19.892 0.4856 20.72	12 16.577 1.2635 10.81	92 82.88
3	10 10.261 0.0067 9.01	0 3.6757 3.6757 0.00	7 3.0631 5.0601 6.31	17 15.32
Total	67 60.36	24 21.62	20 18.02	111 100.00

Frequency Missing = 117

STATISTICS FOR TABLE OF SINGL_PC BY WLI11

Statistic	DF	Value	Prob
Chi-Square	4	13.618	0.009

TABLE OF SINGL_PC BY FHP10

SINGL_PC	FHP10			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	0 0.3929 0.3929 0.00	2 0.5714 3.5714 1.79	0 1.0357 1.0357 0.00	2 1.79
2	19 18.464 0.0155 16.96	29 26.857 0.171 25.89	46 48.679 0.1474 41.07	94 83.93
3	3 3.1429 0.0065 2.68	1 4.5714 2.7902 0.89	12 8.2857 1.665 10.71	16 14.29
Total	22 19.64	32 28.57	58 51.79	112 100.00

Frequency Missing = 116

STATISTICS FOR TABLE OF SINGL_PC BY FHP10

tatistic	DF	Value	Prob
hi-Square	4	9.796	0.044

TABLE OF PRESC_PC BY CU16

PRESC_PC	CU16			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	3 1.6714 1.056 2.14	3 7.8929 3.0331 2.14	7 3.4357 3.6977 5.00	13 9.29
2	14 14.529 0.0192 10.00	76 68.607 0.7966 54.29	23 29.864 1.5778 16.43	113 80.71
3	1 1.8 0.3556 0.71	6 8.5 0.7353 4.29	7 3.7 2.9432 5.00	14 10.00
Total	18 12.86	85 60.71	37 26.43	140 100.00

Frequency Missing = 88

STATISTICS FOR TABLE OF PRESC_PC BY CU16

Statistic	DF	Value	Prob
Chi-Square	4	14.215	0.007

TABLE OF SINGL_PC BY FHP14

SINGL_PC	FHP14			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	0 0.5741 0.5741 0.00	2 0.4444 5.4444 1.85	0 0.9815 0.9815 0.00	2 1.85
2	31 26.407 0.7987 28.70	18 20.444 0.2923 16.67	43 45.148 0.1022 39.81	92 85.19
3	0 4.0185 4.0185 0.00	4 3.1111 0.254 3.70	10 6.8704 1.4256 9.26	14 12.96
Total	31 28.70	24 22.22	53 49.07	108 100.00

Frequency Missing = 120

STATISTICS FOR TABLE OF SINGL_PC BY FHP14

Statistic	DF	Value	Prob
Chi-Square	4	13.891	0.008

TABLE OF SINGL_PC BY CU18

SINGL_PC	CU18			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	1 0.093 8.843 0.58	0 0.7907 0.7907 0.00	7 7.1163 0.0019 4.07	8 4.65
2	1 1.6279 0.2422 0.58	15 13.837 0.0977 8.72	124 124.53 0.0023 72.09	140 81.40
3	0 0.2791 0.2791 0.00	2 2.3721 0.0584 1.16	22 21.349 0.0199 12.79	24 13.95
Total	2 1.16	17 9.88	153 88.95	172 100.00

Frequency Missing = 56

STATISTICS FOR TABLE OF SINGL_PC BY CU18

Statistic	DF	Value	Prob
Chi-Square	4	10.335	0.035

TABLE OF PRESC_PC BY WLI10

PRESC_PC WLI10

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	3	0	3	6
	3.6238	1.1881	1.1881	
	0.1074	1.1881	2.7631	
	2.97	0.00	2.97	5.94
2	47	20	16	83
	50.129	16.436	16.436	
	0.1953	0.773	0.0115	
	46.53	19.80	15.84	82.18
3	11	0	1	12
	7.2475	2.3762	2.3762	
	1.9429	2.3762	0.7971	
	10.89	0.00	0.99	11.88
Total	61	20	20	101
	60.40	19.80	19.80	100.00

Frequency Missing = 127

STATISTICS FOR TABLE OF PRESC_PC BY WLI10

Statistic	DF	Value	Prob
Chi-Square	4	10.155	0.038

TABLE OF PRESC_PC BY FHP20

PRESC_PC FHP20

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	1	0	3	4
	0.1869	0.1495	3.6636	
	3.5369	0.1495	0.1202	
	0.93	0.00	2.80	3.74
2	3	2	85	90
	4.2056	3.3645	82.43	
	0.3456	0.5534	0.0801	
	2.80	1.87	79.44	84.11
3	1	2	10	13
	0.6075	0.486	11.907	
	0.2536	4.7168	0.3053	
	0.93	1.87	9.35	12.15
Total	5	4	98	107
	4.67	3.74	91.59	100.00

Frequency Missing = 121

STATISTICS FOR TABLE OF PRESC_PC BY FHP20

tistic	DF	Value	Prob
-Square	4	10.061	0.039

TABLE OF ELDER_PC BY CU3

ELDER_PC CU3

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	8	29	5	42
	7.6696	25.2	9.1304	
	0.0142	0.573	1.8685	
	6.96	25.22	4.35	36.52
2	10	39	19	68
	12.417	40.8	14.783	
	0.4706	0.0794	1.2032	
	8.70	33.91	16.52	59.13
3	3	1	1	5
	0.913	3	1.087	
	4.7702	1.3333	0.007	
	2.61	0.87	0.87	4.35
Total	21	69	25	115
	18.26	60.00	21.74	100.00

Frequency Missing = 113

STATISTICS FOR TABLE OF ELDER_PC BY CU3

Statistic	DF	Value	Prob
Chi-Square	4	10.319	0.035

TABLE OF ELDER_PC BY CU11

ELDER_PC CU11

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	10	22	14	46
	7.7966	14.814	23.39	
	0.6227	3.4863	3.7695	
	8.47	18.64	11.86	38.98
2	9	15	43	67
	11.356	21.576	34.068	
	0.4888	2.0044	2.3419	
	7.63	12.71	36.44	56.78
3	1	1	3	5
	0.8475	1.6102	2.5424	
	0.0275	0.2312	0.0824	
	0.85	0.85	2.54	4.24
Total	20	38	60	118
	16.95	32.20	50.85	100.00

Frequency Missing = 110

STATISTICS FOR TABLE OF ELDER_PC BY FHP11

Statistic	DF	Value	Prob
Chi-Square	4	16.355	0.003

TABLE OF ELDER_PC BY CU5

ELDER_PC CU5

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	2	28	14	44
	3.4737	22.772	17.754	
	0.6252	1.2003	0.7939	
	1.75	24.56	12.28	38.60
2	5	30	30	65
	5.1316	33.64	26.228	
	0.0034	0.3939	0.5425	
	4.39	26.32	26.32	57.02
3	2	1	2	5
	0.3947	2.5877	2.0175	
	6.5281	0.9742	0.0002	
	1.75	0.88	1.75	4.39
Total	9	59	46	114
	7.89	51.75	40.35	100.00

Frequency Missing = 114

STATISTICS FOR TABLE OF ELDER_PC BY CU5

Statistic	DF	Value	Prob
Chi-Square	4	11.062	0.026

TABLE OF ELDER_PC BY CU21

ELDER_PC CU21

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	7	23	9	39
	6.2679	20.545	12.188	
	0.0855	0.2934	0.8337	
	6.25	20.54	8.04	34.82
2	10	36	20	66
	10.607	34.768	20.625	
	0.0348	0.0437	0.0189	
	8.93	32.14	17.86	58.93
3	1	0	6	7
	1.125	3.6875	2.1875	
	0.0139	3.6875	6.6446	
	0.89	0.00	5.36	6.25
Total	18	59	35	112
	16.07	52.68	31.25	100.00

Frequency Missing = 116

STATISTICS FOR TABLE OF ELDER_PC BY CU21

Statistic	DF	Value	Prob
Chi-Square	4	11.656	0.020

TABLE OF ELDER_PC BY FHP11

ELDER_PC	FHP11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	11 6.3415 3.4222 13.41	10 6.3415 2.1107 12.20	5 13.317 5.1944 6.10	26 31.71
2	9 12.927 1.1929 10.98	9 12.927 1.1929 10.98	35 27.146 2.2721 42.68	53 64.63
3	0 0.7317 0.7317 0.00	1 0.7317 0.0984 1.22	2 1.5366 0.1398 2.44	3 3.66
Total	20 24.39	20 24.39	42 51.22	82 100.00

Frequency Missing = 146

STATISTICS FOR TABLE OF ELDER_PC BY CU11

Statistic	DF	Value	Prob
Chi-Square	4	13.055	0.011

TABLE OF ELDER_PC BY FHP15

ELDER_PC	FHP15			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	1 2.1084 0.5827 1.20	2 2.4096 0.0696 2.41	22 20.482 0.1125 26.51	25 30.12
2	6 4.6386 0.3996 7.23	4 5.3012 0.3194 4.82	45 45.06 0.0001 54.22	55 66.27
3	0 0.253 0.253 0.00	2 0.2892 10.122 2.41	1 2.4578 0.8647 1.20	3 3.61
Total	7 8.43	8 9.64	68 81.93	83 100.00

Frequency Missing = 145

STATISTICS FOR TABLE OF ELDER_PC BY FHP15

Statistic	DF	Value	Prob
Chi-Square	4	12.724	0.013

TABLE OF ELDER_PC BY WLI8

ELDER_PC	WLI8			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	9 9.5294 0.0294 10.59	5 8.4706 1.422 5.88	16 12 1.3333 18.82	30 35.29
2	18 15.882 0.2824 21.18	18 14.118 1.0676 21.18	14 20 1.8 16.47	50 58.82
3	0 1.5882 1.5882 0.00	1 1.4118 0.1201 1.18	4 2 2 4.71	5 5.88
Total	27 31.76	24 28.24	34 40.00	85 100.00

Frequency Missing = 143

STATISTICS FOR TABLE OF ELDER_PC BY WLI8

Statistic	DF	Value	Prob
Chi-Square	4	9.643	0.047

TABLE OF ELDER_PC BY WLI15

ELDER_PC	WLI15			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	12 16.563 1.2573 16.90	1 2.0282 0.5212 1.41	11 5.4085 5.7808 15.49	24 33.80
2	35 29.676 0.9551 49.30	5 3.6338 0.5136 7.04	3 9.6901 4.6189 4.23	43 60.56
3	2 2.7606 0.2095 2.82	0 0.338 0.338 0.00	2 0.9014 1.3389 2.82	4 5.63
Total	49 69.01	6 8.45	16 22.54	71 100.00

Frequency Missing = 157

STATISTICS FOR TABLE OF ELDER_PC BY WLI15

Statistic	DF	Value	Prob
Chi-Square	4	15.534	0.004

TABLE OF BLACK_PC BY CU5

BLACK_PC	CU5			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	1 4.4337 2.6593 0.60	23 22.723 0.0034 13.86	22 18.843 0.5288 13.25	46 27.71
1	5 5.5904 0.0623 3.01	35 28.651 1.4071 21.08	18 23.759 1.396 10.84	58 34.94
2	2 2.506 0.1022 1.20	12 12.843 0.0554 7.23	12 10.651 0.171 7.23	26 15.66
3	8 3.4699 5.9143 4.82	12 17.783 1.8807 7.23	16 14.747 0.1065 9.64	36 21.69
Total	16 9.64	82 49.40	68 40.96	166 100.00

Frequency Missing = 62

STATISTICS FOR TABLE OF BLACK_PC BY CU5

Statistic	DF	Value	Prob
Chi-Square	6	14.287	0.027

TABLE OF BLACK_PC BY CU8

BLACK_PC	CU8			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	4 6.1765 0.7669 2.35	23 23.824 0.0285 13.53	23 20 0.45 13.53	50 29.41
1	5 7.2882 0.7184 2.94	36 28.112 2.2135 21.18	18 23.6 1.3288 10.59	59 34.71
2	5 3.0882 1.1835 2.94	12 11.912 0.0007 7.06	8 10 0.4 4.71	25 14.71
3	7 4.4471 1.4656 4.12	10 17.153 2.9828 5.88	19 14.4 1.4694 11.18	36 21.18
Total	21 12.35	81 47.65	68 40.00	170 100.00

Frequency Missing = 58

STATISTICS FOR TABLE OF BLACK_PC BY CU8

Statistic	DF	Value	Prob
Chi-Square	6	13.008	0.043

TABLE OF BLACK_PC BY CU11

BLACK_PC	CU11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	13 7.7241 3.6036 7.47	27 16.552 6.5955 15.52	8 23.724 10.422 4.60	48 27.59
1	5 9.977 2.4828 2.87	22 21.379 0.018 12.64	35 30.644 0.6193 20.11	62 35.63
2	3 4.023 0.2601 1.72	3 8.6207 3.6647 1.72	19 12.356 3.5721 10.92	25 14.37
3	7 6.2759 0.0836 4.02	8 13.448 2.2073 4.60	24 19.276 1.1578 13.79	39 22.41
Total	28 16.09	60 34.48	86 49.43	174 100.00

Frequency Missing = 54

STATISTICS FOR TABLE OF BLACK_PC BY CU11

Statistic	DF	Value	Prob
Chi-Square	6	34.687	0.000

TABLE OF BLACK_PC BY FHP11

BLACK_PC	FHP11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	11 7.561 1.5642 8.94	15 8.8211 4.3281 12.20	5 14.618 6.3281 4.07	31 25.20
1	10 11.951 0.3186 8.13	13 13.943 0.0638 10.57	26 23.106 0.3626 21.14	49 39.84
2	3 4.3902 0.4402 2.44	2 5.122 1.9029 1.63	13 8.4878 2.3987 10.57	18 14.63
3	6 6.0976 0.0016 4.88	5 7.1138 0.6281 4.07	14 11.789 0.4148 11.38	25 20.33
Total	30 24.39	35 28.46	58 47.15	123 100.00

Frequency Missing = 105

STATISTICS FOR TABLE OF BLACK_PC BY FHP11

Statistic	DF	Value	Prob
Chi-Square	6	18.752	0.005

TABLE OF BLACK_PC BY WLI11

BLACK_PC	WLI11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	14 17.828 0.8219 11.48	13 6.418 6.7501 10.66	2 4.7541 1.5955 1.64	29 23.77
1	29 27.664 0.0645 23.77	9 9.959 0.0923 7.38	7 7.377 0.0193 5.74	45 36.89
2	14 11.066 0.7782 11.48	3 3.9836 0.2429 2.46	1 2.9508 1.2897 0.82	18 14.75
3	18 18.443 0.0106 14.75	2 6.6393 3.2418 1.64	10 4.918 5.2514 8.20	30 24.59
Total	75 61.48	27 22.13	20 16.39	122 100.00

Frequency Missing = 106

STATISTICS FOR TABLE OF BLACK_PC BY WLI11

Statistic	DF	Value	Prob
Chi-Square	6	20.158	0.003

TABLE OF WHITE_PC BY CU5

WHITE_PC	CU5			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	12 5.3182 8.3951 6.82	21 25.409 0.7651 11.93	19 21.273 0.2428 10.80	52 29.55
2	3 5.5227 1.1524 1.70	26 26.386 0.0057 14.77	25 22.091 0.3831 14.20	54 30.68
3	1 3.9886 2.2393 0.57	24 19.057 1.2822 13.64	14 15.955 0.2394 7.95	39 22.16
4	2 3.1705 0.4321 1.14	15 15.148 0.0014 8.52	14 12.682 0.137 7.95	31 17.61
Total	18 10.23	86 48.86	72 40.91	176 100.00

Frequency Missing = 52

STATISTICS FOR TABLE OF WHITE_PC BY CU5

Statistic	DF	Value	Prob
Chi-Square	6	15.276	0.018

TABLE OF WHITE_PC BY CU9

WHITE_PC	CU9			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	4 1.3077 5.543 1.92	2 2.9423 0.3018 0.96	62 63.75 0.048 29.81	68 32.69
2	0 1.1346 1.1346 0.00	2 2.5529 0.1197 0.96	57 55.313 0.0515 27.40	59 28.37
3	0 0.9423 0.9423 0.00	1 2.1202 0.5918 0.48	48 45.938 0.0926 23.08	49 23.56
4	0 0.6154 0.6154 0.00	4 1.3846 4.9402 1.92	28 30 0.1333 13.46	32 15.38
Total	4 1.92	9 4.33	195 93.75	208 100.00

Frequency Missing = 20

STATISTICS FOR TABLE OF WHITE_PC BY CU9

Statistic	DF	Value	Prob
Chi-Square	6	14.514	0.024

TABLE OF WHITE_PC BY CU11

WHITE_PC	CU11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	8 9.0164 0.1146 4.37	12 18.634 2.3617 6.56	35 27.35 2.1399 19.13	55 30.05
2	7 8.8525 0.3876 3.83	13 18.295 1.5325 7.10	34 26.852 1.9025 18.58	54 29.51
3	6 7.0492 0.1562 3.28	19 14.568 1.3481 10.38	18 21.383 0.5351 9.84	43 23.50
4	9 5.082 3.0207 4.92	18 10.503 5.3518 9.84	4 15.415 8.4532 2.19	31 16.94
Total	30 16.39	62 33.88	91 49.73	183 100.00

Frequency Missing = 45

STATISTICS FOR TABLE OF WHITE_PC BY CU11

Statistic	DF	Value	Prob
Chi-Square	6	27.304	0.000

TABLE OF WHITE_PC BY CU12

WHITE_PC	CU12			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	12 8.3898 1.5535 6.78	22 29.831 2.0555 12.43	21 16.78 1.0615 11.86	55 31.07
2	8 7.7797 0.0062 4.52	32 27.661 0.6806 18.08	11 15.559 1.336 6.21	51 28.81
3	1 6.4068 4.5629 0.56	24 22.78 0.0654 13.56	17 12.814 1.3678 9.60	42 23.73
4	6 4.4237 0.5617 3.39	18 15.729 0.328 10.17	5 8.8475 1.6731 2.82	29 16.38
Total	27 15.25	96 54.24	54 30.51	177 100.00

Frequency Missing = 51

STATISTICS FOR TABLE OF WHITE_PC BY CU12

Statistic	DF	Value	Prob
Chi-Square	6	15.252	0.018

TABLE OF WHITE_PC BY CU16

WHITE_PC	CU16			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	10 8.2241 0.3835 5.75	23 31.678 2.3774 13.22	20 13.098 3.6374 11.49	53 30.46
2	7 8.069 0.1416 4.02	35 31.08 0.4943 20.11	10 12.851 0.6323 5.75	52 29.89
3	3 6.3621 1.7767 1.72	28 24.506 0.4982 16.09	10 10.132 0.0017 5.75	41 23.56
4	7 4.3448 1.6226 4.02	18 16.736 0.0955 10.34	3 6.9195 2.2202 1.72	28 16.09
Total	27 15.52	104 59.77	43 24.71	174 100.00

Frequency Missing = 54

STATISTICS FOR TABLE OF WHITE_PC BY CU16

Statistic	DF	Value	Prob
Chi-Square	6	13.881	0.031

TABLE OF WHITE_PC BY FHP11

WHITE_PC	FHP11			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	6 8.9302 0.9615 4.65	7 9.7674 0.7841 5.43	23 17.302 1.8763 17.83	36 27.91
2	7 9.9225 0.8608 5.43	7 10.853 1.3677 5.43	26 19.225 2.3877 20.16	40 31.01
3	10 8.186 0.402 7.75	13 8.9535 1.8288 10.08	10 15.86 2.1655 7.75	33 25.58
4	9 4.9612 3.2878 6.98	8 5.4264 1.2206 6.20	3 9.6124 4.5487 2.33	20 15.50
Total	32 24.81	35 27.13	62 48.06	129 100.00

Frequency Missing = 99

STATISTICS FOR TABLE OF WHITE_PC BY FHP11

Statistic	DF	Value	Prob
Chi-Square	6	21.691	0.001

TABLE OF WHITE_PC BY FHP16

WHITE_PC	FHP16			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	8 11.244 0.936 6.30	11 14.457 0.8265 8.66	15 8.2992 5.4102 11.81	34 26.77
2	12 12.567 0.0256 9.45	17 16.157 0.0439 13.39	9 9.2756 0.0082 7.09	38 29.92
3	10 11.244 0.1377 7.87	19 14.457 1.4278 14.96	5 8.2992 1.3115 3.94	34 26.77
4	12 6.9449 3.6796 9.45	7 8.9291 0.4168 5.51	2 5.126 1.9063 1.57	21 16.54
Total	42 33.07	54 42.52	31 24.41	127 100.00

Frequency Missing = 101

STATISTICS FOR TABLE OF WHITE_PC BY FHP16

Statistic	DF	Value	Prob
Chi-Square	6	16.130	0.013

TABLE OF WHITE_PC BY WLI16

WHITE_PC	WLI16			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	13 9.9517 0.9337 8.97	9 9.9517 0.091 6.21	17 19.097 0.2302 11.72	39 26.90
2	9 11.228 0.442 6.21	12 11.228 0.0531 8.28	23 21.545 0.0983 15.86	44 30.34
3	5 8.931 1.7303 3.45	15 8.931 4.1241 10.34	15 17.138 0.2667 10.34	35 24.14
4	10 6.8897 1.4042 6.90	1 6.8897 5.0348 0.69	16 13.221 0.5843 11.03	27 18.62
Total	37 25.52	37 25.52	71 48.97	145 100.00

Frequency Missing = 83

STATISTICS FOR TABLE OF WHITE_PC BY WLI16

Statistic	DF	Value	Prob
Chi-Square	6	14.993	0.020

TABLE OF ASIAN_PC BY CU9

ASIAN_PC	CU9			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
0	1 1.7231 0.3034 0.51	5 4.5949 0.0357 2.56	106 105.68 0.001 54.36	112 57.44
1	1 1.1077 0.0105 0.51	1 2.9538 1.2924 0.51	70 67.938 0.0626 35.90	72 36.92
2	1 0.1692 4.0783 0.51	2 0.4513 5.3149 1.03	8 10.379 0.5455 4.10	11 5.64
Total	3 1.54	8 4.10	184 94.36	195 100.00

Frequency Missing = 33

STATISTICS FOR TABLE OF ASIAN_PC BY CU9

Statistic	DF	Value	Prob
Chi-Square	4	11.644	0.020

TABLE OF ASIAN_PC BY CU11

ASIAN_PC / CU11	0	1	3	Total
0	21	45	36	102
	16.414	35.759	49.828	
	1.2814	2.3883	3.8373	
	12.07	25.86	20.69	58.62
1	7	13	41	61
	9.8161	21.385	29.799	
	0.8079	3.2878	4.2104	
	4.02	7.47	23.56	35.06
2	0	3	8	11
	1.7701	3.8563	5.3736	
	1.7701	0.1902	1.2837	
	0.00	1.72	4.60	6.32
Total	28	61	85	174
	16.09	35.06	48.85	100.00

Frequency Missing = 54

STATISTICS FOR TABLE OF ASIAN_PC BY CU11

Statistic	DF	Value	Prob
Chi-Square	4	19.057	0.001

TABLE OF ASIAN_PC BY FHP11

ASIAN_PC / FHP11	0	1	3	Total
0	22	26	22	70
	17.213	20.082	32.705	
	1.3312	1.744	3.5039	
	18.03	21.31	18.03	57.38
1	8	8	29	45
	11.066	12.91	21.025	
	0.8493	1.8673	3.0254	
	6.56	6.56	23.77	36.89
2	0	1	6	7
	1.7213	2.0082	3.2705	
	1.7213	0.5062	2.278	
	0.00	0.82	4.92	5.74
Total	30	35	57	122
	24.59	28.69	46.72	100.00

Frequency Missing = 106

STATISTICS FOR TABLE OF ASIAN_PC BY FHP11

Statistic	DF	Value	Prob
Chi-Square	4	16.827	0.002

TABLE OF ASIAN_PC BY CU15

ASIAN_PC / CU15	0	1	3	Total
0	0	7	104	111
	0.5904	9.4468	100.96	
	0.5904	0.6337	0.0914	
	0.00	3.72	55.32	59.04
1	0	6	60	66
	0.3511	5.617	60.032	
	0.3511	0.0261	17E-6	
	0.00	3.19	31.91	35.11
2	1	3	7	11
	0.0585	0.9362	10.005	
	15.149	4.5498	0.9027	
	0.53	1.60	3.72	5.85
Total	1	16	171	188
	0.53	8.51	90.96	100.00

Frequency Missing = 40

STATISTICS FOR TABLE OF ASIAN_PC BY CU15

Statistic	DF	Value	Prob
Chi-Square	4	22.295	0.000

TABLE OF ASIAN_PC BY WLI10

ASIAN_PC / WLI10	0	1	3	Total
0	42	12	11	65
	39.565	13	12.435	
	0.1498	0.0769	0.1656	
	36.52	10.43	9.57	56.52
1	27	10	6	43
	26.174	8.6	8.2261	
	0.0261	0.2279	0.6024	
	23.48	8.70	5.22	37.39
2	1	1	5	7
	4.2609	1.4	1.3391	
	2.4956	0.1143	10.008	
	0.87	0.87	4.35	6.09
Total	70	23	22	115
	60.87	20.00	19.13	100.00

Frequency Missing = 113

STATISTICS FOR TABLE OF ASIAN_PC BY WLI10

Statistic	DF	Value	Prob
Chi-Square	4	13.867	0.008

TABLE OF ASIAN_PC BY CU20

ASIAN_PC / CU20	1	3	Total
0	1	113	114
	1.1633	112.84	
	0.0229	0.0002	
	0.51	57.65	58.16
1	0	72	72
	0.7347	71.265	
	0.7347	0.0076	
	0.00	36.73	36.73
2	1	9	10
	0.102	9.898	
	7.902	0.0815	
	0.51	4.59	5.10
Total	2	194	196
	1.02	98.98	100.00

Frequency Missing = 32

STATISTICS FOR TABLE OF ASIAN_PC BY CU20

Statistic	DF	Value	Prob
Chi-Square	2	8.749	0.013

TABLE OF ASIAN_PC BY WLI17

ASIAN_PC / WLI17	0	1	3	Total
0	35	9	17	61
	35.346	5.7009	19.953	
	0.0034	1.9091	0.4371	
	32.71	8.41	15.89	57.01
1	26	1	13	40
	23.178	3.7383	13.084	
	0.3437	2.0058	0.0005	
	24.30	0.93	12.15	37.38
2	1	0	5	6
	3.4766	0.5607	1.9626	
	1.7643	0.5607	4.7007	
	0.93	0.00	4.67	5.61
Total	62	10	35	107
	57.94	9.35	32.71	100.00

Frequency Missing = 121

STATISTICS FOR TABLE OF ASIAN_PC BY WLI17

Statistic	DF	Value	Prob
Chi-Square	4	11.725	0.020

TABLE OF NAM_PC BY FHP7

NAM_PC	FHP7			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
0	27 27.119 0.0005 22.88	39 43.22 0.4121 33.05	34 29.661 0.6347 28.81	100 84.75
1	5 4.8814 0.0029 4.24	12 7.7797 2.2895 10.17	1 5.339 3.5263 0.85	18 15.25
Total	32 27.12	51 43.22	35 29.66	118 100.00

Frequency Missing = 110

STATISTICS FOR TABLE OF NAM_PC BY FHP7

Statistic	DF	Value	Prob
Chi-Square	2	6.866	0.032

TABLE OF NAM_PC BY WLI2

NAM_PC	WLI2			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
0	43 37.992 0.6602 35.25	40 44.746 0.5034 32.79	20 20.262 0.0034 16.39	103 84.43
1	2 7.0082 3.579 1.64	13 8.2541 2.7288 10.66	4 3.7377 0.0184 3.28	19 15.57
Total	45 36.89	53 43.44	24 19.67	122 100.00

Frequency Missing = 106

STATISTICS FOR TABLE OF NAM_PC BY WLI2

Statistic	DF	Value	Prob
Chi-Square	2	7.493	0.024

TABLE OF LT20_PC BY CU2

LT20_PC	CU2			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
0	4 7.9 1.9253 2.22	36 38.183 0.1248 20.00	39 32.917 1.1243 21.67	79 43.89
1	9 5.9 1.6288 5.00	35 28.517 1.474 19.44	15 24.583 3.7359 8.33	59 32.78
2	3 2.1 0.3857 1.67	9 10.15 0.1303 5.00	9 8.75 0.0071 5.00	21 11.67
3	2 2.1 0.0048 1.11	7 10.15 0.9776 3.89	12 8.75 1.2071 6.67	21 11.67
Total	18 10.00	87 48.33	75 41.67	180 100.00

Frequency Missing = 48

STATISTICS FOR TABLE OF LT20_PC BY CU2

Statistic	DF	Value	Prob
Chi-Square	6	12.726	0.048

TABLE OF LT20_PC BY FHP15

LT20_PC	FHP15			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
0	4 4.125 0.0038 3.33	12 5.625 7.225 10.00	29 35.25 1.1082 24.17	45 37.50
1	4 4.4917 0.0538 3.33	3 6.125 1.5944 2.50	42 38.383 0.3408 35.00	49 40.83
2	3 1.375 1.9205 2.50	0 1.875 1.875 0.00	12 11.75 0.0053 10.00	15 12.50
3	0 1.0083 1.0083 0.00	0 1.375 1.375 0.00	11 8.6167 0.6592 9.17	11 9.17
Total	11 9.17	15 12.50	94 78.33	120 100.00

Frequency Missing = 108

STATISTICS FOR TABLE OF LT20_PC BY FHP15

Statistic	DF	Value	Prob
Chi-Square	6	17.169	0.009

TABLE OF LT20_PC BY FHP16

LT20_PC	FHP16			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
0	21 14.547 2.8625 17.95	20 20.051 0.0001 17.09	5 11.402 3.5944 4.27	46 39.32
1	8 14.863 3.1692 6.84	22 20.487 0.1117 18.80	17 11.65 2.4573 14.53	47 40.17
2	6 4.4274 0.5586 5.13	4 6.1026 0.7246 3.42	4 3.4701 0.0809 3.42	14 11.97
3	2 3.1624 0.4273 1.71	5 4.359 0.0943 4.27	3 2.4786 0.1097 2.56	10 8.55
Total	37 31.62	51 43.59	29 24.79	117 100.00

Frequency Missing = 111

STATISTICS FOR TABLE OF LT20_PC BY FHP16

Statistic	DF	Value	Prob
Chi-Square	6	14.190	0.028

TABLE OF LT20_PC BY WLI15

LT20_PC	WLI15			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
0	22 29.9 2.0873 22.00	7 4.6 1.2522 7.00	17 11.5 2.6304 17.00	46 46.00
1	26 21.45 0.9652 26.00	2 3.3 0.5121 2.00	5 8.25 1.2803 5.00	33 33.00
2	11 7.15 2.0731 11.00	0 1.1 1.1 0.00	0 2.75 2.75 0.00	11 11.00
3	6 6.5 0.0385 6.00	1 1 0 1.00	3 2.5 0.1 3.00	10 10.00
Total	65 65.00	10 10.00	25 25.00	100 100.00

Frequency Missing = 128

STATISTICS FOR TABLE OF LT20_PC BY WLI15

Statistic	DF	Value	Prob
Chi-Square	6	14.789	0.022

TABLE OF ASIAN_PC BY WLI18

ASIAN_PC	WLI18			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	39 38.077 0.0224 37.50	11 6.9231 2.4009 10.58	10 15 1.6667 9.62	60 57.69
1	26 24.115 0.1473 25.00	1 4.3846 2.6127 0.96	11 9.5 0.2368 10.58	38 36.54
2	1 3.8077 2.0703 0.96	0 0.6923 0.6923 0.00	5 1.5 8.1667 4.81	6 5.77
Total	66 63.46	12 11.54	26 25.00	104 100.00

Frequency Missing = 124

STATISTICS FOR TABLE OF ASIAN_PC BY WLI18

Statistic	DF	Value	Prob
Chi-Square	4	18.016	0.001

TABLE OF ASIAN_PC BY WLI9

ASIAN_PC	WLI9			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	42 41.111 0.0192 42.42	8 5.5556 1.0756 8.08	5 8.3333 1.3333 5.05	55 55.56
1	30 28.404 0.0897 30.30	1 3.8384 2.0989 1.01	7 5.7576 0.2681 7.07	38 38.38
2	2 4.4848 1.3767 2.02	1 0.6061 0.2561 1.01	3 0.9091 4.8091 3.03	6 6.06
Total	74 74.75	10 10.10	15 15.15	99 100.00

Frequency Missing = 129

STATISTICS FOR TABLE OF ASIAN_PC BY WLI9

Statistic	DF	Value	Prob
Chi-Square	4	11.327	0.023

TABLE OF HISP_PC BY FHP11

HISP_PC	FHP11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	21 16.098 1.493 17.07	22 18.78 0.5519 17.89	23 31.122 2.1196 18.70	66 53.66
1	8 10.732 0.6953 6.50	9 12.52 0.9898 7.32	27 20.748 1.8839 21.95	44 35.77
2	1 3.1707 1.4861 0.81	4 3.6992 0.0245 3.25	8 6.1301 0.5704 6.50	13 10.57
Total	30 24.39	35 28.46	58 47.15	123 100.00

Frequency Missing = 105

STATISTICS FOR TABLE OF HISP_PC BY FHP11

Statistic	DF	Value	Prob
Chi-Square	4	9.815	0.044

TABLE OF HISP_PC BY WLI16

HISP_PC	WLI16			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	26 20.396 1.54 18.71	13 20.978 3.0343 9.35	42 39.626 0.1422 30.22	81 58.27
1	6 11.583 2.6908 4.32	19 11.914 4.215 13.67	21 22.504 0.1005 15.11	46 33.09
2	3 3.0216 0.0002 2.16	4 3.1079 0.2561 2.88	5 5.8705 0.1291 3.60	12 8.63
Total	35 25.18	36 25.90	68 48.92	139 100.00

Frequency Missing = 89

STATISTICS FOR TABLE OF HISP_PC BY WLI16

Statistic	DF	Value	Prob
Chi-Square	4	12.108	0.017

TABLE OF HISP_PC BY WLI18

HISP_PC	WLI18			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	39 36.808 0.1306 37.50	8 6.6923 0.2555 7.69	11 14.5 0.8448 10.58	58 55.77
1	17 22.212 1.2228 16.35	3 4.0385 0.267 2.88	15 8.75 4.4643 14.42	35 33.65
2	10 6.9808 1.3058 9.62	1 1.2692 0.0571 0.96	0 2.75 2.75 0.00	11 10.58
Total	66 63.46	12 11.54	26 25.00	104 100.00

Frequency Missing = 124

STATISTICS FOR TABLE OF HISP_PC BY WLI18

Statistic	DF	Value	Prob
Chi-Square	4	11.298	0.023

TABLE OF HISP_PC BY WLI20

HISP_PC	WLI20			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	43 40.634 0.1378 42.57	4 3.3861 0.1113 3.96	10 12.98 0.6842 9.90	57 56.44
1	18 23.525 1.2975 17.82	2 1.9604 0.0008 1.98	13 7.5149 4.0037 12.87	33 32.67
2	11 7.8416 1.2721 10.89	0 0.6535 0.6535 0.00	0 2.505 2.505 0.00	11 10.89
Total	72 71.29	6 5.94	23 22.77	101 100.00

Frequency Missing = 127

STATISTICS FOR TABLE OF HISP_PC BY WLI20

Statistic	DF	Value	Prob
Chi-Square	4	10.666	0.031

TABLE OF R21_40PC BY CU7

R21_40PC	CU7			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	8 5.896 0.7509 4.62	21 30.659 3.043 12.14	22 14.445 3.9513 12.72	51 29.48
2	8 7.3988 0.0488 4.62	46 38.474 1.4722 26.59	10 18.127 3.6437 5.78	64 36.99
3	3 4.6243 0.5705 1.73	26 24.046 0.1587 15.03	11 11.329 0.0096 6.36	40 23.12
4	1 2.0809 0.5615 0.58	11 10.821 0.003 6.36	6 5.0983 0.1595 3.47	18 10.40
Total	20 11.56	104 60.12	49 28.32	173 100.00

Frequency Missing = 55

STATISTICS FOR TABLE OF R21_40PC BY CU7

Statistic	DF	Value	Prob
Chi-Square	6	14.373	0.026

TABLE OF R21_40PC BY WLI5

R21_40PC	WLI5			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	10 11.583 0.2163 7.19	4 7.554 1.6721 2.88	21 15.863 1.6633 15.11	35 25.18
2	16 17.54 0.1351 11.51	9 11.439 0.52 6.47	28 24.022 0.6589 20.14	53 38.13
3	12 11.914 0.0006 8.63	12 7.7698 2.3031 8.63	12 16.317 1.1419 8.63	36 25.90
4	8 4.964 1.8568 5.76	5 3.2374 0.9596 3.60	2 6.7986 3.3869 1.44	15 10.79
Total	46 33.09	30 21.58	63 45.32	139 100.00

Frequency Missing = 89

STATISTICS FOR TABLE OF R21_40PC BY WLI5

Statistic	DF	Value	Prob
Chi-Square	6	14.515	0.024

TABLE OF R21_40PC BY CU16

R21_40PC	CU16			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	11 7.2931 1.8841 6.32	28 28.092 0.0003 16.09	8 11.615 1.1251 4.60	47 27.01
2	8 10.086 0.4315 4.60	42 38.851 0.2553 24.14	15 16.063 0.0704 8.62	65 37.36
3	4 6.5172 0.9723 2.30	28 25.103 0.3342 16.09	10 10.379 0.0139 5.75	42 24.14
4	4 3.1034 0.259 2.30	6 11.954 2.9656 3.45	10 4.9425 5.1751 5.75	20 11.49
Total	27 15.52	104 59.77	43 24.71	174 100.00

Frequency Missing = 54

STATISTICS FOR TABLE OF R21_40PC BY CU16

Statistic	DF	Value	Prob
Chi-Square	6	13.487	0.036

TABLE OF R21_40PC BY WLI21

R21_40PC	WLI21			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	13 9.7619 1.0741 10.32	11 13.095 0.3352 8.73	6 7.1429 0.1829 4.76	30 23.81
2	13 15.294 0.344 10.32	28 20.516 2.7302 22.22	6 11.19 2.4075 4.76	47 37.30
3	11 11.063 0.0004 8.73	9 14.841 2.299 7.14	14 8.0952 4.307 11.11	34 26.98
4	4 4.881 0.159 3.17	7 6.5476 0.0313 5.56	4 3.5714 0.0514 3.17	15 11.90
Total	41 32.54	55 43.65	30 23.81	126 100.00

Frequency Missing = 102

STATISTICS FOR TABLE OF R21_40PC BY WLI21

Statistic	DF	Value	Prob
Chi-Square	6	13.922	0.031

TABLE OF R41_60PC BY CU11

R41_60PC CU11

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	13 10.164 0.7914 7.10	11 21.005 4.7659 6.01	38 30.831 1.6672 20.77	62 33.88
2	13 14.262 0.1117 7.10	37 29.475 1.9209 20.22	37 43.262 0.9065 20.22	87 47.54
3	4 5.5738 0.4444 2.19	14 11.519 0.5343 7.65	16 16.907 0.0487 8.74	34 18.58
Total	30 16.39	62 33.88	91 49.73	183 100.00

Frequency Missing = 45

STATISTICS FOR TABLE OF R41_60PC BY CU11

Statistic	DF	Value	Prob
Chi-Square	4	11.191	0.025

TABLE OF R41_60PC BY CU17

R41_60PC CU17

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	6 3.4021 1.9839 3.09	6 6.4639 0.0333 3.09	54 56.134 0.0811 27.84	66 34.02
2	3 4.6907 0.6094 1.55	5 8.9124 1.7175 2.58	83 77.397 0.4056 42.78	91 46.91
3	1 1.9072 0.4315 0.52	8 3.6237 5.2852 4.12	28 31.469 0.3824 14.43	37 19.07
Total	10 5.15	19 9.79	165 85.05	194 100.00

Frequency Missing = 34

STATISTICS FOR TABLE OF R41_60PC BY CU17

Statistic	DF	Value	Prob
Chi-Square	4	10.930	0.027

TABLE OF R41_60PC BY FHP11

R41_60PC FHP11

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	16 11.411 1.8456 12.40	9 12.481 0.9707 6.98	21 22.109 0.0556 16.28	46 35.66
2	7 14.636 3.9836 5.43	20 16.008 0.9956 15.50	32 28.357 0.4681 24.81	59 45.74
3	9 5.9535 1.559 6.98	6 6.5116 0.0402 4.65	9 11.535 0.5571 6.98	24 18.60
Total	32 24.81	35 27.13	62 48.06	129 100.00

Frequency Missing = 99

STATISTICS FOR TABLE OF R41_60PC BY FHP11

Statistic	DF	Value	Prob
Chi-Square	4	10.476	0.033

TABLE OF R41_60PC BY FHP22

R41_60PC FHP22

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	18 11 4.4545 14.52	21 24.129 0.4058 16.94	5 8.871 1.6891 4.03	44 35.48
2	6 14.25 4.7763 4.84	36 31.258 0.7194 29.03	15 11.492 1.0709 12.10	57 45.97
3	7 5.75 0.2717 5.65	11 12.613 0.2063 8.87	5 4.6371 0.0284 4.03	23 18.55
Total	31 25.00	68 54.84	25 20.16	124 100.00

Frequency Missing = 104

STATISTICS FOR TABLE OF R41_60PC BY FHP22

Statistic	DF	Value	Prob
Chi-Square	4	13.622	0.009

TABLE OF R41_60PC BY FHP23

R41_60PC FHP23

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	17 10.2 4.5333 12.59	14 15.111 0.0817 10.37	20 25.689 1.2598 14.81	51 37.78
2	6 11.8 2.8508 4.44	21 17.481 0.7082 15.56	32 29.719 0.1751 23.70	59 43.70
3	4 5 0.2 2.96	5 7.4074 0.7824 3.70	16 12.593 0.922 11.85	25 18.52
Total	27 20.00	40 29.63	68 50.37	135 100.00

Frequency Missing = 93

STATISTICS FOR TABLE OF R41_60PC BY FHP23

Statistic	DF	Value	Prob
Chi-Square	4	11.513	0.021

TABLE OF R41_60PC BY WLI10

R41_60PC WLI10

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	29 28.959 59E-6 23.97	6 9.124 1.0696 4.96	13 9.9174 0.9582 10.74	48 39.67
2	32 31.372 0.0126 26.45	15 9.8843 2.6477 12.40	5 10.744 3.0707 4.13	52 42.98
3	12 12.669 0.0354 9.92	2 3.9917 0.9938 1.65	7 4.3388 1.6322 5.79	21 17.36
Total	73 60.33	23 19.01	25 20.66	121 100.00

Frequency Missing = 107

STATISTICS FOR TABLE OF R41_60PC BY WLI10

Statistic	DF	Value	Prob
Chi-Square	4	10.420	0.034

TABLE OF R41_60PC BY WLI22

R41_60PC	WLI22			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	18 12.032 2.9602 14.40	22 29.704 1.9981 17.60	7 5.264 0.5725 5.60	47 37.60
2	11 14.592 0.8842 8.80	39 36.024 0.2459 31.20	7 6.384 0.0594 5.60	57 45.60
3	3 5.376 1.0501 2.40	18 13.272 1.6843 14.40	0 2.352 2.352 0.00	21 16.80
Total	32 25.60	79 63.20	14 11.20	125 100.00

Frequency Missing = 103

STATISTICS FOR TABLE OF R41_60PC BY WLI22

Statistic	DF	Value	Prob
Chi-Square	4	11.807	0.019

TABLE OF GT61_PC BY CU15

GT61_PC	CU15			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	1 0.3669 1.0927 0.59	8 5.8698 0.773 4.73	53 55.763 0.1369 31.36	62 36.69
1	0 0.4675 0.4675 0.00	2 7.4793 4.0141 1.18	77 71.053 0.4977 45.56	79 46.75
2	0 0.1657 0.1657 0.00	6 2.6509 4.2312 3.55	22 25.183 0.4024 13.02	28 16.57
Total	1 0.59	16 9.47	152 89.94	169 100.00

Frequency Missing = 59

STATISTICS FOR TABLE OF GT61_PC BY CU15

Statistic	DF	Value	Prob
Chi-Square	4	11.781	0.019

TABLE OF GT61_PC BY WLI1

GT61_PC	WLI1			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	25 19.152 1.7858 22.32	5 10.795 3.1106 4.46	9 9.0536 0.0003 8.04	39 34.82
1	19 25.045 1.4589 16.96	24 14.116 6.9206 21.43	8 11.839 1.245 7.14	51 45.54
2	11 10.804 0.0036 9.82	2 6.0893 2.7462 1.79	9 5.1071 2.9673 8.04	22 19.64
Total	55 49.11	31 27.68	26 23.21	112 100.00

Frequency Missing = 116

STATISTICS FOR TABLE OF GT61_PC BY WLI1

Statistic	DF	Value	Prob
Chi-Square	4	20.238	0.000

TABLE OF GT61_PC BY WLI6

GT61_PC	WLI6			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
0	13 12.779 0.0038 11.50	17 14.46 0.4461 15.04	8 10.761 0.7084 7.08	38 33.63
1	12 18.496 2.2812 10.62	23 20.929 0.2049 20.35	20 15.575 1.257 17.70	55 48.67
2	13 6.7257 5.8533 11.50	3 7.6106 2.7932 2.65	4 5.6637 0.4887 3.54	20 17.70
Total	38 33.63	43 38.05	32 28.32	113 100.00

Frequency Missing = 115

STATISTICS FOR TABLE OF GT61_PC BY WLI6

Statistic	DF	Value	Prob
Chi-Square	4	14.037	0.007

TABLE OF FT_PC BY CU15

FT_PC	CU15			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	2 0.51 4.3531 1.00	8 4.08 3.7663 4.00	41 46.41 0.6306 20.50	51 25.50
2	0 1.15 1.15 0.00	5 9.2 1.9174 2.50	110 104.65 0.2735 55.00	115 57.50
3	0 0.34 0.34 0.00	3 2.72 0.0288 1.50	31 30.94 0.0001 15.50	34 17.00
Total	2 1.00	16 8.00	182 91.00	200 100.00

Frequency Missing = 28

STATISTICS FOR TABLE OF FT_PC BY CU15

Statistic	DF	Value	Prob
Chi-Square	4	12.460	0.014

TABLE OF FT_PC BY FHP15

FT_PC	FHP15			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	8 3.4531 5.9871 6.25	2 4.5156 1.4014 1.56	24 26.031 0.1585 18.75	34 26.56
2	4 7.1094 1.3599 3.12	11 9.2969 0.312 8.59	55 53.594 0.0369 42.97	70 54.69
3	1 2.4375 0.8478 0.78	4 3.1875 0.2071 3.12	19 18.375 0.0213 14.84	24 18.75
Total	13 10.16	17 13.28	98 76.56	128 100.00

Frequency Missing = 100

STATISTICS FOR TABLE OF FT_PC BY FHP15

Statistic	DF	Value	Prob
Chi-Square	4	10.332	0.035

TABLE OF FT_PC BY WLI10

FT_PC	WLI10			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	14 20.512 2.0676 11.57	6 6.4628 0.0331 4.96	14 7.0248 6.926 11.57	34 28.10
2	42 37.405 0.5645 34.71	14 11.785 0.4163 11.57	6 12.81 3.6202 4.96	62 51.24
3	17 15.083 0.2437 14.05	3 4.7521 0.646 2.48	5 5.1653 0.0053 4.13	25 20.66
Total	73 60.33	23 19.01	25 20.66	121 100.00

Frequency Missing = 107

STATISTICS FOR TABLE OF FT_PC BY WLI10

Statistic	DF	Value	Prob
Chi-Square	4	14.523	0.006

TABLE OF DIST BY CU5

DIST	CU5			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	11 12.273 0.132 6.25	56 58.636 0.1185 31.82	53 49.091 0.3113 30.11	120 68.18
2	5 4.0909 0.202 2.84	26 19.545 2.1315 14.77	9 16.364 3.3136 5.11	40 22.73
3	2 1.6364 0.0808 1.14	4 7.8182 1.8647 2.27	10 6.5455 1.8232 5.68	16 9.09
Total	18 10.23	86 48.86	72 40.91	176 100.00

Frequency Missing = 52

STATISTICS FOR TABLE OF DIST BY CU5

Statistic	DF	Value	Prob
Chi-Square	4	9.978	0.041

TABLE OF DIST BY CU9

DIST	CU9			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	1 2.7115 1.0803 0.48	4 6.101 0.7235 1.92	136 132.19 0.11 65.38	141 67.79
2	1 0.8846 0.0151 0.48	4 1.9904 2.029 1.92	41 43.125 0.1047 19.71	46 22.12
3	2 0.4038 6.3086 0.96	1 0.9087 0.0092 0.48	18 19.687 0.1446 8.65	21 10.10
Total	4 1.92	9 4.33	195 93.75	208 100.00

Frequency Missing = 20

STATISTICS FOR TABLE OF DIST BY CU9

Statistic	DF	Value	Prob
Chi-Square	4	10.525	0.032

TABLE OF DIST BY CU12

DIST	CU12			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	18 18.763 0.031 10.17	70 66.712 0.1621 39.55	35 37.525 0.17 19.77	123 69.49
2	9 6.1017 1.3767 5.08	22 21.695 0.0043 12.43	9 12.203 0.8409 5.08	40 22.60
3	0 2.1356 2.1356 0.00	4 7.5932 1.7004 2.26	10 4.2712 7.6839 5.65	14 7.91
Total	27 15.25	96 54.24	54 30.51	177 100.00

Frequency Missing = 51

STATISTICS FOR TABLE OF DIST BY CU12

Statistic	DF	Value	Prob
Chi-Square	4	14.105	0.007

TABLE OF DIST BY FHP18

DIST	FHP18			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	7 7.907 0.104 5.43	10 13.837 1.0641 7.75	68 63.256 0.3558 52.71	85 65.89
2	5 2.9767 1.3752 3.88	6 5.2093 0.12 4.65	21 23.814 0.3325 16.28	32 24.81
3	0 1.1163 1.1163 0.00	5 1.9535 4.7511 3.88	7 8.9302 0.4172 5.43	12 9.30
Total	12 9.30	21 16.28	96 74.42	129 100.00

Frequency Missing = 99

STATISTICS FOR TABLE OF DIST BY FHP18

Statistic	DF	Value	Prob
Chi-Square	4	9.636	0.047

TABLE OF AGE BY CU15

AGE	CU15			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	0 0.13 0.13 0.00	1 1.04 0.0015 0.50	12 11.83 0.0024 6.00	13 6.50
2	1 1.76 0.3282 0.50	12 14.08 0.3073 6.00	163 160.16 0.0504 81.50	176 88.00
3	1 0.11 7.2009 0.50	3 0.88 5.1073 1.50	7 10.01 0.9051 3.50	11 5.50
Total	2 1.00	16 8.00	182 91.00	200 100.00

Frequency Missing = 28

STATISTICS FOR TABLE OF AGE BY CU15

Statistic	DF	Value	Prob
Chi-Square	4	14.033	0.007

TABLE OF HD BY CU2

HD CU2

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	7	45	52	104
	10.505	49.374	44.121	
	1.1695	0.3874	1.4069	
	3.54	22.73	26.26	52.53
2	13	49	32	94
	9.4949	44.626	39.879	
	1.2939	0.4287	1.5566	
	6.57	24.75	16.16	47.47
Total	20	94	84	198
	10.10	47.47	42.42	100.00

Frequency Missing = 30

STATISTICS FOR TABLE OF HD BY CU2

Statistic	DF	Value	Prob
Chi-Square	2	6.243	0.044

TABLE OF HD BY CU5

HD CU5

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	5	50	30	85
	8.6932	41.534	34.773	
	1.569	1.7256	0.6551	
	2.84	28.41	17.05	48.30
2	13	36	42	91
	9.3068	44.466	37.227	
	1.4655	1.6118	0.6119	
	7.39	20.45	23.86	51.70
Total	18	86	72	176
	10.23	48.86	40.91	100.00

Frequency Missing = 52

STATISTICS FOR TABLE OF HD BY CU5

Statistic	DF	Value	Prob
Chi-Square	2	7.639	0.022

TABLE OF HD BY CU23

HD CU23

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	5	43	45	93
	4.6243	32.884	55.492	
	0.0305	3.112	1.9836	
	2.76	23.76	24.86	51.38
2	4	21	63	88
	4.3757	31.116	52.508	
	0.0323	3.2888	2.0964	
	2.21	11.60	34.81	48.62
Total	9	64	108	181
	4.97	35.36	59.67	100.00

Frequency Missing = 47

STATISTICS FOR TABLE OF HD BY CU23

Statistic	DF	Value	Prob
Chi-Square	2	10.544	0.005

TABLE OF HD BY WLI5

HD WLI5

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	19	16	41	76
	25.151	16.403	34.446	
	1.5043	0.0099	1.247	
	13.67	11.51	29.50	54.68
2	27	14	22	63
	20.849	13.597	28.554	
	1.8148	0.0119	1.5043	
	19.42	10.07	15.83	45.32
Total	46	30	63	139
	33.09	21.58	45.32	100.00

Frequency Missing = 89

STATISTICS FOR TABLE OF HD BY WLI5

Statistic	DF	Value	Prob
Chi-Square	2	6.092	0.048

TABLE OF MAJOR BY FHP16

MAJOR FHP16

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	18	30	16	64
	20.813	27.057	16.13	
	0.3802	0.3201	0.001	
	14.63	24.39	13.01	52.03
2	14	9	14	37
	12.033	15.642	9.3252	
	0.3217	2.8206	2.3435	
	11.38	7.32	11.38	30.08
4	8	13	1	22
	7.1545	9.3008	5.5447	
	0.0999	1.4713	3.7251	
	6.50	10.57	0.81	17.89
Total	40	52	31	123
	32.52	42.28	25.20	100.00

Frequency Missing = 105

STATISTICS FOR TABLE OF MAJOR BY FHP16

Statistic	DF	Value	Prob
Chi-Square	4	11.483	0.022

TABLE OF MAJOR BY WLI11

MAJOR WLI11

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	33	16	17	66
	40.78	13.951	11.268	
	1.4844	0.3009	2.9155	
	26.83	13.01	13.82	53.66
2	26	7	2	35
	21.626	7.3984	5.9756	
	0.8847	0.0215	2.645	
	21.14	5.69	1.63	28.46
4	17	3	2	22
	13.593	4.6504	3.7561	
	0.8537	0.5857	0.821	
	13.82	2.44	1.63	17.89
Total	76	26	21	123
	61.79	21.14	17.07	100.00

Frequency Missing = 105

STATISTICS FOR TABLE OF MAJOR BY WLI11

Statistic	DF	Value	Prob
Chi-Square	4	10.512	0.033

TABLE OF ROUTE BY FHP6

ROUTE	FHP6			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	26 24.279 0.1221 18.57	30 36.786 1.2517 21.43	47 41.936 0.6116 33.57	103 73.57
2	7 8.7214 0.3398 5.00	20 13.214 3.4846 14.29	10 15.064 1.7025 7.14	37 26.43
Total	33 23.57	50 35.71	57 40.71	140 100.00

Frequency Missing = 88

STATISTICS FOR TABLE OF ROUTE BY FHP6

Statistic	DF	Value	Prob
Chi-Square	2	7.512	0.023

TABLE OF ROUTE BY WLI6

ROUTE	WLI6			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	42 34.182 1.7882 31.82	30 34.182 0.5116 22.73	24 27.636 0.4785 18.18	96 72.73
2	5 12.818 4.7685 3.79	17 12.818 1.3643 12.88	14 10.364 1.2759 10.61	36 27.27
Total	47 35.61	47 35.61	38 28.79	132 100.00

Frequency Missing = 96

STATISTICS FOR TABLE OF ROUTE BY WLI6

Statistic	DF	Value	Prob
Chi-Square	2	10.187	0.006

TABLE OF JOBTITLE BY CU14

JOBTITLE	CU14			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	9 6.8187 0.6978 4.95	23 26.874 0.5584 12.64	41 39.308 0.0729 22.53	73 40.11
2	4 3.3626 0.1208 2.20	11 13.253 0.3829 6.04	21 19.385 0.1346 11.54	36 19.78
3	2 6.3516 2.9814 1.10	32 25.033 1.939 17.58	34 36.615 0.1868 18.68	68 37.36
7	2 0.467 5.0317 1.10	1 1.8407 0.3839 0.55	2 2.6923 0.178 1.10	5 2.75
Total	17 9.34	67 36.81	98 53.85	182 100.00

Frequency Missing = 46

STATISTICS FOR TABLE OF JOBTITLE BY CU14

Statistic	DF	Value	Prob
Chi-Square	6	12.668	0.049

TABLE OF JOBTITLE BY CU15

JOBTITLE	CU15			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	1 0.86 0.0228 0.50	5 6.88 0.5137 2.50	80 78.26 0.0387 40.00	86 43.00
2	0 0.38 0.38 0.00	0 3.04 3.04 0.00	38 34.58 0.3382 19.00	38 19.00
3	0 0.7 0.7 0.00	11 5.6 5.2071 5.50	59 63.7 0.3468 29.50	70 35.00
7	1 0.06 14.727 0.50	0 0.48 0.48 0.00	5 5.46 0.0388 2.50	6 3.00
Total	2 1.00	16 8.00	182 91.00	200 100.00

Frequency Missing = 28

STATISTICS FOR TABLE OF JOBTITLE BY CU15

Statistic	DF	Value	Prob
Chi-Square	6	25.833	0.000

TABLE OF JOBTITLE BY CU18

JOBTITLE	CU18			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	3 1.275 2.3338 1.50	3 8.075 3.1896 1.50	79 75.65 0.1483 39.50	85 42.50
2	0 0.54 0.54 0.00	2 3.42 0.5896 1.00	34 32.04 0.1199 17.00	36 18.00
3	0 1.095 1.095 0.00	14 6.935 7.1974 7.00	59 64.97 0.5486 29.50	73 36.50
7	0 0.09 0.09 0.00	0 0.57 0.57 0.00	6 5.34 0.0816 3.00	6 3.00
Total	3 1.50	19 9.50	178 89.00	200 100.00

Frequency Missing = 28

STATISTICS FOR TABLE OF JOBTITLE BY CU18

Statistic	DF	Value	Prob
Chi-Square	6	16.504	0.011

TABLE OF JOBTITLE BY CU19

JOBTITLE	CU19			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	7 4.5222 1.3576 3.89	9 14.8 2.273 5.00	58 54.678 0.2019 32.22	74 41.11
2	2 2.0167 0.0001 1.11	6 6.6 0.0545 3.33	25 24.383 0.0156 13.89	33 18.33
3	1 4.0944 2.3387 0.56	21 13.4 4.3104 11.67	45 49.506 0.4101 25.00	67 37.22
7	1 0.3667 1.0939 0.56	0 1.2 1.2 0.00	5 4.4333 0.0724 2.78	6 3.33
Total	11 6.11	36 20.00	133 73.89	180 100.00

Frequency Missing = 48

STATISTICS FOR TABLE OF JOBTITLE BY CU19

Statistic	DF	Value	Prob
Chi-Square	6	13.328	0.038

TABLE OF JOBTITLE BY WLI3

JOBTITLE	WLI3			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	19 18.862 0.001 11.38	12 14.671 0.4862 7.19	39 36.467 0.1759 23.35	70 41.92
2	14 7.8144 4.8964 8.38	3 6.0778 1.5586 1.80	12 15.108 0.6393 7.19	29 17.37
3	12 17.246 1.5955 7.19	20 13.413 3.2346 11.98	32 33.341 0.054 19.16	64 38.32
7	0 1.0778 1.0778 0.00	0 0.8383 0.8383 0.00	4 2.0838 1.762 2.40	4 2.40
Total	45 26.95	35 20.96	87 52.10	167 100.00

Frequency Missing = 61

STATISTICS FOR TABLE OF JOBTITLE BY WLI3

Statistic	DF	Value	Prob
Chi-Square	6	16.320	0.012

TABLE OF JOBTITLE BY CU22

JOBTITLE	CU22			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	18 13.089 1.8423 10.06	41 44.425 0.264 22.91	12 13.486 0.1637 6.70	71 39.66
2	5 6.2682 0.2566 2.79	25 21.274 0.6527 13.97	4 6.4581 0.9356 2.23	34 18.99
3	7 12.721 2.5727 3.91	44 43.173 0.0158 24.58	18 13.106 1.8274 10.06	69 38.55
7	3 0.9218 4.6854 1.68	2 3.1285 0.4071 1.12	0 0.9497 0.9497 0.00	5 2.79
Total	33 18.44	112 62.57	34 18.99	179 100.00

Frequency Missing = 49

STATISTICS FOR TABLE OF JOBTITLE BY CU22

Statistic	DF	Value	Prob
Chi-Square	6	14.573	0.024

TABLE OF GP_YR_PR BY CU22

GP_YR_PR	CU22			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	4 3.3184 0.14 2.23	12 11.263 0.0483 6.70	2 3.419 0.5889 1.12	18 10.06
2	19 18.251 0.0307 10.61	69 61.944 0.8037 38.55	11 18.804 3.2391 6.15	99 55.31
3	7 9.4022 0.6138 3.91	26 31.911 1.0948 14.53	18 9.6872 7.1335 10.06	51 28.49
4	3 2.0279 0.4659 1.68	5 6.8827 0.515 2.79	3 2.0894 0.3969 1.68	11 6.15
Total	33 18.44	112 62.57	34 18.99	179 100.00

Frequency Missing = 49

STATISTICS FOR TABLE OF GP_YR_PR BY CU22

Statistic	DF	Value	Prob
Chi-Square	6	15.071	0.020

TABLE OF GP_YR_PR BY FHP13

GP_YR_PR	FHP13			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	1 1.8529 0.3926 0.74	2 2.4706 0.0896 1.47	11 9.6765 0.181 8.09	14 10.29
2	10 10.324 0.0101 7.35	21 13.765 3.8032 15.44	47 53.912 0.8861 34.56	78 57.35
3	6 4.8971 0.2484 4.41	1 6.5294 4.6826 0.74	30 25.574 0.7662 22.06	37 27.21
4	1 0.9265 0.0058 0.74	0 1.2353 1.2353 0.00	6 4.8382 0.279 4.41	7 5.15
Total	18 13.24	24 17.65	94 69.12	136 100.00

Frequency Missing = 92

STATISTICS FOR TABLE OF GP_YR_PR BY FHP13

Statistic	DF	Value	Prob
Chi-Square	6	12.580	0.050

TABLE OF GP_YR_PR BY FHP17

GP_YR_PR	FHP17			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	3 1.5789 1.2789 2.26	0 2 2 0.00	11 10.421 0.0322 8.27	14 10.53
2	5 8.797 1.6389 3.76	16 11.143 2.1172 12.03	57 58.06 0.0194 42.86	78 58.65
3	5 4.1729 0.1639 3.76	3 5.2857 0.9884 2.26	29 27.541 0.0773 21.80	37 27.82
4	2 0.4511 5.3178 1.50	0 0.5714 0.5714 0.00	2 2.9774 0.3209 1.50	4 3.01
Total	15 11.28	19 14.29	99 74.44	133 100.00

Frequency Missing = 95

STATISTICS FOR TABLE OF GP_YR_PR BY FHP17

Statistic	DF	Value	Prob
Chi-Square	6	14.526	0.024

TABLE OF GP_YR_PR BY FHP20

GP_YR_PR	FHP20			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	0 0.5625 0.5625 0.00	0 0.6562 0.6562 0.00	12 10.781 0.1378 9.38	12 9.38
2	3 3.5156 0.0756 2.34	6 4.1016 0.8787 4.69	66 67.383 0.0284 51.56	75 58.59
3	1 1.6875 0.2801 0.78	1 1.9688 0.4767 0.78	34 32.344 0.0848 26.56	36 28.12
4	2 0.2344 13.301 1.56	0 0.2734 0.2734 0.00	3 4.4922 0.4957 2.34	5 3.91
Total	6 4.69	7 5.47	115 89.84	128 100.00

Frequency Missing = 100

STATISTICS FOR TABLE OF GP_YR_PR BY FHP20

Statistic	DF	Value	Prob
Chi-Square	6	17.251	0.008

TABLE OF GP_YR_PR BY WLI3

GP_YR_PR	WLI3			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	5 4.8503 0.0046 2.99	1 3.7725 2.0375 0.60	12 9.3772 0.7336 7.19	18 10.78
2	32 24.251 2.4757 19.16	22 18.862 0.522 13.17	36 46.886 2.5276 21.56	90 53.89
3	5 13.204 5.097 2.99	12 10.269 0.2916 7.19	32 25.527 1.6414 19.16	49 29.34
4	3 2.6946 0.0346 1.80	0 2.0958 2.0958 0.00	7 5.2096 0.6153 4.19	10 5.99
Total	45 26.95	35 20.96	87 52.10	167 100.00

Frequency Missing = 61

STATISTICS FOR TABLE OF GP_YR_PR BY WLI3

Statistic	DF	Value	Prob
Chi-Square	6	18.077	0.006

TABLE OF GP_YR_PR BY WLI7

GP_YR_PR	WLI7			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	8 3.9 4.3103 5.33	2 3.7 0.7811 1.33	5 7.4 0.7784 3.33	15 10.00
2	18 22.36 0.8502 12.00	30 21.213 3.6395 20.00	38 42.427 0.4619 25.33	86 57.33
3	10 10.66 0.0409 6.67	3 10.113 5.0032 2.00	28 20.227 2.9874 18.67	41 27.33
4	3 2.08 0.4069 2.00	2 1.9733 0.0004 1.33	3 3.9467 0.2271 2.00	8 5.33
Total	39 26.00	37 24.67	74 49.33	150 100.00

Frequency Missing = 78

STATISTICS FOR TABLE OF GP_YR_PR BY WLI7

Statistic	DF	Value	Prob
Chi-Square	6	19.487	0.003

TABLE OF GP_YR_CJ BY CU19

GP_YR_CJ	CU19			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	7 6.9056 0.0013 3.89	30 22.6 2.423 16.67	76 83.494 0.6727 42.22	113 62.78
2	2 2.9944 0.3303 1.11	5 9.8 2.351 2.78	42 36.206 0.9274 23.33	49 27.22
3	2 1.1 0.7364 1.11	1 3.6 1.8778 0.56	15 13.3 0.2173 8.33	18 10.00
Total	11 6.11	36 20.00	133 73.89	180 100.00

Frequency Missing = 48

STATISTICS FOR TABLE OF GP_YR_CJ BY CU19

Statistic	DF	Value	Prob
Chi-Square	4	9.537	0.049

TABLE OF GP_YR_CJ BY FHP12

GP_YR_CJ	FHP12			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	26 30 0.5333 20.63	33 32 0.0313 26.19	25 22 0.4091 19.84	84 66.67
2	9 10.357 0.1778 7.14	14 11.048 0.789 11.11	6 7.5952 0.3351 4.76	29 23.02
3	10 4.6429 6.1813 7.94	1 4.9524 3.1543 0.79	2 3.4048 0.5796 1.59	13 10.32
Total	45 35.71	48 38.10	33 26.19	126 100.00

Frequency Missing = 102

STATISTICS FOR TABLE OF GP_YR_CJ BY FHP12

Statistic	DF	Value	Prob
Chi-Square	4	12.191	0.016

TABLE OF GP_YR_CJ BY FHP16

GP_YR_CJ	FHP16			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	27 27.78 0.0219 21.26	32 35.717 0.3867 25.20	25 20.504 0.9859 19.69	84 66.14
2	10 9.5906 0.0175 7.87	18 12.331 2.6066 14.17	1 7.0787 5.22 0.79	29 22.83
3	5 4.6299 0.0296 3.94	4 5.9528 0.6406 3.15	5 3.4173 0.733 3.94	14 11.02
Total	42 33.07	54 42.52	31 24.41	127 100.00

Frequency Missing = 101

STATISTICS FOR TABLE OF GP_YR_CJ BY FHP16

Statistic	DF	Value	Prob
Chi-Square	4	10.642	0.031

TABLE OF SIZE BY CU1

SIZE	CU1			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	4 6.8744 1.2019 2.01	22 32.653 3.4757 11.06	88 74.472 2.4572 44.22	114 57.29
2	6 3.6784 1.4653 3.02	26 17.472 4.162 13.07	29 39.849 2.9538 14.57	61 30.65
3	2 1.4472 0.2111 1.01	9 6.8744 0.6573 4.52	13 15.678 0.4576 6.53	24 12.06
Total	12 6.03	57 28.64	130 65.33	199 100.00

Frequency Missing = 29

STATISTICS FOR TABLE OF SIZE BY CU1

Statistic	DF	Value	Prob
Chi-Square	4	17.042	0.002

TABLE OF SIZE BY CU2

SIZE	CU2			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	9 11.487 0.5385 4.62	48 53.415 0.549 24.62	55 47.097 1.326 28.21	112 57.44
2	11 6.2564 3.5966 5.64	38 29.092 2.7274 19.49	12 25.651 7.265 6.15	61 31.28
3	0 2.2564 2.2564 0.00	7 10.492 1.1624 3.59	15 9.2513 3.5722 7.69	22 11.28
Total	20 10.26	93 47.69	82 42.05	195 100.00

Frequency Missing = 33

STATISTICS FOR TABLE OF SIZE BY CU2

Statistic	DF	Value	Prob
Chi-Square	4	22.994	0.000

TABLE OF SIZE BY CU8

SIZE CU8

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	10 13.438 0.8797 5.62	45 49.079 0.339 25.28	49 41.483 1.3621 27.53	104 58.43
2	12 7.236 3.1366 6.74	26 26.427 0.0069 14.61	18 22.337 0.8421 10.11	56 31.46
3	1 2.3258 0.7558 0.56	13 8.4944 2.3899 7.30	4 7.1798 1.4083 2.25	18 10.11
Total	23 12.92	84 47.19	71 39.89	178 100.00

Frequency Missing = 50

STATISTICS FOR TABLE OF SIZE BY CU8

Statistic	DF	Value	Prob
Chi-Square	4	11.120	0.025

TABLE OF SIZE BY CU18

SIZE CU18

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	2 1.7908 0.0244 1.02	6 11.342 2.5159 3.06	109 103.87 0.2536 55.61	117 59.69
2	1 0.9184 0.0073 0.51	8 5.8163 0.8198 4.08	51 53.265 0.0963 26.02	60 30.61
3	0 0.2908 0.2908 0.00	5 1.8418 5.4152 2.55	14 16.867 0.4874 7.14	19 9.69
Total	3 1.53	19 9.69	174 88.78	196 100.00

Frequency Missing = 32

STATISTICS FOR TABLE OF SIZE BY CU18

Statistic	DF	Value	Prob
Chi-Square	4	9.911	0.042

TABLE OF SIZE BY WLI1

SIZE WLI1

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	42 33.455 2.1828 31.82	13 19.341 2.0789 9.85	14 16.205 0.2999 10.61	69 52.27
2	14 21.818 2.8015 10.61	18 12.614 2.3001 13.64	13 10.568 0.5596 9.85	45 34.09
3	8 8.7273 0.0606 6.06	6 5.0455 0.1806 4.55	4 4.2273 0.0122 3.03	18 13.64
Total	64 48.48	37 28.03	31 23.48	132 100.00

Frequency Missing = 96

STATISTICS FOR TABLE OF SIZE BY WLI1

Statistic	DF	Value	Prob
Chi-Square	4	10.476	0.033

TABLE OF SIZE BY WLI18

SIZE WLI18

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	45 38.972 0.9323 41.67	5 6.7778 0.4663 4.63	11 15.25 1.1844 10.19	61 56.48
2	20 22.361 0.2493 18.52	6 3.8889 1.146 5.56	9 8.75 0.0071 8.33	35 32.41
3	4 7.6667 1.7536 3.70	1 1.3333 0.0833 0.93	7 3 5.3333 6.48	12 11.11
Total	69 63.89	12 11.11	27 25.00	108 100.00

Frequency Missing = 120

STATISTICS FOR TABLE OF SIZE BY WLI18

Statistic	DF	Value	Prob
Chi-Square	4	11.156	0.025

TABLE OF SIZE BY WLI20

SIZE WLI20

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	48 41.257 1.102 45.71	2 3.2571 0.4852 1.90	7 12.486 2.4102 6.67	57 54.29
2	20 26.057 1.408 19.05	4 2.0571 1.8349 3.81	12 7.8857 2.1466 11.43	36 34.29
3	8 8.6857 0.0541 7.62	0 0.6857 0.6857 0.00	4 2.6286 0.7155 3.81	12 11.43
Total	76 72.38	6 5.71	23 21.90	105 100.00

Frequency Missing = 123

STATISTICS FOR TABLE OF SIZE BY WLI20

Statistic	DF	Value	Prob
Chi-Square	4	10.842	0.028

TABLE OF SIZE BY WLI21

SIZE WLI21

Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	26 23.145 0.3521 20.97	23 30.484 1.8373 18.55	21 16.371 1.3089 16.94	70 56.45
2	10 13.226 0.7868 8.06	25 17.419 3.299 20.16	5 9.3548 2.0273 4.03	40 32.26
3	5 4.629 0.0297 4.03	6 6.0968 0.0015 4.84	3 3.2742 0.023 2.42	14 11.29
Total	41 33.06	54 43.55	29 23.39	124 100.00

Frequency Missing = 104

STATISTICS FOR TABLE OF SIZE BY WLI21

Statistic	DF	Value	Prob
Chi-Square	4	9.666	0.046

TABLE OF LOCATION BY CU11

LOCATION	CU11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	17 9.5657 5.7778 9.71	32 21.611 4.9938 18.29	13 30.823 10.306 7.43	62 35.43
2	10 17.434 3.1701 5.71	29 39.389 2.7399 16.57	74 56.177 5.6545 42.29	113 64.57
Total	27 15.43	61 34.86	87 49.71	175 100.00

Frequency Missing = 53

STATISTICS FOR TABLE OF LOCATION BY CU11

Statistic	DF	Value	Prob
Chi-Square	2	32.642	0.000

TABLE OF LOCATION BY CU13

LOCATION	CU13			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	7 3.398 3.8184 3.57	8 12.082 1.3789 4.08	59 58.52 0.0039 30.10	74 37.76
2	2 5.602 2.3161 1.02	24 19.918 0.8364 12.24	96 96.48 0.0024 48.98	122 62.24
Total	9 4.59	32 16.33	155 79.08	196 100.00

Frequency Missing = 32

STATISTICS FOR TABLE OF LOCATION BY CU13

Statistic	DF	Value	Prob
Chi-Square	2	8.356	0.015

TABLE OF LOCATION BY FHP11

LOCATION	FHP11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	16 10.787 2.5194 13.11	18 13.484 1.5128 14.75	13 22.73 4.1648 10.66	47 38.52
2	12 17.213 1.5788 9.84	17 21.516 0.948 13.93	46 36.27 2.6099 37.70	75 61.48
Total	28 22.95	35 28.69	59 48.36	122 100.00

Frequency Missing = 106

STATISTICS FOR TABLE OF LOCATION BY FHP11

Statistic	DF	Value	Prob
Chi-Square	2	13.334	0.001

TABLE OF GP_NO_SU BY CU1

GP_NO_SU	CU1			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	1 5.1683 3.3618 0.50	22 24.98 0.3555 10.89	64 56.851 0.8989 31.68	87 43.07
2	5 3.5644 0.5782 2.48	12 17.228 1.5863 5.94	43 39.208 0.3668 21.29	60 29.70
3	3 1.604 1.2151 1.49	10 7.7525 0.6516 4.95	14 17.644 0.7524 6.93	27 13.37
4	2 1.0693 0.81 0.99	9 5.1683 2.8407 4.46	7 11.762 1.9282 3.47	18 8.91
5	1 0.5941 0.2774 0.50	5 2.8713 1.5782 2.48	4 6.5347 0.9831 1.98	10 4.95
Total	12 5.94	58 28.71	132 65.35	202 100.00

STATISTICS FOR TABLE OF GP_NO_SU BY CU1

Statistic	DF	Value	Prob
Chi-Square	8	18.184	0.020

TABLE OF GP_NO_SU BY CU2

GP_NO_SU	CU2			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	4 8.7879 2.6086 2.02	35 41.303 0.9619 17.68	48 36.909 3.3327 24.24	87 43.94
2	6 5.7576 0.0102 3.03	27 27.061 0.0001 13.64	24 24.182 0.0014 12.12	57 28.79
3	4 2.6263 0.7186 2.02	15 12.343 0.5717 7.58	7 11.03 1.4726 3.54	26 13.13
4	4 1.7172 3.0348 2.02	11 8.0707 1.0632 5.56	2 7.2121 3.7667 1.01	17 8.59
5	2 1.1111 0.7111 1.01	6 5.2222 0.1158 3.03	3 4.6667 0.5952 1.52	11 5.56
Total	20 10.10	94 47.47	84 42.42	198 100.00

STATISTICS FOR TABLE OF GP_NO_SU BY CU2

Statistic	DF	Value	Prob
Chi-Square	8	18.965	0.015

TABLE OF GP_NO_SU BY CU3

GP_NO_SU	CU3			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	13 11.822 0.1173 7.22	53 47.711 0.5863 29.44	10 16.467 2.5395 5.56	76 42.22
2	7 7.9333 0.1098 3.89	35 32.017 0.278 19.44	9 11.05 0.3803 5.00	51 28.33
3	5 3.8889 0.3175 2.78	8 15.694 3.7723 4.44	12 5.4167 8.0013 6.67	25 13.89
4	2 2.6444 0.157 1.11	11 10.672 0.0101 6.11	4 3.6833 0.0272 2.22	17 9.44
5	1 1.7111 0.2955 0.56	6 6.9056 0.1187 3.33	4 2.3833 1.0966 2.22	11 6.11
Total	28 15.56	113 62.78	39 21.67	180 100.00

STATISTICS FOR TABLE OF GP_NO_SU BY CU3

Statistic	DF	Value	Prob
Chi-Square	8	17.808	0.023

TABLE OF GP_NO_SU BY WLI15

GP_NO_SU	WLI15			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	27 28.785 0.1107 25.23	4 4.1121 0.0031 3.74	13 11.103 0.3242 12.15	44 41.12
2	23 21.589 0.0922 21.50	2 3.0841 0.3811 1.87	8 8.3271 0.0128 7.48	33 30.84
3	9 9.1589 0.0028 8.41	1 1.3084 0.0727 0.93	4 3.5327 0.0618 3.74	14 13.08
4	10 7.1963 1.0924 9.35	0 1.028 1.028 0.00	1 2.7757 1.136 0.93	11 10.28
5	1 3.271 1.5767 0.93	3 0.4673 13.727 2.80	1 1.2617 0.0543 0.93	5 4.67
Total	70 65.42	10 9.35	27 25.23	107 100.00

STATISTICS FOR TABLE OF GP_NO_SU BY WLI15

Statistic	DF	Value	Prob
Chi-Square	8	19.676	0.012

TABLE OF GP_NO_SU BY WLI1

GP_NO_SU	WLI1			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	26 24.836 0.0546 19.40	11 14.358 0.7854 8.21	15 12.806 0.3759 11.19	52 38.81
2	25 19.582 1.499 18.66	7 11.321 1.6492 5.22	9 10.097 0.1192 6.72	41 30.60
3	3 8.1194 3.2279 2.24	7 4.694 1.1328 5.22	7 4.1866 1.8907 5.22	17 12.69
4	6 7.1642 0.1892 4.48	9 4.1418 5.6985 6.72	0 3.694 3.694 0.00	15 11.19
5	4 4.2985 0.0207 2.99	3 2.4851 0.1067 2.24	2 2.2164 0.0211 1.49	9 6.72
Total	64 47.76	37 27.61	33 24.63	134 100.00

STATISTICS FOR TABLE OF GP_NO_SU BY WLI1

Statistic	DF	Value	Prob
Chi-Square	8	20.465	0.009

TABLE OF GP_NO_SU BY WLI20

GP_NO_SU	WLI20			
Frequency Expected Cell Chi-Square Percent	0	1	3	Total
1	33 30.113 0.2767 31.13	3 2.3774 0.1631 2.83	6 9.5094 1.2951 5.66	42 39.62
2	23 22.943 0.0001 21.70	1 1.8113 0.3634 0.94	8 7.2453 0.0786 7.55	32 30.19
3	7 10.755 1.3109 6.60	1 0.8491 0.0268 0.94	7 3.3962 3.824 6.60	15 14.15
4	11 7.8868 1.2289 10.38	0 0.6226 0.6226 0.00	0 2.4906 2.4906 0.00	11 10.38
5	2 4.3019 1.2317 1.89	1 0.3396 1.2841 0.94	3 1.3585 1.9835 2.83	6 5.66
Total	76 71.70	6 5.66	24 22.64	106 100.00

STATISTICS FOR TABLE OF GP_NO_SU BY WLI20

Statistic	DF	Value	Prob
Chi-Square	8	16.180	0.040

TABLE OF ABS_PC BY III_4

ABS_PC	III_4			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	5 5.6351 0.0716 2.25	132 126.48 0.2411 59.46	2 6.8874 3.4682 0.90	139 62.61
2	0 0.527 0.527 0.00	13 11.829 0.116 5.86	0 0.6441 0.6441 0.00	13 5.86
3	4 2.8378 0.4759 1.80	57 63.694 0.7035 25.68	9 3.4685 8.8217 4.05	70 31.53
Total	9 4.05	202 90.99	11 4.95	222 100.00

STATISTICS FOR TABLE OF ABS_PC BY III_4

Statistic	DF	Value	Prob
Chi-Square	4	15.069	0.005

TABLE OF TURN_PC BY III_9

TURN_PC	III_9			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	7 2.1574 10.87 3.55	9 14.497 2.0846 4.57	1 0.3452 1.2422 0.51	17 8.63
2	3 9.8985 4.8077 1.52	72 66.518 0.4518 36.55	3 1.5838 1.2664 1.52	78 39.59
3	1 3.6802 1.9519 0.51	28 24.731 0.4321 14.21	0 0.5888 0.5888 0.00	29 14.72
4	14 9.264 2.4212 7.11	59 62.254 0.1701 29.95	0 1.4822 1.4822 0.00	73 37.06
Total	25 12.69	168 85.28	4 2.03	197 100.00

STATISTICS FOR TABLE OF TURN_PC BY III_9

Statistic	DF	Value	Prob
Chi-Square	6	27.770	0.000

TABLE OF TURN_PC BY III_16

TURN_PC	III_16			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	9 3.4286 9.0536 4.59	7 12.245 2.2466 3.57	0 0.3265 0.3265 0.00	16 8.16
2	17 16.714 0.0049 8.67	60 59.694 0.0016 30.61	1 1.5918 0.22 0.51	78 39.80
3	3 6.2143 1.6626 1.53	26 22.194 0.6527 13.27	0 0.5918 0.5918 0.00	29 14.80
4	13 15.643 0.4465 6.63	57 55.867 0.023 29.08	3 1.4898 1.5309 1.53	73 37.24
Total	42 21.43	150 76.53	4 2.04	196 100.00

STATISTICS FOR TABLE OF TURN_PC BY III_16

Statistic	DF	Value	Prob
Chi-Square	6	16.761	0.010

TABLE OF TURN_PC BY III_19

TURN_PC	III_19			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	7 2.1224 11.209 3.57	8 12.571 1.6623 4.08	1 1.3061 0.0717 0.51	16 8.16
2	7 10.347 1.0826 3.57	68 61.286 0.7356 34.69	3 6.3673 1.7808 1.53	78 39.80
3	2 3.8469 0.8867 1.02	26 22.786 0.4534 13.27	1 2.3673 0.7898 0.51	29 14.80
4	10 9.6837 0.0103 5.10	52 57.357 0.5004 26.53	11 5.9592 4.264 5.61	73 37.24
Total	26 13.27	154 78.57	16 8.16	196 100.00

STATISTICS FOR TABLE OF TURN_PC BY III_19

Statistic	DF	Value	Prob
Chi-Square	6	23.447	0.001

TABLE OF TURN_PC BY III_21

TURN_PC	III_21			
Frequency / Expected / Cell Chi-Square / Percent	1	2	4	Total
1	10 6.0914 2.508 5.08	6 9.8274 1.4906 3.05	0 0.0812 0.0812 0.00	16 8.12
2	29 29.695 0.0163 14.72	49 47.909 0.0249 24.87	0 0.3959 0.3959 0.00	78 39.59
3	5 11.421 3.6102 2.54	24 18.426 1.6859 12.18	1 0.1523 4.719 0.51	30 15.23
4	31 27.792 0.3703 15.74	42 44.838 0.1796 21.32	0 0.3706 0.3706 0.00	73 37.06
Total	75 38.07	121 61.42	1 0.51	197 100.00

STATISTICS FOR TABLE OF TURN_PC BY III_21

Statistic	DF	Value	Prob
Chi-Square	6	15.452	0.017

TABLE OF ABS_PC BY CU1

ABS_PC	CU1			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	3 7.9604 3.091 1.49	38 38.475 0.0059 18.81	93 87.564 0.3374 46.04	134 66.34
2	2 0.6535 2.7747 0.99	3 3.1584 0.0079 1.49	6 7.1881 0.1964 2.97	11 5.45
3	7 3.3861 3.8569 3.47	17 16.366 0.0245 8.42	33 37.248 0.4844 16.34	57 28.22
Total	12 5.94	58 28.71	132 65.35	202 100.00

STATISTICS FOR TABLE OF ABS_PC BY CU1

Statistic	DF	Value	Prob
Chi-Square	4	10.779	0.029

TABLE OF ABS_PC BY CU2

ABS_PC	CU2			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	10 13.131 0.7467 5.05	70 61.717 1.1116 35.35	50 55.152 0.4812 25.25	130 65.66
2	3 1.1111 3.2111 1.52	1 5.2222 3.4137 0.51	7 4.6667 1.1667 3.54	11 5.56
3	7 5.7576 0.2681 3.54	23 27.061 0.6093 11.62	27 24.182 0.3284 13.64	57 28.79
Total	20 10.10	94 47.47	84 42.42	198 100.00

STATISTICS FOR TABLE OF ABS_PC BY CU2

Statistic	DF	Value	Prob
Chi-Square	4	11.337	0.023

TABLE OF ABS_PC BY CU5

ABS_PC	CU5			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	6 11.761 2.8222 3.41	59 56.193 0.1402 33.52	50 47.045 0.1856 28.41	115 65.34
2	4 0.7159 15.065 2.27	3 3.4205 0.0517 1.70	0 2.8636 2.8636 0.00	7 3.98
3	8 5.5227 1.1112 4.55	24 26.386 0.2158 13.64	22 22.091 0.0004 12.50	54 30.68
Total	18 10.23	86 48.86	72 40.91	176 100.00

STATISTICS FOR TABLE OF ABS_PC BY CU5

Statistic	DF	Value	Prob
Chi-Square	4	24.456	0.000

TABLE OF ABS_PC BY CU7

ABS_PC	CU7			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	10 13.873 1.0812 5.78	78 72.139 0.4762 45.09	32 33.988 0.1163 18.50	120 69.36
2	4 0.9249 10.225 2.31	3 4.8092 0.6806 1.73	1 2.2659 0.7072 0.58	8 4.62
3	6 5.2023 0.1223 3.47	23 27.052 0.6069 13.29	16 12.746 0.8309 9.25	45 26.01
Total	20 11.56	104 60.12	49 28.32	173 100.00

STATISTICS FOR TABLE OF ABS_PC BY CU7

Statistic	DF	Value	Prob
Chi-Square	4	14.847	0.005

TABLE OF ABS_PC BY CU11

ABS_PC	CU11			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	20 20.164 0.0013 10.93	45 41.672 0.2658 24.59	58 61.164 0.1637 31.69	123 67.21
2	5 1.4754 8.4199 2.73	2 3.0492 0.361 1.09	2 4.4754 1.3692 1.09	9 4.92
3	5 8.3607 1.3509 2.73	15 17.279 0.3005 8.20	31 25.361 1.254 16.94	51 27.87
Total	30 16.39	62 33.88	91 49.73	183 100.00

STATISTICS FOR TABLE OF ABS_PC BY CU11

Statistic	DF	Value	Prob
Chi-Square	4	13.486	0.009

TABLE OF ABS_PC BY CU14

ABS_PC	CU14			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	12 11.396 0.0321 6.59	47 44.912 0.0971 25.82	63 65.692 0.1103 34.62	122 67.03
2	3 0.7473 6.7914 1.65	2 2.9451 0.3033 1.10	3 4.3077 0.397 1.65	8 4.40
3	2 4.8571 1.6807 1.10	18 19.143 0.0682 9.89	32 28 0.5714 17.58	52 28.57
Total	17 9.34	67 36.81	98 53.85	182 100.00

STATISTICS FOR TABLE OF ABS_PC BY CU14

Statistic	DF	Value	Prob
Chi-Square	4	10.051	0.040

TABLE OF ABS_PC BY FHP5

ABS_PC	FHP5			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	18 22.672 0.9627 13.74	31 32.977 0.1185 23.66	41 34.351 1.2869 31.30	90 68.70
2	3 1.2595 2.405 2.29	2 1.8321 0.0154 1.53	0 1.9084 1.9084 0.00	5 3.82
3	12 9.0687 0.9475 9.16	15 13.191 0.2481 11.45	9 13.74 1.6355 6.87	36 27.48
Total	33 25.19	48 36.64	50 38.17	131 100.00

STATISTICS FOR TABLE OF ABS_PC BY FHP5

Statistic	DF	Value	Prob
Chi-Square	4	9.528	0.049

TABLE OF ABS_PC BY WLI4

ABS_PC	WLI4			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	27 27.704 0.0179 16.67	50 42.185 1.4477 30.86	25 32.111 1.5748 15.43	102 62.96
2	3 2.4444 0.1263 1.85	0 3.7222 3.7222 0.00	6 2.8333 3.5392 3.70	9 5.56
3	14 13.852 0.0016 8.64	17 21.093 0.7941 10.49	20 16.056 0.9691 12.35	51 31.48
Total	44 27.16	67 41.36	51 31.48	162 100.00

STATISTICS FOR TABLE OF ABS_PC BY WLI4

Statistic	DF	Value	Prob
Chi-Square	4	12.193	0.016

TABLE OF TURN_PC BY WLI2

TURN_PC	WL12			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	3 3.4724 0.0643 2.36	0 3.7559 3.7559 0.00	6 1.7717 10.092 4.72	9 7.09
2	14 17.748 0.7915 11.02	23 19.197 0.7535 18.11	9 9.0551 0.0003 7.09	46 36.22
3	7 8.4882 0.2609 5.51	13 9.1811 1.5885 10.24	2 4.3307 1.2543 1.57	22 17.32
4	25 19.291 1.6893 19.69	17 20.866 0.7163 13.39	8 9.8425 0.3449 6.30	50 39.37
Total	49 38.58	53 41.73	25 19.69	127 100.00

STATISTICS FOR TABLE OF TURN_PC BY WLI2

Statistic	DF	Value	Prob
Chi-Square	6	21.311	0.002

TABLE OF TURN_PC BY WLI6

TURN_PC	WLI6			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	6 4.0909 0.8909 4.96	3 3.7273 0.1419 2.48	2 3.1818 0.439 1.65	11 9.09
2	12 18.223 2.1252 9.92	24 16.603 3.2952 19.83	13 14.174 0.0972 10.74	49 40.50
3	11 7.8099 1.303 9.09	6 7.1157 0.1749 4.96	4 6.0744 0.7084 3.31	21 17.36
4	16 14.876 0.0849 13.22	8 13.554 2.2757 6.61	16 11.57 1.696 13.22	40 33.06
Total	45 37.19	41 33.88	35 28.93	121 100.00

STATISTICS FOR TABLE OF TURN_PC BY WLI6

Statistic	DF	Value	Prob
Chi-Square	6	13.232	0.039

TABLE OF TURN_PC BY WLI13

TURN_PC	WLI13			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	6 6.5686 0.0492 5.88	0 1.0784 1.0784 0.00	4 2.3529 1.1529 3.92	10 9.80
2	17 23.647 1.8685 16.67	6 3.8824 1.1551 5.88	13 8.4706 2.422 12.75	36 35.29
3	14 11.824 0.4006 13.73	4 1.9412 2.1836 3.92	0 4.2353 4.2353 0.00	18 17.65
4	30 24.961 1.0173 29.41	1 4.098 2.3421 0.98	7 8.9412 0.4214 6.86	38 37.25
Total	67 65.69	11 10.78	24 23.53	102 100.00

STATISTICS FOR TABLE OF TURN_PC BY WLI13

Statistic	DF	Value	Prob
Chi-Square	6	18.326	0.005

TABLE OF TURN_PC BY WLI15

TURN_PC	WLI15			
Frequency / Expected / Cell Chi-Square / Percent	0	1	3	Total
1	4 5.8454 0.5826 4.12	2 0.9278 1.2389 2.06	3 2.2268 0.2685 3.09	9 9.28
2	17 22.082 1.1698 17.53	3 3.5052 0.0728 3.09	14 8.4124 3.7114 14.43	34 35.05
3	17 11.691 2.4112 17.53	1 1.8557 0.3946 1.03	0 4.4536 4.4536 0.00	18 18.56
4	25 23.381 0.112 25.77	4 3.7113 0.0225 4.12	7 8.9072 0.4084 7.22	36 37.11
Total	63 64.95	10 10.31	24 24.74	97 100.00

STATISTICS FOR TABLE OF TURN_PC BY WLI15

Statistic	DF	Value	Prob
Chi-Square	6	14.846	0.021

APPENDIX I

INSTITUTIONAL REVIEW BOARD APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 05-22-95 **IRB#:** HE-95-032

Proposal Title: INCENTIVES PERCEIVED BY MANAGEMENT DIETITIANS TO REDUCE ABSENTEEISM RATE OF FOODSERVICE PERSONNEL IN HEALTH CARE SYSTEMS

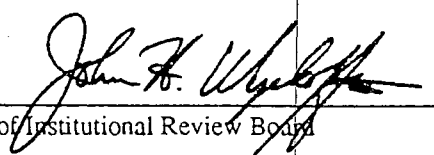
Principal Investigator(s): Lea L. Ebro, Yuan-an Liu

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature:  Date: May 23, 1995

Chair of Institutional Review Board

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VITA

Yuan-an Anna Liu

Candidate for the Degree of

Doctor of Philosophy

Dissertation: INCENTIVES PERCEIVED BY MANAGEMENT DIETITIANS TO REDUCE ABSENTEEISM RATE OF FOODSERVICE PERSONNEL IN HEALTH CARE SYSTEMS

Major Field: Human Environmental Sciences

Area of Specialization: Foodservice Management

Biographical:

Personal Data: Born in Taiwan, the Republic of China, on October 19, 1966, the daughter of Admiral and Mrs. Ho-chien Liu

Education: Graduated from Fu-Jen Catholic University, Taiwan, with Bachelor of Science degree in Home Economics in June, 1988; received Master of Science degree in Nutritional Sciences from Oklahoma State University, Stillwater, Oklahoma in July, 1992. Completed the requirements for the Doctor of Philosophy degree at Oklahoma State University, Stillwater, Oklahoma in May, 1996.

Professional Experiences: Crew member and trainer, Kentucky Fried Chicken Co., Taiwan, 1985-1986; Personnel Assistant, IBM Taiwan Corporation, Taiwan, August, 1988-February, 1989; Administrative Dietitian, Soo-chow University, Taiwan, February-August, 1988; Graduate Research Assistant, Department of Nutritional Sciences, Oklahoma State University, January, 1990-July, 1992; Graduate Research Associate, Department of Nutritional Sciences, Oklahoma State University, August, 1992 to present.

Professional Memberships: The American Dietetic Association, The Academy of Human Resource Development, The American Society of Training and Development.

APPENDIX I

INSTITUTIONAL REVIEW BOARD APPROVAL FORM