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## PREDICTORS OF COMPLIANCE OF AIDS PATIENTS ON PROTEASE INHIBITORS

Tina Gursahani  
*University of Rhode Island*

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PREDICTORS OF COMPLIANCE  
OF  
AIDS PATIENTS  
ON  
PROTEASE INHIBITORS  
BY,  
TINA GURSAHANI .

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN  
PHARMACY ADMINISTRATION

UNIVERSITY OF RHODE ISLAND

1998

MASTER OF SCIENCE THESIS

OF

TINA GURSAHANI

APPROVED:

Thesis Committee

Major Professor

Cynthia Willey Leone

Norman A. Campbell

Sigis S.

Thomas J. Rockett

DEAN OF THE GRADUATE SCHOOL

UNIVERSITY OF RHODE ISLAND

1998

## ABSTRACT

Compliance with Protease Inhibitors therapy is a very significant problem because non-compliant patients may develop resistance. The factors associated with compliance were examined in an HIV infected population (n=73) who were currently being prescribed a Protease Inhibitor. Data on demographics, clinical characteristics, mood status and coping were obtained. Compliance was measured by the “temptation to skip Protease Inhibitor scale” and “number of doses missed in the past three months”.

Multiple regression was used to examine three sets of predictors variables. Amongst the demographic predictors, number of people in household was significantly associated ( $p < 0.01$ ) with the dependent variable “Temptation to skip Protease Inhibitor” while gender was significantly associated with the dependent variable “number of doses missed in the past three months”. The other demographic variables showed little association with compliance.

Amongst the clinical predictors, pain interfering with work in the past four weeks significantly predicted the temptation to skip Protease Inhibitor therapy while none of the clinical predictors were associated with the number of doses missed in the past 3 months.

General mental health and behavioral escape avoidance were the mood and coping variables that showed significant associations with the temptation to skip Protease Inhibitors. None of these predicted the number of doses missed in the past three months.

Finally a multivariate model was developed which investigated factors which were most highly associated with medication compliance. General mental health and number

of people in household appeared to be the most highly associated factors. These results suggested that patients should be treated for psychological distress and their families should be informed about the importance of social support to reduce the impact of this problem.

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## INRODUCTION

### A. Importance of Compliance with Protease Inhibitors

Advances in HIV pathogenesis and viral dynamics, and availability of viral load assays and potent antiretroviral drug regimens had provided new opportunities to treat patients with HIV disease. Combined aggressive antiretroviral therapy has enormous potential to delay disease progression and death (Friedland G, JAMA, 1997). But this new combination regimen is very demanding and requires a very strict dosing schedule. It was found that resistance developed rapidly when doses were missed or taken in inadequate amounts. Because cross resistance could occur among the Protease Inhibitors, patients whose HIV developed resistance to one Protease Inhibitors had limited antiretroviral therapy options in the future (Geletko S., Khurram Z., Medicine and health Rhode Island,1998) The prospect of resistance not only made individual patients more vulnerable, it also raised the specter of a public health threat that could neutralize recent therapeutic advances. This resulted in the issue of compliance gaining considerable interest among health care providers. In theory, if compliance is complete(100%) with potent combination therapy, viral replication will most likely be halted and resistance mutant are unlikely. However, in patients who intermittently or irregularly take drugs, the likelihood of selection of mutants that are resistant to drugs increase, a consequence of both continuing viral replication and selective antimicrobial pressure (Friedland G., JAMA, 1998).

Enormous amount of studies with HIV disease and other chronic condition have shown that sociodemographic variables rarely predict compliance. The reason

for noncompliance seems to be multifaceted in nature including psychological and emotional factors.

This study will explore the factors associated with compliance and further investigate which of these factors are most highly associated with patient compliance.

## **B. Determinants of Compliance**

Over roughly the past two decades, there have been more than 700 studies, about 35 each year, that have examined variables that could be demonstrated as predictive of adherence to various medical regimen (Morisky DE; Green LW; Levine DM; Med Care, 1986).

### ***I . Patient Characteristics***

Education, income, age and other basic sociodemographic markers have shown some correlation with compliance but not consistently and not at significant levels. Haynes (1976) noted that while some studies showed an association between noncompliance and lower socioeconomic status, poor education and older age, the majority showed no such association. There is also no association found between noncompliance and age or sex. In terms of patient characteristics, social support is probably the most important factor. (Friedland G.,1998)

Thus compliance is not related to income, social class, occupation or educational background and it cannot be accurately predicted by physicians (Greenberg R.,Clinical Therapeutics, 1984).

## **II . *Clinical Characteristics***

- a. Diagnoses: Haynes (1979) has reviewed the literature critically and has commented that there are few obvious associations between disease features and compliance.
- b. Severity of Illness: It seems reasonable to expect more severely ill patients to be more compliant with treatment than less severely ill patient (Evans L, Spelman M, Drugs, 1983). Davis (1966) found on the contrary. He found that those with severe ailments were more likely to fail than those with less severe disorders. However he noted that it is difficult to be sure whether the noncompliance affects the severity of the condition and vice versa. He also found that greater the effect of the illness on performing daily activities, the less likely the patient was to follow the doctors advice.

The one association between illness and noncompliance that is consistently reported is that when patients get better from an illness they are less likely to comply with treatment (Heinzelman,1962; Johnson,1973; Prien & Caffey,1977; Rickels et al,1968).

## **III. *Psychological and emotional characteristics:***

These play a greater role in determining compliance than demographic factors.

- a.) Coping: The experience of being diagnosed with HIV infection or AIDS is extremely stressful. Coping is viewed as a response to perceived stress and it has been defined as the “constantly changing cognitive and behavioral effort to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person

( Lazarus & Folkman, 1984, p 141).

In the literature there are a lot of coping strategies identified but there was little consensus regarding which coping strategies are effective in dealing with stress. Although researchers have found that coping strategies relate to psychological & physical illness, which coping mechanism is most effective may depend on the nature of the situation. (Baum, Fleming & Singer,1983; Billing & Moos,1981; Felton & Revenson,1984; Harburg, Blakclock, & Reoper,1979; Holahan & Moos, 1986; Kobasa 1982; Mitchell, cronkite & Moos, 1983; Pearlin & Schooler,1978).

The specific fears of persons with HIV infection and AIDS include abandonment, pain, death, and the exposure of their homosexuality, bisexuality, drug use, prostitution, or unsafe sexual activity. The uncertainty of the outcome of the infection can lead to anxiety. The reaction of others to the patients' diagnosis constitute a significant concern (Ross & Rosser, 1988). In addition, individuals may not be able to conceal their illness from significant others if their symptoms are sufficiently severe. They may need to take time off from work or stop working altogether. Such changes may lead to cessation of employer-paid health insurance benefits, social supports, contact with acquaintances, and income. The stresses of having to give up work are considerable, often leading to depression and lack of self-esteem (Ross & Rosser, 1988).

The role of moderating variables in the relationship between stressful events and adaptational outcomes has gained considerable attention (Johnson,J.H., Sarason, I.G., Stress and Anxiety, 1979). Extensive research in this area has demonstrated that coping is a major moderating variable in the stress-illness relationship (Billing &

Moos, 1984; Coyne, Aldwin & Lazarus, 1981; Lazarus, Folkman, Green & DeLongis,1986). Five patterns of coping were identified by a study done on cancer patients (Denkel-Schetter C., Feinstein L., Taylor S., Falke R.,1992). “seeking or using social support” describes efforts to seek informational support, tangible support, and emotional support. “Focusing on the positive” describes efforts to create positive meaning by focusing on personal growth. “Distancing” describes cognitive efforts to detach oneself and to minimize the significance of the situation. “Cognitive escape-avoidance” and “Behavioral escape-avoidance” describes wishful thinking and behavioral efforts to escape or avoid the problem.

b.) Mood Status: A level of anxiety either too low or too great may well be related to noncompliance(Evans L., Spelman M., Drugs,1983). Studies in HIV suggest that psychosocial stress associated with the illness adversely affects the quality of life in HIV patients (Fawzy et al., 1989; Holland et al,1985; Solomon et al,1989). Many of the cognitive, psychological, social, and environmental factors that determine the individual’s psychosocial well-being and quality of life also have an impact on compliance.

The SF-36 derived from the work of the Rand Corporation of Santa Monica during 1970 is a generic indicator of health status. It was designed to be applicable to a wide range of types and severities of condition. These were useful for monitoring patients with multiple conditions, for comparing the health status of patients with different conditions, and for comparing patients to the general population. Perceived well-being is subjective and cannot be completely inferred from behavior; hence the SF-36

included questions on feeling states. (Mc Dowell I., Newell C., Measuring health, 2<sup>nd</sup> edition, p 446).

### **C. Assessment of Compliance**

There is no ideal method to assess drug compliance. Four methods are commonly used to measure compliance: self-reported (questionnaire/interview/diary), pill count, drug assay, and electronic monitoring.

*Self Reported Questionnaire:* Is commonly used as it is relatively simple and inexpensive method. Sometimes it may be the only method available. Studies have indicated that only 25-50% of non compliant patients can be identified by interview. It was found that there was a significant correlation between the proportion of missed doses according to interview and objective method (Roth HP, Caron HS, Clinical Pharmacol Ther, 1978). Though this method may not be accurate there may be reason to believe it is useful because patients reporting non compliance are usually at least as non compliant as indicated by interview (Norell SE, Soc Sci Med, 1981). There also is evidence that patients reporting non compliance are more likely to respond to compliance-improving strategies than other non compliant patients (Haynes RB, Sackett DL, Gibson ES, et al Lancet, 1976)

*Pill Count:* The method of counting tablets to determine patient medication behaviour was described in 1936 by Corrigan and Strauss in a study of iron treatment for anemia. Since then, several techniques based on the same principle have been described. This method involves a comparison of the medicine left in the patient's bottle and the quantity which should have been left if the medication had been taken. Though this method is being used extensively, it is not believed to be very accurate.



Patients may empty the pill box, or take all the remaining pills before their clinic visit.

*Drug Assay:* The accuracy of this method depends in part on the half-life of the drug. Longer-acting indicators have been used, but testing will show only past ingestion and not frequency or dosing interval. These studies are very inconvenient and can be expensive. Some patients may object to having blood specimen taken, regarding this as unnecessary and intrusive. Again the value of assessing compliance in this way depends greatly on the reliability of the method by which the drug is identified or quantified in body fluids (Biggs et al., 1976)

*Medication Event Monitoring System (MEMS):* provides a computer chip in the cap of the medicinal bottle, information is recorded each time the bottle is opened. Data from the MEMS allows calculation of 1) the compliance rate, 2) prescribed frequency, and 3) prescribed interval. A study of adherence in patients taking antiretroviral therapy revealed that while the overall compliance rate was 82% to 86%, more detailed measures of the fraction of doses taken at the prescribed daily interval (55-76%) and fraction of doses taken at the prescribed dosing interval (27%) were lower (Friedland G, JAMA, 1997).

## METHODOLOGY

### Study Sample

**Patient population:** Eligibility criteria for this study included age between 18 and 74, current use of approved antiretroviral medications or Protease Inhibitors or use of approved medication for HIV-related complications and prophylaxis of opportunistic infections (for example, trimethoprim-sulfamethoxazole used in the prophylaxis of *Pneumocystis carinii* pneumonia), ability to read English, and positive HIV status. Patients (n=145) were recruited from three sites described below :

1. **The Miriam Hospital Immunology Center** has the largest number of ambulatory visits of HIV seropositive individuals and serves the majority of HIV + women in Rhode Island.
2. **Stanley Street Treatment and Resources**, which provides primary care for the indigent and intravenous drug using population in the greater Fall River Massachusetts area.
3. **Veterans Affairs Medical Center in Providence, RI**, which currently provides care to approximately 60 HIV seropositive men.

### **Data Collection:**

Patients meeting the above criteria who visited one of the three sites were asked to fill out a standardized questionnaire. The patients were told that the questionnaire was about how they think and feel about the HIV related medications that they were taking, and about different strategies that people use to take their medications. They had the choice to fill it at home and mail it in or return to the clinic, or fill it out right

at the clinic. They were also told they would receive a gift certificate of \$20 after they had filled out the questionnaire. The data was collected during the year 1996-97.

The survey questionnaire (identified by first 3 letters of mother's first name and date of birth) administered to patients included data on demographics, living arrangements, education, employment, income, insurance, social support, side effects, and psychological measurement scales. It was a self reported questionnaire. The questionnaires were checked for completeness.

***Measures and Variables assessed:***

Patients were asked to complete questionnaire items concerning :

**Demographic:** age, gender, years of education, income, insurance, number of people in household, current health status, employment.

**Mood Status:** The scale was taken from the SHORT-FORM-36 HEALTH SURVEY developed by Rand Corporation and John E. Ware,(1990). It was designed as a generic indicator of health status for use in population surveys and evaluative studies of health policy. This scale measured the following dimensions:

General Mental Health, covering psychological distress & well-being (five item: questions b, c, d, f and h)

Vitality, energy, or fatigue ( four item: questions a, e, g, and i )

The questions were measured on a six point likert scale from none of the time (score of 1) to all of the time (score of 6). The questions include:

- a. Did you feel full of pep?
- b. Have you been a very nervous person?
- c. Have you felt so down in the dumps that nothing could cheer you up?

- d. Have you felt calm and calm and peaceful?
- e. Did you have a lot of energy?
- f. Have you felt downhearted and blue?
- g. Did you feel worn out?
- h. Have you been a happy person?
- i. Did you feel tired?

**Scoring:** Answers on questions a, d, e, h were recoded (i.e. score of 1 was changed to score of 6, score of 2 was changed to score of 5 and so on) such that low values represent more favorable states. Further scores on question b, c, d, f, and h were summed up to get the score for each individuals General Mental Health. Similarly question a, e, g, and i was added to get the score on vitality, fatigue or energy. Finally transformed score on each of the two were obtained by the following formula

$$\text{Transformed scale} = \frac{(\text{actual score} - \text{lowest possible score})}{\text{Possible raw score range}} * 100$$

**Clinical Characteristics:** The following questions assessed clinical variables:

1. Number of days in bed in the past two weeks
2. Number of hospitalizations in the past year
3. T-cell count last tested
4. Pain interfering with work in the past 4 weeks.

Item (4) measured the extent to which pain interfered with work in the past 4 weeks.

It was measured on a 5- point likert scale (not at all - extremely).

**Coping:** This scale is taken from the WOC (ways of coping questionnaire) developed by Lazarus and Folkman (1984). The scale was revised in 1986 by Lazarus, Folkman, Dunkel-Schetter to make a 51 item questionnaire with 8 factors. This scale was further adapted by Dunkel-Schetter, Feinstein, Taylor, Falke to suit their study on cancer patients (WOC- cancer version). The responses on the items were measured on a five point likert scale ranging from never, rarely, occasionally, often, to very often. Finally, the five factors developed as a result of the factor loadings were :

***Seek and Use Social Support:*** sum of item numbers 4, 34, 22, 20, 16, 49, 13, 31, 6, 19, 1

***Cognitive Escape- Avoidance:*** sum of item numbers 7, 44, 45, 42, 43, 46, 8, 51, 12

***Distancing :*** sum of item numbers 40, 30, 33, 9, 10, 11, 50, 37, 15, 32, 48, 52

***Focus on the Positive:*** sum of item numbers 26, 27, 17, 41, 21, 28, 14, 47

***Behavioral Escape- Avoidance:*** sum of item numbers 29, 23, 24, 35, 39, 18, 5, 3, 25

The description of the items is in the (Section VI of the appendix

For this study, observations with more than 2 missing values on any of the 50 items was dropped. The final score on each factor was obtained by summing the scores on the items for that factor.

Eg. Distancing = sum (QVI40 QVI30 QVI33 QVI9 QVI10 QVI11 QVI50 QVI37 QVI15 QVI32 QVI48 QVI52).

*Assessment of compliance:*

**1. Number of Doses missed in the past three months:** This was a self reported answer to the question “ how many doses of medications have you missed in the past three months”. Higher numbers indicated worse compliance.

**2. Temptation to skip medication:** This scale was developed to measure self-reported likelihood of non-compliance (Willey, C et al, manuscript in progress). The items on the temptation scale were based upon predictors of compliance from the literature and included situations that might affect you taking your protease inhibitors as directed. Responses for each situation rated how tempted you would be to skip your protease inhibitor medication. The responses were measured on a five-point likert scale (continuous) with 1=not tempted to 5= extremely tempted.

A few of the items under this includes:

- When you feel good and you don't need it
- When you are anxious about side effects
- When you want to save on cost of medication
- When your doctor doesn't seem interested in whether you take your medication
- When you start feeling better

3 subscales were developed:

a. Temptation to skip medication due to side effects

- When you are anxious about side effects
- When you experience minor side effects
- When you feel you should give your body a rest

- When you worry that the chemicals in the medication might harm or hurt your body
- b. Temptation to skip medication due to lack of support
- When your family and friends don't seem concerned enough about your condition
  - When your doctor doesn't seem concerned enough about your condition
  - When your insurance doesn't cover the cost of your medication
  - When you lose confidence in your doctor.
- c. Temptation to skip medication when feeling good
- When you feel good and think you don't need it
  - When your medical condition doesn't seem that bad
  - When it seems too complex to keep track of all your medications
  - When you aren't sure if the medicine is really helping you
- d. Total scale

Score on each subscale was obtained by adding items under each subscale.

For eg. Score on temptation to skip medication = sum (QV2 + QV6 + QV29 + QV30)

Score on total scale may be obtained by summing the all the items under all the subscales.

### **Data Analysis**

The above categories constitute the independent and dependent variables. Bivariate and multivariate statistics techniques were used to examine the association between the dependent and independent variables. The data was analyzed using the Statistical Analysis System (SAS) Version 6.09 on the IBM mainframe computer at the

University of Rhode Island. Pre-analysis screening procedures were used to assess normality, linearity and homoscedasticity. Residual scatterplots (difference between obtained and predicted DV scores) were obtained. Plots of DV Vs IVs were plotted to check for outliers. PROC UNIVARIATE procedures were carried out to check for skewness and kurtosis. PROC COLLIN / VIF / TOL were the different collinearity diagnostic procedures carried out to check for possible cases of multicollinearity. Demographic variables “number of people in household” and “insurance” did not meet the above assumptions. “number of people in household” had problems with outliers. Very high values were dropped from the study. A plot of DV Vs number of people in household showed a drop in DV value at number of people in household=2. Therefore this variable was categorized into two groups (1 person Vs 2+ people). The variable “insurance” was basically 10 categories of insurance type (eg. Blue cross, medicare etc). Since we were only interested in whether our patients had some insurance coverage to no insurance coverage and not what type of insurance, we created two new categories under this variable ( no insurance Vs some insurance). The following variables were determined to be of interest and were further categorized for their use in the model:

The **dependent variables** include the following:

1. ***Number of doses missed in the past 3 months*** : continuous (self-reported)
2. ***Temptation to skip medication***: continuous
  - a. Total scale
  - b. due to side effects
  - c. due to lack of support



d. feeling good .

**Independent variables include:**

**A. Demographic**

*Age*: categorical

< 25 years - 1

25-34 years - 2

35-44 years - 3

45-54 years - 4

55 + years - 5

*Years of education*: categorical

< 12 years - 1

12 years - 2

13-15 years - 3

16 + years - 4

*Race* : categorical

White - 1

Native Americans - 2

Hispanic - 3

Asian - 4

African American - 5

Others - 6

*Current Health Status* : categorical

Excellent - 1

Very Good - 2

Good - 3

Fair - 4

poor - 5

***Gender:*** categorical

Female - 1

Male - 2

***Employment:*** categorical

Full-time - 1

Part-time - 2

Unemployed - 3

***Insurance :*** categorical

No insurance - 0

Some insurance - 1

***Income:*** categorical

Less than \$15,000 - 1

\$15,000 to \$24,000 -2

\$25,000 to \$34,000 -3

\$35,000 to 44,000 - 4

45,000 or more - 5

***Number of people in household :*** categorical

1 person - 1

2+ person - 2

**B. Clinical**

***bodily pain in past 4 weeks:*** categorical

None - 1

Very mild - 2

Mild - 3

Moderate - 4

Severe - 5

Very Severe - 6

***Pain interfering with normal work in past 4 weeks:*** categorical

Not at all - 1

A little bit - 2

Moderately - 3

Quite a bit - 4

Extremely - 5

***Number of days in bed in the past 2 weeks:*** continuous

***Number of hospitalization in the past year :*** continuous

**Mood Status and Coping**

***General mental health:*** continuous (GMH)

***Fatigue :*** continuous (FAT)

***Seek and use social support :*** continuous (SSS)

***Cognitive Escape-Avoidance:*** continuous (CEA)

***Distancing :*** continuous (DIS)

***Focus on Positive:*** continuous (FOP)

***Behavioral Escape-Avoidance:*** continuous (BEA)

PROC GLM and PROC TTEST procedures were carried out to check if there were any significant differences between groups for the demographic variables. Here, the values of different demographic variables like age, education, race represents groups and the emphasis is on finding mean differences in Y between groups.

PROC REG procedures (Standard multiple regression) were carried out for the following models. 5 models were run for each group of predictor variable.

**Models for Demographic characteristics:**

1. Temptation to skip medication for the side effect scale = age + gender + current health status + income + race + number of people in household + insurance + education.
2. Temptation to skip medication for the lack of support scale = age + gender + current health status + income + race + number of people in household + insurance + education
3. Temptation to skip medication for the feeling good scale = age + gender + current health status + income + race + number of people in household + insurance + education
4. Temptation to skip medication for the total scale = age + gender + current health status + income + race + number of people in household + insurance + education
5. number of doses missed in the past three months = age + gender + current health status + income + race + number of people in household + insurance + education

### **Models for Clinical Characteristics:**

1. Temptation to skip medication for the side effect scale = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization.
2. Temptation to skip medication for the lack of support scale = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization.
3. Temptation to skip medication for the feeling good scale = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization.
4. Temptation to skip medication for the total scale = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization.
5. number of doses missed in the past 3 months = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization

### **Models for Mood Status and Coping:**

1. Temptation to skip medication for the side effect scale = GMH + FAT + SSS + CEA + BEA + DIS + FOP
2. Temptation to skip medication for the lack of support scale = GMH + FAT + SSS + CEA + BEA + DIS + FOP
3. Temptation to skip medication for the feeling good scale = GMH + FAT + SSS + CEA + BEA + DIS + FOP

4. Temptation to skip medication for the total scale = GMH + FAT + SSS + CEA +  
BEA + DIS + FOP

5. number of doses missed in the past 3 months = GMH + FAT + SSS + CEA + BEA  
+ DIS + FOP

The  $R^2$  values (variability in dependent variable that is accounted by the independent variable) were compared between the models. The standardized coefficient and p values were obtained. The sign on the beta values were checked to see if they were as expected.

The final step in the analysis of the research data was selection of the final model for predicting medication compliance.

## RESULTS

A total of 145 patients were enrolled in the study. 73 patients were on Protease Inhibitors, which comprised the study population. Three quarters of the study sample were male (77%). The median age was 39 years and it ranged between 24-57 years. Seventy six percent (55/73) were white and only 6% were Hispanics. 8% were African Americans. The most common risk factors for HIV were homosexual life style 43% (29/73), heterosexual contact 32% (22/73) and intravenous drug use 25% (17/73). Most of the patients (87%) had some kind of insurance (Blue Cross, Ocean State, RIGHA, HCHP, other private insurers, HMO, Medicaid, Medicare, others). More than half lived with someone else (Husband or wife, intimate partner, other adults 18 or older, parents, grandparents, children under 18 or children over age 18). Half of the study population had an annual income of less than \$15,000. 80% (57/73) had completed at least high school education.

### **A. Relationship between Demographic Characteristics and Temptation to skip Protease Inhibitors:**

Table 1 presents the demographic characteristics of the study sample (n=73). General linear model procedure was carried out to check if there was any significant difference in temptation to skip medications due to demographic characteristics. Temptation to skip medication did not differ with age, race, years of education, income, number of people in household, insurance and the current health status.

### **B. Relationship between Demographic characteristics and number of doses of Protease Inhibitors missed in the past three months:**

**Table 2** represents the demographic characteristics of patients with number of doses missed in the past three months. GLM procedures indicated that the number of doses missed did not differ with age, race, years of education, income, current health status or number of people in household. But it differed with insurance and gender. The number of doses missed was higher if a person had insurance coverage ( $p < 0.006$ ). Also females showed higher number of missed doses ( $p < 0.0011$ ).

**C. Table 3 summarizes the results of Multiple Regression for the Clinical predictors of Temptation to skip medication for total scale:**

In **Table 3** the negative sign on B indicates a negative association between the number of days in bed during the past two weeks, number of hospitalization in the last one year, T-cell count last tested and the temptation to skip Protease Inhibitors. However none of these associations were significant. Pain interfering with work in the past 4 weeks was significant at 0.05 level of significance. The model accounted for 18% of variation.

**D. Table 4 summarizes the results of Multiple Regression for the Clinical predictors of Temptation to skip Protease Inhibitors for the side-effect scale:**

In **Table 4** the number of days in bed during the past two weeks and the number of hospitalizations in the past one year were negatively associated with the temptation to skip medication due to side-effects. Pain interfering with work in the past four weeks again showed significance at the 0.05 level of significance. The model accounted for 7% of variation.

**E. Table 5 summarizes the results of Multiple Regression for the Clinical**



**predictors of Temptation to skip protease inhibitors for the lack of support scale:**

In Table 5, the number of days in bed during the past two weeks and T cell count last tested were negatively associated to the temptation to skip medication due to lack of support. None of the Clinical predictors were significant at 0.05 level of significance. This model accounts for only 3% of variance.

**F. Table 6 summarizes the results of multiple regression for the Clinical predictors of Temptation to skip protease inhibitors for the Feeling good scale:**

Number of days in bed during the past two weeks, Number of hospitalization in the past year and the T cell count last tested were negatively associated to the temptation to skip medication when feeling good. Pain interfering with work in the past 4 weeks showed significance with a p- value of less than 0.0004. This model accounts for 18% of the variance.

**G. Table 7 summarizes the results of multiple regression for the Clinical predictors of number of doses of Protease inhibitors missed in the past three months:**

Negative sign on the B values indicate that the clinical predictors are negatively associated to the number of doses missed in the past three months. None of the predictors showed significance at the 0.05 level of significance. The overall model accounted for 3% of variation.

**H. Table 8 summarizes the results of multiple regression for the mood status and coping predictors of Temptation to skip Protease Inhibitors for the total scale:**

Focus on positive was negatively associated with the Temptation to skip Protease Inhibitors for the total scale. None of the variables were significant at the 0.05 level of significance. This model accounted for 25% of the variance.

**A. Table 9 summarizes the results of multiple regression for the mood status and coping predictors of Temptation to skip Protease Inhibitors for the side-effect scale:** Validity, energy and fatigue; social support and focus on positive were negatively associated to temptation to skip Protease Inhibitors due to side-effects. Variables did not show significance at 0.05 level of significance. Model accounted for 9% of the variation.

**B. Table 10 summarizes the results of multiple regression for the mood status and coping predictors of temptation to skip Protease Inhibitors for the lack of support scale:**

Validity, energy and fatigue; seek and use social support, cognitive escape-avoidance, distancing, Focus on positive were negatively associated to the temptation scale. General mental health & behavioral escape avoidance showed significance at 0.05 level of significance. The model accounted for 25% of variance.

**C. Table 11 summarizes the results of multiple regression for the mood status and coping predictors of Temptation to skip Protease Inhibitors for the Feeling good scale:**

Focus on positive and Behavioral escape- avoidance are negatively associated to the temptation scale. None of the variables showed any significance at the 0.05 level of significance. The model accounts for 20% variance.

**D. Table 12 summarizes the results of multiple regression for the mood status**

**and coping predictors of number of doses of Protease Inhibitors missed in the past three months:**

Seek and use social support, cognitive escape avoidance, distancing are negatively associated to the number of doses missed. None of the variables showed significance at the 0.05 level of significance. The model accounted for 11% of variance.

**E. Table 13 summarizes the results of multiple regression for the Demographic predictors of Temptation to skip Medication for the total scale:**

Age, years of education, number of people in household and annual income were negatively associated to the Temptation to skip medication for the total scale. number of people in the household showed significance at the 0.05 level of significance. The model accounted for 26% of variance.

**F. Table 14 summarizes the results of multiple regression for the Demographic predictors of Temptation to skip Protease Inhibition for the side-effect scale:**

Gender, race, number of people in household, years of education are negatively associated to the Temptation to skip Protease Inhibitors for the side-effect scale. None of the variables showed significance at the 0.05 level of significance. The model accounted for 26% of the variability.

**O. Table 15 summarizes the results of multiple regression for the Demographic predictors of Temptation to skip Protease Inhibition for the lack of support scale:**

Age, gender, race, number of people in household and years of education were negatively associated to the Temptation scale. None of the demographic variables

showed significance at the 0.05 level of significance. The model accounted for 13% of the variability.

**P. Table 16 summarizes the results of multiple regression for the Demographic predictors of Temptation to skip Protease Inhibition for the feeling good scale:** Race, number of people in household, annual income and years of education were negatively associated to the Temptation scale. None of the variables showed significance at the 0.05 level of significance. The model accounted for 15% of the variability.

**Q. Table 17 summarizes the results of multiple regression for the Demographic predictors of the number of doses of Protease Inhibitors missed in the past three months:**

Age, gender, current health status, race, years of education, annual income, insurance were negatively associated to the number of doses missed in the past three months. Gender showed significance at the 0.05 level of significance. The model accounted for 27% of the variability.

**Table 1: Characteristics of the patient population by Demographics for the Temptation to skip Protease Inhibitors:**

<b>Demographic Variables</b>	<b>(%) n</b>	<b>mean</b>	
<b>Age</b>			
>25yrs	1 (1%)	19	
25-34yrs	20 (27%)	25.3	F=0.69
35-44yrs	28(38%)	23.6	p<0.6032
45-54yrs	22 (30%)	23.68	R <sup>2</sup> =0.0445
55+yrs	2 (3%)	19	
<b>Gender</b>			
Female	16 (25%)	24.2	F=1.08
Male	48 (75%),	23.7	p<0.7981
<b>Race</b>			
White, non-Hispanic	55 (76%)	23.9	
Hispanic	4 (6%)	30	F=1.78
African American	6 (8%)	26.25	p<0.1710
Other	7 (10%)	20.14	R <sup>2</sup> =0.0807
<b>Years of Education</b>			
<12yrs	15 (21%)	25.5	F=1.11
12yrs	22 (31%)	24.3	p<0.3542
13-15yrs	20 (28%)	21.8	R <sup>2</sup> =0.0532
16+yrs	15 (21%)	24.9	
<b>Income</b>			
Less than \$15,000	40 (57%)	24.1	
\$15,000 to \$24,000	12 (17%)	24.9	F=0.32
\$25,000 to \$34,000	6 (9%)	23.8	p<0.8603
\$35,000 to \$44,000	9 (13%)	21.8	R <sup>2</sup> =0.0222
\$45,000 or more	3 (4%)	22.7	
<b>number in household</b>			
1 person	16 (35%)	26.5	F=1.86
2+ people	30 (65%)	21.4	p<.626
<b>Insurance</b>			
No	9 (13%)	22.0	F=1.56
Some	63 (87%)	24.1	p<0.6051
<b>Current Health Status</b>			
Excellent	8 (11%)	24.1	
Very Good	13 (18%)	23.5	F=0.62
Good	39 (53%)	23.1	p<0.6484
Fair	12 (16%)	26.6	R <sup>2</sup> =0.0404
Poor	1 (!%)	25.0	

**Table 2: Characteristics of the patient population by Demographics for the Number of doses missed in the past 3 months:**

<b>Demographic Variables</b>	<b>(%) n</b>	<b>mean</b>	
<b>Age</b>			
>25yrs	1 (1%)	8	F=0.49 p<0.7457 R <sup>2</sup> =0.0309
25-34yrs	20 (27%)	5.7	
35-44yrs	28(38%)	4.2	
45-54yrs	22 (30%)	2.9	
55+yrs	2 (3%)	0.0	
<b>Gender</b>			
Female	16 (%)	8.0	F=3.43 p<0.0011
Male	50 (%)	2.9	
<b>Race</b>			
White, non-Hispanic	55 (76%)	4.8	F=0.40 p<0.7516 R <sup>2</sup> =0.0192
Hispanic	4 (6%)	2.7	
African American	6 (8%)	2.8	
Other	7 (10%)	1.5	
<b>Years of Education</b>			
<12yrs	15 (21%)	7.2	F=1.47 p<0.2323 R <sup>2</sup> =0.0673
12yrs	22 (31%)	4.3	
13-15yrs	20 (28%)	1.4	
16+yrs	15 (21%)	5.2	
<b>Income</b>			
Less than \$15,000	40 (57%)	5.3	F=0.60 p<0.6664 R <sup>2</sup> =0.0382
\$15,000 to \$24,000	12 (17%)	2.6	
\$25,000 to \$34,000	6 (9%)	1.8	
\$35,000 to \$44,000	9 (13%)	5.1	
\$45,000 or more	3 (4%)	0.7	
<b>number in household</b>			
1 person	16 (35%)	2.4	F=3.40 p<.016
2+ people	30 (65%)	4.8	
<b>Insurance</b>			
No	9 (13%)	2.1	F=13.56 p<0.0006
Some	63 (87%)	4.9	
<b>Current Health Status</b>			
Excellent	8 (11%)	2.6	F=1.30 p<0.2811 R <sup>2</sup> =0.0784
Very Good	13 (18%)	8.7	
Good	39 (53%)	3.3	
Fair	12 (16%)	3.5	
Poor	1 (!%)	0.0	

**Table 3: Clinical Predictors Of Temptations To Skip Medication for The Total Scale**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
number of days in bed in the past two weeks	-0.252070	0.26608237	0.4000
number of hospitalization in the past year	-0.150587	0.41150700	0.7827
T-cell count last tested	-0.169805	0.76950260	0.6711
Pain interference with work in the past 4 weeks	2.259875	0.56567161	0.0008

**MODEL  $R^2 = 0.1844$**

**Table 4: Clinical Predictors of Temptations to Skip Medication for the Side Effect Scale**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p (0.05)</b>
<b>number of days in bed in the past two weeks</b>	<b>-0.029014</b>	<b>0.10903916</b>	<b>0.7910</b>
<b>number of hospitalization in the past year</b>	<b>-0.226164</b>	<b>0.18011361</b>	<b>0.2134</b>
<b>T-cell count last tested</b>	<b>0.173197</b>	<b>0.31605649</b>	<b>0.5854</b>
<b>Pain interference with work in the past 4 weeks</b>	<b>0.490655</b>	<b>0.23056680</b>	<b>0.0369</b>

**MODEL R<sup>2</sup> = 0.0765**



**Table 5: Clinical Predictors of Temptations  
To Skip Medication for the Lack of Support Scale**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>number of days in bed in the past two weeks</b>	<b>-0.066172</b>	<b>0.10691938</b>	<b>0.5383</b>
<b>number of hospitalization in the past year</b>	<b>0.066261</b>	<b>0.16535509</b>	<b>0.6900</b>
<b>T-cell count last tested</b>	<b>-0.184734</b>	<b>0.30920779</b>	<b>0.5524</b>
<b>Pain interference with work in the past 4 weeks</b>	<b>0.275566</b>	<b>0.22730277</b>	<b>0.2301</b>

**MODEL R<sup>2</sup> = 0.0329**

**Table 6: Clinical Predictors of Temptations To Skip Medication for the Feeling Good Scale**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
number of days in bed in the past two weeks	-0.104082	0.21505136	0.6299
number of hospitalization in the past year	-0.050817	0.35522722	0.8867
T-cell count last tested	-0.420103	0.62333918	0.5026
Pain interference with work in the past 4 weeks	1.686873	0.45473300	0.0004

**MODEL R<sup>2</sup> = 0.1831**

**Table 7: Clinical Predictors of Number of Doses Missed In the Past Three Months**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
number of days in bed in the past two weeks	-0.219782	0.49928973	0.6614
number of hospitalization in the past year	-0.521501	0.84307291	0.5386
T-cell count last tested	-0.471129	1.22601610	0.7022
Pain interference with work in the past 4 weeks	-0.574209	0.91188786	0.5314

**MODEL R<sup>2</sup> = 0.0351**

**Table 8: Mood Status & Coping Predictors Of Temptations to Skip Medication for the Total Scale**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>General mental Health</b>	<b>0.057523</b>	<b>0.06838932</b>	<b>0.2041</b>
<b>Validity, energy &amp; fatigue</b>	<b>0.081699</b>	<b>0.07096276</b>	<b>0.7991</b>
<b>Seek and use social support</b>	<b>0.035140</b>	<b>0.126165</b>	<b>0.7065</b>
<b>Cognitive Escape-Avoidance</b>	<b>0.167219</b>	<b>0.145214</b>	<b>0.2363</b>
<b>Distancing</b>	<b>0.152464</b>	<b>0.119712</b>	<b>0.2973</b>
<b>Focus on the positive</b>	<b>-0.208724</b>	<b>0.141352</b>	<b>0.1589</b>
<b>Behavioral Escape-Avoidance</b>	<b>0.100838</b>	<b>0.152454</b>	<b>0.4670</b>

**MODEL R<sup>2</sup> = 0.2460**

**Table 9: Mood Status & Coping Predictors Of  
Temptations to Skip Medication for the Side Effect Scale**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>General mental Health</b>	<b>0.003501</b>	<b>0.02930638</b>	<b>0.5122</b>
<b>Validity, energy &amp; fatigue</b>	<b>-0.003084</b>	<b>0.03040916</b>	<b>0.1722</b>
<b>Seek and use social support</b>	<b>-0.003943</b>	<b>0.04307266</b>	<b>0.9745</b>
<b>Cognitive Escape-Avoidance</b>	<b>0.018441</b>	<b>0.05429477</b>	<b>0.6684</b>
<b>Distancing</b>	<b>0.040685</b>	<b>0.04585626</b>	<b>0.5441</b>
<b>Focus on the positive</b>	<b>-0.028221</b>	<b>0.05260424</b>	<b>0.6384</b>
<b>Behavioral Escape-Avoidance</b>	<b>0.068619</b>	<b>0.05555417</b>	<b>0.1920</b>

**MODEL R<sup>2</sup> = 0.0933**

**Table 10: Mood Status & Coping Predictors of Temptations To Skip Medication for the Lack of Support Scale**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>General mental Health</b>	<b>0.065227</b>	<b>0.02493562</b>	<b>0.0151</b>
<b>Validity, energy &amp; fatigue</b>	<b>-0.011578</b>	<b>0.02587393</b>	<b>0.7744</b>
<b>Seek and use social support</b>	<b>-0.069824</b>	<b>0.03822089</b>	<b>0.0668</b>
<b>Cognitive Escape-Avoidance</b>	<b>-0.010692</b>	<b>0.04399168</b>	<b>0.8506</b>
<b>Distancing</b>	<b>-0.015112</b>	<b>0.03626603</b>	<b>0.5991</b>
<b>Focus on the positive</b>	<b>-0.023162</b>	<b>0.04282165</b>	<b>0.6071</b>
<b>Behavioral Escape-Avoidance</b>	<b>0.131255</b>	<b>0.04618492</b>	<b>0.0059</b>

**MODEL R<sup>2</sup> = 0.2575**

**Table 11: Mood Status & Coping Predictors of Temptations To Skip Medication for the Feeling Good Scale**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>General mental Health</b>	<b>0.027457</b>	<b>0.05662832</b>	<b>0.8371</b>
<b>Validity, energy &amp; fatigue</b>	<b>0.084715</b>	<b>0.05875920</b>	<b>0.8862</b>
<b>Seek and use social support</b>	<b>0.129291</b>	<b>0.08058121</b>	<b>0.0838</b>
<b>Cognitive Escape-Avoidance</b>	<b>0.173044</b>	<b>0.10157577</b>	<b>0.0994</b>
<b>Distancing</b>	<b>0.143841</b>	<b>0.08578884</b>	<b>0.1037</b>
<b>Focus on the positive</b>	<b>-0.175670</b>	<b>0.09841308</b>	<b>0.0791</b>
<b>Behavioral Escape-Avoidance</b>	<b>-0.060387</b>	<b>0.10393187</b>	<b>0.5978</b>

**MODEL R<sup>2</sup> = 0.2058**

**Table 12: Mood Status & Coping Predictors of Number Of Doses Missed in the Past Three Months Medication**

<b>Independent Variables</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>General mental Health</b>	<b>0.079499</b>	<b>0.10050718</b>	<b>0.4324</b>
<b>Validity, energy &amp; fatigue</b>	<b>0.108293</b>	<b>0.10143939</b>	<b>0.2905</b>
<b>Seek and use social support</b>	<b>-0.068747</b>	<b>0.15851851</b>	<b>0.6662</b>
<b>Cognitive Escape-Avoidance</b>	<b>-0.079289</b>	<b>0.19385247</b>	<b>0.6841</b>
<b>Distancing</b>	<b>-0.194862</b>	<b>0.17043714</b>	<b>0.2580</b>
<b>Focus on the positive</b>	<b>0.344344</b>	<b>0.20782860</b>	<b>0.1033</b>
<b>Behavioral Escape-Avoidance</b>	<b>0.075140</b>	<b>0.20920783</b>	<b>0.7209</b>

**MODEL R<sup>2</sup> = 0.1161**



**Table13: Demographic Predictors of Temptation to Skip Medication  
For Total Scale**

<b>Independent variable</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>Age (continuous)</b>	<b>0.0086</b>	<b>0.11860</b>	<b>0.9426</b>
<b>Gender</b>	<b>-0.8833</b>	<b>2.08232</b>	<b>0.6739</b>
<b>Current Health Status (categorical)</b>	<b>0.8056</b>	<b>1.12782</b>	<b>0.4795</b>
<b>Race (categorical)</b>	<b>-0.0235</b>	<b>0.55070</b>	<b>0.9661</b>
<b>Years of Education (continuous)</b>	<b>-0.4451</b>	<b>0.32053</b>	<b>0.1732</b>
<b>number in household (1vs 2+)</b>	<b>-4.9342</b>	<b>2.00558</b>	<b>0.0187</b>
<b>Annual Income (categorical)</b>	<b>0.0738</b>	<b>0.80883</b>	<b>0.9278</b>
<b>Insurance (none Vs some)</b>	<b>4.9699</b>	<b>3.31847</b>	<b>0.1427</b>

**MODEL R<sup>2</sup>=0.2685**

**Table 14: Demographic Predictors of Temptation to Skip Medication  
For Side Effect Scale**

<b>Independent variable</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>Age (continuous)</b>	<b>0.083068</b>	<b>0.041556</b>	<b>0.0523</b>
<b>Gender</b>	<b>-1.408103</b>	<b>0.708451</b>	<b>0.0536</b>
<b>Current Health Status (categorical)</b>	<b>0.155997</b>	<b>0.38977</b>	<b>0.6911</b>
<b>Race (categorical)</b>	<b>-0.095403</b>	<b>0.194311</b>	<b>0.6261</b>
<b>Years of Education (continuous)</b>	<b>-0.21097</b>	<b>0.112697</b>	<b>0.0683</b>
<b>number in household (1vs 2+)</b>	<b>-0.823432</b>	<b>0.679762</b>	<b>0.2327</b>
<b>Annual Income (categorical)</b>	<b>0.33747</b>	<b>0.289008</b>	<b>0.2497</b>
<b>Insurance (none Vs some)</b>	<b>1.60375</b>	<b>1.086704</b>	<b>0.1476</b>

**MODEL R<sup>2</sup>=0.2667**

**Table 15: Demographic Predictors of Temptation to Skip Medication For Lack of Support Scale**

<b>Independent variable</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>Age (continuous)</b>	<b>-0.00791</b>	<b>0.03790</b>	<b>0.8357</b>
<b>Gender</b>	<b>-0.55259</b>	<b>0.66255</b>	<b>0.4095</b>
<b>Current Health Status (categorical)</b>	<b>0.370345</b>	<b>0.36340</b>	<b>0.3146</b>
<b>Race (categorical)</b>	<b>-0.24958</b>	<b>0.17230</b>	<b>0.1557</b>
<b>Years of Education (continuous)</b>	<b>-0.08248</b>	<b>0.10326</b>	<b>0.4294</b>
<b>number in household (1vs 2+)</b>	<b>-0.59231</b>	<b>0.62711</b>	<b>0.3509</b>
<b>Annual Income (categorical)</b>	<b>0.111573</b>	<b>1.067611</b>	<b>0.9173</b>
<b>Insurance (none Vs some)</b>	<b>0.10123</b>	<b>0.260526</b>	<b>0.6998</b>

**MODEL R<sup>2</sup>=0.1321**

**Table 16: Demographic Predictors of Temptation to Skip Medication For Feeling Good Scale**

<b>Independent variable</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>Age (continuous)</b>	<b>0.03845</b>	<b>0.09277</b>	<b>0.6806</b>
<b>Gender</b>	<b>0.27638</b>	<b>1.57834</b>	<b>0.8618</b>
<b>Current Health Status (categorical)</b>	<b>0.82236</b>	<b>0.87711</b>	<b>0.3538</b>
<b>Race (categorical)</b>	<b>-0.23059</b>	<b>0.42361</b>	<b>0.5891</b>
<b>Years of Education (continuous)</b>	<b>-0.24517</b>	<b>0.25349</b>	<b>0.3390</b>
<b>number in household (1vs 2+)</b>	<b>-2.26079</b>	<b>1.49042</b>	<b>0.1368</b>
<b>Annual Income (categorical)</b>	<b>-0.48302</b>	<b>0.650116</b>	<b>0.4610</b>
<b>Insurance (none Vs some)</b>	<b>1.349710</b>	<b>2.43795</b>	<b>0.5828</b>

**MODEL R<sup>2</sup>=0.1532**

**Table 17: Demographic Predictors of Number of Doses Missed In The Past Three Months**

<b>Independent variable</b>	<b>Standard Coefficient</b>	<b>Standard Error</b>	<b>p</b>
<b>Age (continuous)</b>	<b>-0.087099</b>	<b>0.15805735</b>	<b>0.5851</b>
<b>Gender</b>	<b>-5.873565</b>	<b>2.75002781</b>	<b>0.0398</b>
<b>Current Health Status (categorical)</b>	<b>-0.633602</b>	<b>1.44894597</b>	<b>0.6646</b>
<b>Race (categorical)</b>	<b>-0.894087</b>	<b>1.44894597</b>	<b>0.2491</b>
<b>Years of Education (continuous)</b>	<b>-0.339226</b>	<b>0.40787591</b>	<b>0.4112</b>
<b>number in household (1vs 2+)</b>	<b>1.030172</b>	<b>2.58618504</b>	<b>0.6928</b>
<b>Annual Income (categorical)</b>	<b>-0.882132</b>	<b>1.03618448</b>	<b>0.4004</b>
<b>Insurance (none Vs some)</b>	<b>-1.272744</b>	<b>4.51846837</b>	<b>0.7799</b>

**MODEL R<sup>2</sup>=0.2773**

## Summary Table of Results

### Significant Predictors of Temptation to Skip Protease Inhibitors & number of doses missed

Dependent variables →

	T <sub>1</sub> scale *	T <sub>2</sub> scale *	T <sub>3</sub> scale *	Total scale *	number of doses missed *
<b>Clinical Characteristics</b>	Pain interfering with work in the past 4 weeks	No predictors	Pain interfering with work in the past 4 weeks	Pain interfering with work in the past 4 weeks	No predictor
<b>Demographic</b>	No predictor	No predictor	No predictor	number of people in household	Gender
<b>Mood Status and Coping</b>	No predictor	General Mental health  Behavioral Escape-Avoidance	No predictor	No predictor	No predictor

(\*) = See Footnote

\* T<sub>1</sub> = Temptation to skip medication for the side-effect scale

\* T<sub>2</sub> = Temptation to skip medication for the lack of support scale

\* T<sub>3</sub> = Temptation to skip medication for the feeling good scale

\* Total scale = Temptation to skip medication for the total scale

\* Number of doses missed = number of doses missed in the past 3 months

## DISCUSSION

This study examined three predictors of compliance. The predictors examined were demographics, clinical and mood status and coping. Temptation to skip Protease Inhibitors and the number of doses missed in the past three months were two measurements employed to measure compliance. In this section, the independent variables will be analyzed individually to study their impact on medication compliance.

### **A. Demographics characteristics:**

Demographic predictors; age, gender, current health status, race, number of people in household, insurance, and income could not predict the temptation to skip protease inhibitors for the **side-effect scale, lack of support scale and feeling good scale.**

This conclusion was in accordance with a number of studies done in the past.

Demographic variable “ number of people in household” was a significant predictor of temptation to skip medication for the **total scale** ( $p < 0.01$ ). Plot of temptation scale Vs number of people in household shows that there was a drop in the mean temptation score if there were 2 or more people in household. This could be due to availability of good social support. Family and friends can play a crucial role in providing encouragement for achieving health goals. They can provide emotional/informational, tangible, affectionate, and positive social interaction support, which could make the patient want to feel better and take his medication regularly.

This study contradicts studies by Sherbourne on social support. She has emphasized that a single item measure of number of close friends and relatives cannot predict adherence, suggesting that it is the quality of relationship rather than quantity of supports that influence adherence.

Demographic variable “gender” was a significant predictor of number of doses missed in the past three months ( $p < 0.03$ ). Mean number of doses missed for females was significantly higher than the males ( $p < 0.001$ ). This could be because HIV + women are known to express great distress and concern about familial issues such as pregnancy, transmission to HIV to their children and caring for their children. The experience of the disease may bring on different types of stressors. Also HIV-infected women have been shown to be more depressed and anxious as compared to HIV + men. This state of mind could have caused higher number of doses to be missed by females than by males.

Studies in past has shown no consistent association between gender and compliance.

### **B. Mood Status and Coping:**

Mood Status and Coping could not predict the temptation to skip protease inhibitors for the side-effect, feeling good, total scale and the number of doses missed in the past three months. General mental health ( $p < 0.01$ ) and Behavioral escape-avoidance ( $p < 0.006$ ) significantly predicted the temptation to skip Protease inhibitors for the lack of support scale. This shows that HIV + patients who were tempted to skip medication due to lack of support were using Behavioral Escape-Avoidance as their pattern of coping. This factor is known to involves behavioral signs of avoidance such



as social withdrawal, drug use, and impulsivity. HIV+ patients may suffer from specific fears such as abandonment, pain, death, and exposure to homosexuality, bisexuality, drug use, prostitution, or unsafe sexual activity. They therefore tend to live alone in an attempt to conceal their illness. Eventually since they lack social support, they try to withdraw themselves from society and engage in activities like drug use etc. This result supports the conclusion by Dunkel-Schetter. Dunkel-Schetter studied the coping patterns of cancer patients and found that people who coped by behavioral escape-avoidance were also more likely to live alone.

General mental health was another predictor of temptation to skip protease inhibitor for the lack of support scale. It's a measure of psychological distress and well being. Higher scores represent favorable states while lower scores indicate higher psychological distress and depression. Since general mental health was significantly associated to the temptation to skip protease inhibitor for the lack of support scale, patient could be suffering from psychological distress and eventually getting tempted to skip medication. This conclusion was in accordance with the results of work by Nina Singh. She found that non-compliant patients demonstrated significantly greater psychological distress as assessed by standard psychological tests.

### **C. Clinical:**

Pain interfering with work in the past four weeks significantly predicted temptation to skip protease inhibitors for the side effect scale ( $p < 0.03$ ), total scale ( $p < 0.0002$ ), and feeling good scale ( $p < 0.0004$ ). Pain can have a physical and emotional impact on a person. It can causes limiting activities of daily living or cause psychological

responses such as depression, agitation and decreased alertness. Thus, we can expect an HIV+ individual experiencing pain to be physically incapable of taking his medication or psychologically depressed due to pain to want to take his medication.

#### **D. Final Regression Model:**

The regression model with all the variables that best explained the dependent variable was defined as below:

Temptation to skip medication for the total scale =  $22.1674 - 4.8519$  (number of people in household) -  $0.0907$  (behavioral escape avoidance) +  $0.2091$  (general mental health) -  $0.0401$  (pain interfering with work in the past 4 weeks)

This model had a strong F value of (4.292) with a significant p (0.006). These predictors accounted for nearly 33% of variability.

A backward elimination regression procedure was carried out. The equation started with all the 4 IVs entered and they were deleted one at a time if they did not contribute significantly to regression. The complete model had an R<sup>2</sup> value of 0.3290. The variable pain interfering with work in the past 4 weeks got eliminated first. There was no change in the R<sup>2</sup> value with this elimination. Next, the variable behavioral escape avoidance was dropped from the model. This caused the R<sup>2</sup> value to drop by 0.006. The final R<sup>2</sup> value with number of people in household and General mental health was 0.3229. These were the only 2 significant predictors of Temptation to skip protease inhibitors.

### **E. Interactions:**

An effort was made to check if temptation to skip medication due to psychological distress was affected at different levels of pain. The following model was developed:

Temptation to skip Protease Inhibitor for total scale = Pain interfering/4weeks + GMH + Pain interfering/4week\*GMH.

The interaction term, “pain\*GMH” did not show significance at the significance level 0.05 suggesting that there was no interaction between psychological distress and pain

### **F. Limitations**

*Self reported data:* People may be inaccurate in reporting their behavior. There may be multiple influences on them in terms of their ability and desire to provide a valid response. These factors may include clarity of questions, setting, memory, literacy, and mood status.

*Measurement :* There seems to be no gold standard or satisfactory way to measure compliance, but the questionnaire has been designed to cover every aspect of patient’s moods, disease status, coping, demographics, temptations scale etc. which can help us identify the predictors of compliance. The second measure of compliance used in our study was the number of doses missed in the past 4 weeks. This does not seem to be a very good measure of compliance. This may be because it is a single item measure and depends totally on patient recollection and memory.

*Measurement issues related to timing:* This data was collected when protease inhibitors were first introduced to the market, so patterns of compliance may be different now than they were then.

## CONCLUSIONS

The results of this study on predictors of compliance of AIDS patient on Protease Inhibitors have provided a profile of predictors of compliance. The findings of this study are in accordance with a number of studies on predictors of compliance for HIV and other chronic disease states. Temptation to skip medication is a very new concept of compliance measurement. Results of these studies have shown that this scale could be a very good instrument to measure compliance.

Through bivariate and multivariate statistical procedures, a number of significant predictors of compliance were identified. The factors that appeared to predict compliance best were number of people in household, gender, general mental health, pain interfering with work in the past four weeks and behavioral escape avoidance.

The other demographic variables like age, race, income, insurance, current health status had little association with compliance. This finding is consistent with results obtained from other studies. Though gender was one of the significant predictors of compliance, studies in the past haven't found any consistent association between the two.

General mental health and number of people in household were two variables that best predicted compliance in our HIV patients. They accounted for major part of the variance in the temptation to skip medication scale. The negative relationship between the Temptation scale and the number of people in the household wasn't unexpected. Also, the results have shown that the higher the psychological distress the higher was the temptation to skip medication. This again wasn't surprising as many psychological factors have been associated with non-compliance.

Compliance with Protease Inhibitors is a very significant problem because of the fear of development of resistance. This data has shown that psychological distress was a significant problem with the non-compliant HIV patients on Protease Inhibitors. Since illness like psychological distress and depression are often treatable, health care providers must provide appropriate treatment and counseling to these patients. These findings also suggested the importance of social support for compliance behavior. Health care providers should educate family members about the psychological condition of this group of people and how social support can improve their compliant behavior significantly. An awareness of the factors associated with compliance can enable health care providers to identify those at risk for noncompliance behavior. They can then carry out extensive compliance-enhancing counseling programs and help reduce the impact of this problem.

## REFERENCES

Baum, A., Fleming R., and Singer J., Coping with victimization by technological disaster, Journal of Social Issues, 39:117-138, 1983

Billings AG., & Moos RH., The role of coping responses and social resources in attenuating the stress of life events. Journal of Behavioral Medicine, 1:139-158, 1981

Billings AG., & Moos RH., Coping, stress, and social resources among adults with unipolar depression. Journal of Personality and Social Psychology. 46: 877-891,1984

Bayer R. and Stryker J., Ethical Challenges Posed by Clinical Progress in AIDS, American Journal of Public Health, 87: No.10, 1997.

Coons S., Martin S., . Hendricks J., Sheahan S., Robbins C., Johnson J.; Predictors of education Non compliance in a sample of older Adults, Clinical Therapeutics, 16: No.1,1994.

Davis, MS, Variation in patients' compliance with doctors' orders: Analysis of congruence between survey responses and results of empirical observations, Journal of Medical Education 41:1037 (1966)

DeGenova M., Ways of Coping among HIV- infected Individuals, Journal of Social Psychology , 134 (5), 655-663

Dunkel-Schetter C., Feinstein L., Taylor S., Falke R., Patterns of Coping with Cancer, Health Psychology, 1992, 11 (2), 79-87

Eraker S., Kirscht J., Becker M.; Understanding and improving patient Compliance, Annals of Internal medicine,100:258-268, 1984

Evans L., Spelman M., The Problem of Non compliance with drug therapy, Drugs, Vol5 (1): 63-76, 1983

Fawzy FI., Namir S., Wolcott DL., Mitsuyasu RI., and Gottlieb MS., The relationship between medical and psychological status in newly diagnosed gay men with AIDS, Psychiatric Medicine, 7: 23-33, 1989a

Felton B., Revenson T., Coping with chronic illness: A study of illness controllability and the influence of coping strategies on psychological adjustment. Journal of Counseling and Clinical Psychology, 52:343-353, 1984

Folkman S. & Lazarus R., Gruen R., & DeLongis A., Appraisal, coping, health status, and psychological symptoms. Journal of personality and Social Psychology, 50: 571-579, 1986

Friedland G., Adherence: The Achilles Heel of Highly Active Antiretroviral Therapy, The Journal of the American Medical Association, 1997.

Geletko S., Rana K., Improving Adherence with complicated Medication Regimens, Medicine and Health/ Rhode island, vol81, No.2, Feb 1998

German P., Compliance and Chronic disease, Hypertension; 11 (suppl II):II-56 - II-60, 1988.

Greenberg R., Overview of Patient Compliance with medication Dosing: A literature Review, Clinical Therapeutics, Vol 6, No.5, 1984

Harburg E., Blakelock E., & Reoper P., Resentful and reflective coping with arbitrary authority and blood pressure: Detroit. Psychosomatic Medicine, 41, 189-202, 1979

Haynes, RB: A critical review of the 'determinants' of patient compliance with therapeutic regimen, Sackett and Haynes (Eds) Compliance with Therapeutic Regimens, pp24-40 (John Hopkins University Press, Baltimore 1976)

Haynes, RB: Introduction, in Haynes et al. (Eds) Compliance in Health Care, pp1-7 (John Hopkins University Press, Baltimore 1976)

Heinzelman, F.: Factors in prophylaxis behavior in treating rheumatic fever, Journal on Health and Human Behavior 3:72 (1962)

Holahan CJ., & Moos RH., Personality, coping, and family resources in stress resistance: A longitudinal analysis. Journal of Personality and social Psychology, 51(2), 389-395, 1986

Holland JC., and Tross S., The psychosocial and neuropsychiatric sequele of immunodeficiency syndrome and related disorders, Annals of Internal Medicine, 103:765-767

Ian Mc Dowell and Claire Newell, Measuring Health ( a guide to rating scales and questionnaires), 1996

Insull W., The problem of Compliance to cholesterol altering therapy; Journal of Internal Medicine, 241:317-325, 1997

Johnson, D.A.W.: A study of the use of antidepressant medication in general practice, British Journal of Psychiatry 125:186 (1974)

Kobasa S., Commitment and coping stress resistance among lawyers. Journal of Personality and Social Psychology, 42: 707-717, 1982

Mitchell R., Cronkite R., & Moos R., Stress, coping and depression among married couples, Journal of Abnormal Psychology, 92,433-448,1983



Morisky DE, Green LW, Levine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. Med Care 1986; 24:67-74

Nakan k., Coping strategies and psychological symptoms in a Japanese sample, Journal of clinical Psychology, May 1991, vol 47, No.3

Norell S., Methods in Assessing Drug Compliance, Acta Med Scandinavia, Suppl 683: 35-40

Nannis E., Patterson T., Semple S., Coping with HIV Disease Among Seropositive Women: Psychosocial Correlates, Women & Health, vol.25 (1) 1997

Pearlin L., & Schooler C., The structure of coping. Journal of Health and Social Behavior, 19: 2-21, 1978

Prien, RF and Caffey, EM Jr.: Long term maintenance drug therapy in recurrent affective illness; Current status and issues. Disease of the nervous system, 38 (12):991 (1977)

Ross MW., & Rosser BS., Psychological issues in AIDS-related syndromes. Patient Education and Counseling, 11: 17-28, 1988

Sherbourne C., Hays R., Ordway L., DiMatteo M., Kravitz R., Antecedents of Adherence to Medical Recommendations: Results from the Medical Outcome Study, Journal of Behavioral Medicine, Vol 15, No. 5, 1992

Solomon GF., Psychoneuroimmunology and human immunodeficiency virus infection, Psychiatric Medicine, 7:47-57, 1985

## APPENDIX

- Questionnaire
- Plots

## Managing Your Medications Questionnaire

Please answer the following questions thoughtfully and completely. This questionnaire is about how you think and feel about the HIV related medications that you are taking, and about the different strategies that people use to take their medications. It will take about 45 minutes for you to fill this out. You may fill it out at home and mail it in or you may return it to this clinic. When you turn it in, we will give you a gift certificate for \$20 to thank you for your participation. If you have the time to fill it out here, you may turn it in to the person who handed it to you, and receive your gift certificate now.

### CODE FOR THIS QUESTIONNAIRE:

- A) What are the first 3 letters of your mother's first name? \_\_\_\_\_ (1/1-3)
- B) What is your birth date?   /     (1/4-9)  
mm dd yy

### SECTION I BACKGROUND INFORMATION

The first section of this questionnaire asks about your background.

→ Please circle or fill in the correct response for each question.

1. What is your age?   years (1/10-11)
2. What is your gender? M F
3. How would you describe your current health status? (Please check one answer) (1/12)  
 Excellent  Very Good  Good  Fair  Poor
4. Which of the following best describes your ethnic background? (1/13)  
 White, non-Hispanic  Hispanic  African American  
 Native American  Asian  Other
5. How many years of education have you finished?   (1/14-15)
6. Do you currently work either part-time or full time? (1/16)  
 Full-time  Part-time  I am not currently employed
7. Do you live by yourself or with other people? (1/17)  
 By myself  With others
8. If you live with others, how many (besides you) are in your household?   (1/18-19)
9. If you live with others, what is their relationship to you? (Check all that apply) (1/20-26)  
 Husband or wife  Grandparents  
 Intimate partner  Children under age 18  
 Other adults 18 or older  Children over age 18  
 Parents

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10. Do you have any children? If so, how many? (If none, put 0)  (1/27-28)
11. Do any of your adult children live nearby (within a half hour drive)? (1/29)  
 Yes  No  Not applicable
12. How many of your family or friends can you count on for emotional support?  (1/30-31)
13. How many of your family or friends can you count on for financial help?  (1/32-33)
14. How many of your family or friends can you count on for physical assistance, or a place to stay?  (1/34-35)
15. Do you feel confident that your family or friends will continue to help you with your everyday needs? (1/36)  
 Very confident  
 Fairly confident  
 Somewhat confident  
 Less than somewhat confident  
 Not at all confident
16. If you were to need more help with every day needs, do you feel confident that your family or friends could provide it? (1/37)  
 Very confident  
 Fairly confident  
 Somewhat confident  
 Less than somewhat confident  
 Not at all confident
17. How many of your family & friends have you told about your HIV infection? (1/38)  
 None  Less than half  About half  More than half  All
18. What type of health insurance coverage do you currently have? (1/39-48)  
 NONE  HCHP  Medicaid  
 Blue Cross  Other private insurer  Medicare  
 Ocean State  HMO  Other  
 RIGHA
19. Which of the following best estimates your total (family) income during the past 12 months? (1/49)  
 Less than \$15,000  
 \$15,000 to \$24,000  
 \$25,000 to \$34,000  
 \$35,000 to \$44,000  
 45,000 or more
20. About how far do you live from this treatment center? (1/50)  
 Within walking distance  
 Within a ten minute drive or less  
 Within a twenty minute drive or less  
 Within a thirty minute drive  
 More than thirty minutes away

21. When you have questions about medications for your HIV infection, who do you usually ask? (Please check all that apply) (1/51-58)
- Pharmacist                       Other persons with HIV infection  
 Physician                         Family members  
 Social Worker                   Friends  
 Nurse                                Other; please specify \_\_\_\_\_ (1/59-78)
22. Which health care provider is most helpful to you in taking your medications as directed? (1/79)
- Nurse  
 Pharmacist  
 Physician  
 Social Worker  
 Other; please specify \_\_\_\_\_ (2/1-20)
23. Is there someone living with you or close to you who helps or reminds you to take your medications on time? (2/21)
- Yes       No
24. How much bodily pain have you had during the past four weeks? (2/22)
- None                                 Moderate  
 Very mild                          Severe  
 Mild                                  Very Severe
25. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)? (2/23)
- Not at all     A little bit     Moderately     Quite a bit     Extremely
26. During the past two weeks, how many days did you stay in bed all or most of the day?  (2/24-25)
27. How many times have you been hospitalized in the past year? (If none, put 0)  (2/26-27)
28. These questions are about how you feel and how things have been with you during the past 4 weeks.

For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks...

	NONE OF THE TIME	A LITTLE BIT OF THE TIME	SOME OF THE TIME	A GOOD BIT OF THE TIME	MOST OF THE TIME	ALL OF THE TIME	
a. Did you feel full of pep?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(2/28)
b. Have you been a very nervous person?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(2/29)
c. Have you felt so down in the dumps that nothing could cheer you up?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(2/30)
d. Have you felt calm and peaceful?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(2/31)
e. Did you have a lot of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(2/32)
f. Have you felt downhearted and blue?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(2/33)
g. Did you feel worn out?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(2/34)
h. Have you been a happy person?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(2/35)
i. Did you feel tired?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(2/36)

29. How long ago were you diagnosed as HIV positive? (2/37)

- |   |  |
|---|--|
| <input type="checkbox"/> Less than a month                          | <input type="checkbox"/> 1 to 2 years    |
| <input type="checkbox"/> One to six months                          | <input type="checkbox"/> 3 to 4 years    |
| <input type="checkbox"/> More than six months, but less than a year | <input type="checkbox"/> 5 years or more |

30. How do you think you got your HIV infection? (2/38-42)  
*Please check all that apply*

- Injection (IV) drug use
- Heterosexual contact
- Homosexual contact
- Blood transfusion
- Other: \_\_\_\_\_

(2/43-62)

31. What was your T cell count (CD4 count) the last time you were tested? (2/63)

- Greater than 500     201-500     50-200     Less than 50

**SECTION II  
MEDICATION HISTORY**

WHICH OF THE FOLLOWING MEDICATIONS ARE YOU TAKING NOW?

(2/64-77)

→ PLEASE CHECK ALL THAT APPLY:

- |  |   |
|--|---|
| <input type="checkbox"/> AZT (Retrovir®, zidovudine) | <input type="checkbox"/> Indinavir (Crixivan®)                                |
| <input type="checkbox"/> DDI (Videx®, didanosine)    | <input type="checkbox"/> Trimethoprim or Sulfamethoxazole (Bactrim®, Septra®) |
| <input type="checkbox"/> DDC (Hivid®, zalcitabine)   | <input type="checkbox"/> Clarithromycin (Biaxin®)                             |
| <input type="checkbox"/> D4T (Zerit®, stavudine)     | <input type="checkbox"/> Dapsone  |
| <input type="checkbox"/> 3TC (Epivir®, lamivudine)   | <input type="checkbox"/> Fluconazole (Diflucan®)                              |
| <input type="checkbox"/> Saquinavir (Invirase®)      | <input type="checkbox"/> Itraconazole (Sporanox®)                             |
| <input type="checkbox"/> Ritonavir (Norvir®)         | <input type="checkbox"/> Rifabutin (Mycobutin®)                               |
| <br><input type="checkbox"/> Other: _____<br>_____   |   |

*We would like to ask you about each medicine that you are currently taking. Please fill out the following 2 page medication form for each medicine that you checked on the above list.*

→ *If you are currently taking 1 medication, fill out 2 pages.*

→ *If you are currently taking 2 medications, fill out 4 pages.*

→ *If you are currently taking 3 medications, fill out 6 pages.*

*If you are currently taking more than 3 medications, please fill out 6 pages and additional pages in the Supplement at the end of this questionnaire.*

*Please go to page 12 after you have filled out these medication forms. .*

## MEDICATION #1

MEDICINE NAME \_\_\_\_\_ (3/1-20)

1. This medicine is for: (3/21)

- HIV infection
- To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
- To treat or prevent MAI (*Mycobacterium avium complex*) infection
- To treat or prevent fungal infections (*Candida* or "thrush")
- Other: \_\_\_\_\_ (3/22-41)
- Don't know

2. How often do you take this medicine? (3/42-50)

- Two times a week
- Three times a week
- Every other day
- Once a day
- Two times a day
- Three times a day
- Four times a day
- Five times a day
- Other: \_\_\_\_\_ (3/51-70)

3. How long have you been taking this medication? (3/71)

- \_\_\_ Less than 1 month      \_\_\_ 6 months to 1 year
- \_\_\_ 1 to 3 months        \_\_\_ 1 to 2 years
- \_\_\_ 4 to 6 months        \_\_\_ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better? (3/72)

- YES       NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse? (3/73)

- YES       NO

6. During the last 3 months, have you ever forgotten to take this medication? (3/74)

- YES       NO

7. During the last 3 months, have you at times been careless about taking this medication? (3/75)

- YES       NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better? (3/76)

- YES       NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse? (3/77)

- YES       NO



10. Since you began taking this medication, have you ever purposely:

- |   | YES                      | NO                       |        |
|---|--------------------------|--------------------------|--------|
| a) taken more of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (3/78) |
| b) taken less of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (3/79) |
| c) discontinued or stopped taking your medication?            | <input type="checkbox"/> | <input type="checkbox"/> | (3/80) |

If yes.

11. a) How many times have you discontinued your medication for more than 3 days? \_\_\_\_\_ (4/1-2)

b) What were your reasons for discontinuing your medication? \_\_\_\_\_ (4/3-8)

(Please check all that apply)

- My doctor recommended it
- Too many side effects
- I didn't want to be reminded of my illness
- Problems with insurance coverage
- I didn't think it was working
- Other: \_\_\_\_\_ (4/9-28)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 1? \_\_\_\_\_ (4/29-30)

13. During the past month, about how many times did you miss a dose of MEDICATION 1? \_\_\_\_\_ (4/31-32)

14. During the past three months, about how many times did you miss a dose MEDICATION 1? \_\_\_\_\_ (4/33-34)

15. Please check any side effect(s) you are having that you believe are caused by this medicine: \_\_\_\_\_ (4/35-50)

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> nausea         | <input type="checkbox"/> shortness of breath    | <input type="checkbox"/> headaches          |
| <input type="checkbox"/> dizziness      | <input type="checkbox"/> muscle aches           | <input type="checkbox"/> anxiety/worry      |
| <input type="checkbox"/> vomiting       | <input type="checkbox"/> fatigue                | <input type="checkbox"/> depression         |
| <input type="checkbox"/> abdominal pain | <input type="checkbox"/> tingling in hands/feet | <input type="checkbox"/> rash               |
| <input type="checkbox"/> diarrhea       | <input type="checkbox"/> numbness in hands/feet | <input type="checkbox"/> sensitivity to sun |
| <input type="checkbox"/> other: _____   |   |   |

## MEDICATION #2

MEDICINE NAME \_\_\_\_\_ (5/1-20)

1. This medicine is for: (5/21)

- HIV infection
- To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
- To treat or prevent MAI (*Mycobacterium avium complex*) infection
- To treat or prevent fungal infections (*Candida* or "thrush")
- Other: \_\_\_\_\_ (5/22-41)
- Don't know

2. How often do you take this medicine? (5/42-50)

- Two times a week
- Three times a week
- Every other day
- Once a day
- Two times a day
- Three times a day
- Four times a day
- Five times a day
- Other: \_\_\_\_\_ (5/51-70)

3. How long have you been taking this medication? (5/71)

- \_\_\_ Less than 1 month                      \_\_\_ 6 months to 1 year
- \_\_\_ 1 to 3 months                            \_\_\_ 1 to 2 years
- \_\_\_ 4 to 6 months                            \_\_\_ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better? (5/72)

- YES             NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse? (5/73)

- YES             NO

6. During the last 3 months, have you ever forgotten to take this medication? (5/74)

- YES             NO

7. During the last 3 months, have you at times been careless about taking this medication? (5/75)

- YES             NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better? (5/76)

- YES             NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse? (5/77)

- YES             NO

10. Since you began taking this medication, have you ever purposely:

- |   | YES                      | NO                       |        |
|---|--------------------------|--------------------------|--------|
| a) taken more of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (5/78) |
| b) taken less of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (5/79) |
| c) discontinued or stopped taking your medication?            | <input type="checkbox"/> | <input type="checkbox"/> | (5/80) |

If yes,

11. a) How many times have you discontinued your medication for more than 3 days? \_\_\_\_\_ (6/1-2)

b) What were your reasons for discontinuing your medication? (6/3-8)

*Please check all that apply*

- My doctor recommended it
- Too many side effects
- I didn't want to be reminded of my illness
- Problems with insurance coverage
- I didn't think it was working
- Other: \_\_\_\_\_ (6/9-28)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 2? \_\_\_\_\_ (6/20-20)

13. During the past month, about how many times did you miss a dose of MEDICATION 2? \_\_\_\_\_ (6/31-32)

14. During the past three months, about how many times did you miss a dose MEDICATION 2? \_\_\_\_\_ (6/33-34)

15. Please check any side effect(s) you are having that you believe are caused by this medicine: (4/35-50)

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> nausea         | <input type="checkbox"/> shortness of breath    | <input type="checkbox"/> headaches          |
| <input type="checkbox"/> dizziness      | <input type="checkbox"/> muscle aches           | <input type="checkbox"/> anxiety/worry      |
| <input type="checkbox"/> vomiting       | <input type="checkbox"/> fatigue                | <input type="checkbox"/> depression         |
| <input type="checkbox"/> abdominal pain | <input type="checkbox"/> tingling in hands/feet | <input type="checkbox"/> rash               |
| <input type="checkbox"/> diarrhea       | <input type="checkbox"/> numbness in hands/feet | <input type="checkbox"/> sensitivity to sun |
| <input type="checkbox"/> other: _____   |   | (6/51-70)                                   |

### MEDICATION #3

MEDICINE NAME \_\_\_\_\_ (7/1-20)

1. This medicine is for: (7/21)

- HIV infection
- To treat or prevent PCP (Pneumocystis carinii pneumonia)
- To treat or prevent MAI (Mycobacterium avium complex) infection
- To treat or prevent fungal infections (Candida or "thrush")
- Other: \_\_\_\_\_ (7/22-41)
- Don't know

2. How often do you take this medicine? (7/42-50)

- Two times a week
- Three times a week
- Every other day
- Once a day
- Two times a day
- Three times a day
- Four times a day
- Five times a day
- Other: \_\_\_\_\_ (7/51-70)

3. How long have you been taking this medication? (7/71)

- \_\_\_ Less than 1 month                      \_\_\_ 6 months to 1 year
- \_\_\_ 1 to 3 months                            \_\_\_ 1 to 2 years
- \_\_\_ 4 to 6 months                            \_\_\_ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better? (7/72)

- YES                       NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse? (7/73)

- YES                       NO

6. During the last 3 months, have you ever forgotten to take this medication? (7/74)

- YES                       NO

7. During the last 3 months, have you at times been careless about taking this medication? (7/75)

- YES                       NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better? (7/76)

- YES                       NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse? (7/77)

- YES                       NO

10. Since you began taking this medication, have you ever purposely:

- |   | YES                      | NO                       |        |
|---|--------------------------|--------------------------|--------|
| a) taken more of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (7/78) |
| b) taken less of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (7/79) |
| c) discontinued or stopped taking your medication?            | <input type="checkbox"/> | <input type="checkbox"/> | (7/80) |

If yes.

11. a) How many times have you discontinued your medication for more than 3 days? \_\_\_\_\_ (8/1-2)

b) What were your reasons for discontinuing your medication? (8/3-8)

*Please check all that apply*

- My doctor recommended it
- Too many side effects
- I didn't want to be reminded of my illness
- Problems with insurance coverage
- I didn't think it was working
- Other: \_\_\_\_\_ (8/9-28)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 3? \_\_\_\_\_ (8/29-30)

13. During the past month, about how many times did you miss a dose of MEDICATION 3? \_\_\_\_\_ (8/31-32)

14. During the past three months, about how many times did you miss a dose MEDICATION 3? \_\_\_\_\_ (8/33-34)

15. Please check any side effect(s) you are having that you believe are caused by this medicine: (8/35-50)

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> nausea         | <input type="checkbox"/> shortness of breath    | <input type="checkbox"/> headaches          |
| <input type="checkbox"/> dizziness      | <input type="checkbox"/> muscle aches           | <input type="checkbox"/> anxiety/worry      |
| <input type="checkbox"/> vomiting       | <input type="checkbox"/> fatigue                | <input type="checkbox"/> depression         |
| <input type="checkbox"/> abdominal pain | <input type="checkbox"/> tingling in hands/feet | <input type="checkbox"/> rash               |
| <input type="checkbox"/> diarrhea       | <input type="checkbox"/> numbness in hands/feet | <input type="checkbox"/> sensitivity to sun |
| <input type="checkbox"/> other: _____   |   | (8/51-70)                                   |

Next, we would like to ask about your attitudes toward taking each of three different kinds of medications. Please fill out each of the following sections ONLY if you have taken or are currently taking any of the medications listed in each section.

**SECTION III: ANTIVIRAL MEDICATIONS.....Please go to page 13 .**

[AZT (Retrovir®), zidovudine), DDI (Videx®, didanosine), DDC (Hivid®, zalcitabine),  
D4T (Zerit®, stavudine), or 3TC (EpiVir®, lamivudine)]

**SECTION IV: ANTI-INFECTIVE MEDICATIONS.....Please go to page 21 .**

[Trimethoprim or Sulfamethoxazole (Bactrim®, Septra®), Clarithromycin (Biaxin®),  
Fluconazole (Diflucan®), Itraconazole (Sporanox®), or Rifabutin (Mycobutin®)]

**SECTION V: PROTEASE INHIBITORS.....Please go to page 29 .**

[Saquinavir (Invirase®), Ritonavir (Norvir®), or Indinavir (Crixivan®)]

Please go to page <sup>33</sup> after you have completed these medication sections.

### SECTION III ANTIVIRAL MEDICATIONS

**REMINDER:** FILL OUT THIS SECTION IF YOU HAVE EVER TAKEN ANY OF THESE ANTIVIRAL MEDICATIONS: AZT (Retrovir®, zidovudine), DDI (Videx®, didanosine), DDC (Hivid®, zalcitabine), D4T (Zerit®, stavudine), or 3TC (Epivir®, lamivudine). If not, skip to page 24.

→ If you are taking more than one antiviral medication NOW, please answer these questions for the medicine that is most difficult for you to take, and fill in the name of that medicine here \_\_\_\_\_ (9/1-20)

→ If you have discontinued your antiviral medication, please answer these questions for the medicine that you took most recently, and fill in the name of that medicine here \_\_\_\_\_ (9/21-40)

Taking medications as directed (the prescribed amount taken at the right time) is not always easy. At one time or another most people simply forget to take a dose of their medication, and sometimes people discontinue taking their medications for a while. The following is a list of possible advantages and disadvantages of taking antiviral medications as directed.

→ For each numbered statement, please mark one box with an "X" to rate **HOW IMPORTANT** that statement is to you when you are thinking about whether to take your antiviral medication as directed.

	EXTREMELY IMPORTANT 5	VERY IMPORTANT 4	MODERATELY IMPORTANT 3	SLIGHTLY IMPORTANT 2	NOT IMPORTANT 1	
1. It is a hassle to take my antiviral medication several times a day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/41)
2. Taking my antiviral medication as directed may delay some symptoms of HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/42)
3. My family or friends approve when I remember to take my antiviral medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/43)
4. Taking too many medications may not be good for my health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/44)
5. When I take my antiviral medication as directed my doctor approves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/45)
6. Taking all of my antiviral medication as directed is too expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/46)
7. If I take my antiviral medication as directed, I can avoid possible complications of HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/47)
8. Taking my antiviral medication as directed may make up for my unhealthy habits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/48)

	NOT IMPORTANT 1	SLIGHTLY IMPORTANT 2	MODERATELY IMPORTANT 3	VERY IMPORTANT 4	EXTREMELY IMPORTANT 5	
9. When I take my antiviral medication as directed, I feel more responsible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/49)
10. When I'm away from home or on vacation, taking my antiviral medication as directed is difficult.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/50)
11. When I take my antiviral medication as directed, it makes me feel depressed about having HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/51)
12. Taking my antiviral medication as directed causes too many annoying side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/52)
13. Taking my antiviral medication as directed will slow down this illness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/53)
14. I worry that taking all the doses that are prescribed might not be good for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/54)
15. Taking my antiviral medication as directed gives me hope.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/55)
16. I worry that the antiviral medication is doing more harm than good.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/56)
17. Taking my antiviral medication as directed may help me stay well longer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/57)
18. It may be hard on my system, if I take my antiviral medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/58)
19. I worry that people will know that I'm sick if I take my antiviral medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/59)
20. Taking my antiviral medication as directed will help me feel better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(9/60)



Sometimes people take their medications as directed for a while, and then stop taking them for a while.

→ The following 2 questions are about how you are taking your antiviral medication **RIGHT NOW**.

21. Do you consistently take your antiviral medication as directed? ("as directed" means taking your medication at the right time and taking the prescribed amount) (9/61-80)
- a. No, I do not, and **I am not considering** taking my antiviral medication as directed.
  - b. No, I do not, but **I am considering** taking my antiviral medication as directed.
  - c. No, I do not, but **I am planning to start** taking my antiviral medication as directed within the next month.
  - d. Yes, I consistently take my antiviral medication as directed.

If yes.

- 22. How long have you been taking your antiviral medication as directed? (10/1)
- a. 0-3 months
  - b. 4-6 months
  - c. 6-12 months
  - d. more than 12 months

Now here are some situations that might affect whether you take your antiviral medication for HIV infection as directed.

For each situation, please mark one box with an "X" to rate **HOW TEMPTED** you would be to skip your antiviral medication or take a dose which is different from the one prescribed.

	EXTREMELY TEMPTED 5	VERY TEMPTED 4	MODERATELY TEMPTED 3	SLIGHTLY TEMPTED 2	NOT TEMPTED 1	
23. When you feel good and think you don't need it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/2)
24. When you are anxious about side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/3)
25. When you want to save on the cost of your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/4)
26. When you wonder whether you really need your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/5)
27. When you feel down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/6)
28. When you experience minor side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/7)
29. When you start to feel better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/8)
30. When your doctor doesn't seem interested in whether you take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/9)
31. When you have no energy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/10)
32. When side effects are annoying.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/11)

	NOT TEMPTED 1	SLIGHTLY TEMPTED 2	MODERATELY TEMPTED 3	VERY TEMPTED 4	EXTREMELY TEMPTED 5	
33. When someone doesn't remind you to take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/12)
34. When your medical condition doesn't seem that bad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/13)
35. When you are taking several medications at the same time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/14)
36. When it seems too complex to keep track of all your medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/15)
37. When you feel like giving up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/16)
38. When your doctor doesn't explain why you need to take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/17)
39. When you have to take several medications every day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/18)
40. When you aren't sure if the medicine is really helping you.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/19)
41. When you feel that your medication is too expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/20)
42. When you don't understand why you need your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/21)
43. When you think that you aren't that sick.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/22)
44. When your family or friends don't seem concerned enough about your condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/23)
45. When your doctor doesn't encourage you to take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/24)
46. When your family or friends don't seem interested in whether you take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/25)
47. When your doctor doesn't seem concerned enough about your condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/26)
48. When your insurance doesn't cover the cost of your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/27)
49. When you lose confidence in your doctor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/28)
50. When you worry that taking too many medications might be bad for your health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/29)
51. When you feel you should give your body a rest.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/30)
52. When you worry that the chemicals in the medication might harm or hurt your body.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/31)

The following statements represent some thoughts and experiences that people have when they are taking antiviral medications on a regular basis. Think about your thoughts and experiences during the past month.

→ For each numbered statement, please mark one box with an "X" to best describe HOW OFTEN that thought occurs or has occurred for you during the past month.

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
53. I seek out new information on the benefits of taking my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/32)
54. I call my health care provider if I have questions about taking my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/33)
55. I have someone I can count on to help me take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/34)
56. I reward myself when I take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/35)
57. I use reminders to help me remember to take my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/36)
58. When I am tempted to skip a dose of my antiviral medication, I remind myself about the importance of staying on schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/37)
59. I promise myself and others to take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/38)
60. I feel good about myself when I remember to take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/39)
61. I get upset with myself when I think about the times when I've forgotten to take my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/40)
62. I think that taking my antiviral medications as directed may provide knowledge to help others who have HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/41)
63. I do something special for myself when I take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/42)
64. When taking my antiviral medications feels like a hassle, I remind myself of all the benefits of continuing to take them regularly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/43)
65. I tell myself that following a regular schedule will help me take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/44)
66. When I'm unable to take my antiviral medications as directed, I'm disappointed in myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/45)

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
67. I get upset when I hear about people like me who stop taking their antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/46)
68. I think that taking my antiviral medications as directed will help my family and friends by giving them hope.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/47)
69. I ask my health care provider for information about my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/48)
70. I talk to my health care provider before changing the way I take my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/49)
71. Someone close to me reminds me to take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/50)
72. I build taking my antiviral medications into my schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/51)
73. I use a pill organizer or timer to help me take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/52)
74. When I am on vacation or away from home, I make special efforts to continue taking my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/53)
75. I encourage myself to stick to my regular medication schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/54)
76. I get upset with myself when I skip my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/55)
77. I feel that when I take my antiviral medications as directed, I am a good role model for others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/56)
78. When I plan my day, I make sure to include taking my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/57)
79. I use everyday events like brushing my teeth or when my alarm clock goes off to remind me to take my antiviral medications on time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/58)
80. When it is difficult to take my antiviral medications as directed, I remind myself that others are counting on me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/59)
81. I stick to my plan for taking my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/60)
82. I think that I am making a contribution to scientific knowledge about HIV by taking my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/61)
83. I think about the benefits of taking my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/62)

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
84. I call my health care provider when I am concerned about side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/63)
85. Emotional support from others helps me take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/64)
86. When I take my antiviral medications as directed, I congratulate myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/65)
87. I try to take my antiviral medications at the same time and place so that I won't forget.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/66)
88. When my symptoms don't seem to improve, I remind myself that it's still important to take my antiviral medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/67)
89. I use determination to help me stick to my regular medication-taking schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/68)
90. I feel that I am less likely to be a burden to others if I take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/69)
91. I tell myself and others that I will take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/70)
92. I feel that my health care provider listens when I have questions about my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/71)
93. I have someone I can rely on to help me with my antiviral medication schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/72)
94. I know that my family and friends appreciate my taking my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/73)
95. I avoid situations that make it difficult for me to remember to take my antiviral medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/74)
96. When I'm concerned about my antiviral medication losing its effectiveness, I remind myself of the good reasons to continue taking my medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/75)
97. I feel more responsible when I am taking my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/76)
98. I get upset by warnings about the serious problems I could have if I do not take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/77)
99. I regularly check my supply of pills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/78)

	VERY OFTEN 5	OFTEN 4	OCCASIONALLY 3	RARELY 2	NEVER 1	
100. I remember hearing about the importance of taking my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/79)
101. I feel that my health care provider really helps me take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10/80)
102. I have someone I can talk to about all my medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/1)
103. I feel that I've earned my health care provider's approval when I take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/2)
104. I use meal times to help me take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/3)
105. When I get depressed, I make special efforts to continue taking my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/4)
106. I'm not happy with myself when I don't take my antiviral medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/5)
107. When I think of the times when I didn't care about taking my antiviral medications, I feel angry with myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/6)
108. I plan ahead for when my antiviral medication supply will run out.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/7)

## SECTION IV ANTI-INFECTIVE MEDICATIONS

REMINDER: FILL OUT THIS SECTION IF YOU HAVE EVER TAKEN ANY OF THESE MEDICINES TO HELP PREVENT PNEUMONIA OR INFECTION:

Trimethoprim or Sulfamethoxazole (Bactrim®, Septra®), Clarithromycin (Biaxin®),  
Fluconazole (Diflucan®), Itraconazole (Sporanox®), or Rifabutin (Mycobutin®).

**If not, skip to page 34.**

→ *If you are taking more than one anti-infective medication NOW, please answer these questions for the medicine that is most difficult for you to take, and fill in the name of that medicine here*

(11/8-27)

→ *If you have discontinued your anti-infective medication, please answer these questions for the medicine that you took most recently, and fill in the name of that medicine here*

(11/28-47)

Taking medications as directed (the prescribed amount taken at the right time) is not always easy. At one time or another most people simply forget to take a dose of their medication, and sometimes people discontinue taking their medications for a while. The following is a list of possible advantages and disadvantages of taking anti-infective medications as directed.

→ *For each numbered statement, please mark one box with an "X" to rate HOW IMPORTANT that statement is to you when you are thinking about whether to take your anti-infective medication as directed.*

		NOT IMPORTANT 1	SLIGHTLY IMPORTANT 2	MODERATELY IMPORTANT 3	VERY IMPORTANT 4	EXTREMELY IMPORTANT 5	
1. It is a hassle to take my anti-infective medication several times a day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/48)
2. Taking my anti-infective medication as directed may delay some symptoms of HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/49)
3. My family or friends approve when I remember to take my anti-infective medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/50)
4. Taking too many medications may not be good for my health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/51)
5. When I take my anti-infective medication as directed my doctor approves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/52)
6. Taking all of my anti-infective medication as directed is too expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/53)
7. If I take my anti-infective medication as directed, I can avoid possible complications of HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/54)

	NOT IMPORTANT 1	SLIGHTLY IMPORTANT 2	MODERATELY IMPORTANT 3	VERY IMPORTANT 4	EXTREMELY IMPORTANT 5	
8. Taking my anti-infective medication as directed may make up for my unhealthy habits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/55)
9. When I take my anti-infective medication as directed, I feel more responsible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/56)
10. When I'm away from home or on vacation, taking my anti-infective medication as directed is difficult.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/57)
11. When I take my anti-infective medication as directed, it makes me feel depressed about having HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/58)
12. Taking my anti-infective medication as directed causes too many annoying side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/59)
13. Taking my anti-infective medication as directed will slow down this illness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/60)
14. I worry that taking all the doses that are prescribed might not be good for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/61)
15. Taking my anti-infective medication as directed gives me hope.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/62)
16. I worry that the anti-infective medication is doing more harm than good.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/63)
17. Taking my anti-infective medication as directed may help me stay well longer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/64)
18. It may be hard on my system if I take my anti-infective medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/65)
19. I worry that people will know that I'm sick if I take my anti-infective medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/66)
20. Taking my anti-infective medication as directed will help me feel better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/67)



Sometimes people take their medications as directed for a while, and then stop taking them for a while.

→ The following 2 questions are about how you are taking your anti-infective medication **RIGHT NOW**.

21. Do you consistently take your anti-infective medication as directed? ("as directed" means taking your medication at the right time and taking the prescribed amount) (11/68)

- a. No, I do not, and I am *not considering* taking my anti-infective medication as directed.
- b. No, I do not, but I am *considering* taking my anti-infective medication as directed.
- c. No, I do not, but I am *planning to start* taking my anti-infective medication as directed within the next month.
- d. Yes, I consistently take my anti-infective medication as directed.

If yes,

→ 22. How long have you been taking your anti-infective medication as directed? (11/69)

- a. 0-3 months
- b. 4-6 months
- c. 6-12 months
- d. more than 12 months

Now here are some situations that might affect whether you take your anti-infective medication for HIV infection as directed.

→ For each situation, please mark one box with an "X" to rate **HOW TEMPTED** you would be to skip your anti-infective medication or take a dose which is different from the one prescribed.

	NOT TEMPTED	1	2	3	4	5	
		SLIGHTLY TEMPTED	MODERATELY TEMPTED	VERY TEMPTED	EXTREMELY TEMPTED		
23. When you feel good and think you don't need it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/70)
24. When you are anxious about side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/71)
25. When you want to save on the cost of your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/72)
26. When you wonder whether you really need your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/73)
27. When you feel down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/74)
28. When you experience minor side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/75)
29. When you start to feel better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/76)
30. When your doctor doesn't seem interested in whether you take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/77)

	NOT TEMPTED 1	SLIGHTLY TEMPTED 2	MODERATELY TEMPTED 3	VERY TEMPTED 4	EXTREMELY TEMPTED 5	
31. When you have no energy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/78)
32. When side effects are annoying.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/79)
33. When someone doesn't remind you to take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(11/80)
34. When your medical condition doesn't seem that bad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/1)
35. When you are taking several medications at the same time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/2)
36. When it seems too complex to keep track of all your medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/3)
37. When you feel like giving up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/4)
38. When your doctor doesn't explain why you need to take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/5)
39. When you have to take several medications every day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/6)
40. When you aren't sure if the medicine is really helping you.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/7)
41. When you feel that your medication is too expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/8)
42. When you don't understand why you need your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/9)
43. When you think that you aren't that sick.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/10)
44. When your family or friends don't seem concerned enough about your condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/11)
45. When your doctor doesn't encourage you to take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/12)
46. When your family or friends don't seem interested in whether you take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/13)
47. When your doctor doesn't seem concerned enough about your condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/14)
48. When your insurance doesn't cover the cost of your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/15)
49. When you lose confidence in your doctor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/16)
50. When you worry that taking too many medications might be bad for your health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/17)

	EXTREMELY TEMPTED 5	VERY TEMPTED 4	MODERATELY TEMPTED 3	SLIGHTLY TEMPTED 2	NOT TEMPTED 1	
51. When you feel you should give your body a rest.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/18)
52. When you worry that the chemicals in the medication might harm or hurt your body.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/19)

The following statements represent some thoughts and experiences that people have when they are taking anti-infective medications on a regular basis. Think about your thoughts and experiences during the past month.

→ For each numbered statement, please mark one box with an "X" to best describe HOW OFTEN that thought occurs or has occurred for you during the past month.

	VERY OFTEN 5	OFTEN 4	OCCASIONALLY 3	RARELY 2	NEVER 1	
53. I seek out new information on the benefits of taking my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/20)
54. I call my health care provider if I have questions about taking my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/21)
55. I have someone I can count on to help me take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/22)
56. I reward myself when I take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/23)
57. I use reminders to help me remember to take my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/24)
58. When I am tempted to skip a dose of my anti-infective medication, I remind myself about the importance of staying on schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/25)
59. I promise myself and others to take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/26)
60. I feel good about myself when I remember to take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/27)
61. I get upset with myself when I think about the times when I've forgotten to take my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/28)

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
62. I think that taking my anti-infective medications as directed may provide knowledge to help others who have HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/29)
63. I do something special for myself when I take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/30)
64. When taking my anti-infective medications feels like a hassle, I remind myself of all the benefits of continuing to take them regularly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/31)
65. I tell myself that following a regular schedule will help me take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/32)
66. When I'm unable to take my anti-infective medications as directed, I'm disappointed in myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/33)
67. I get upset when I hear about people like me who stop taking their anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/34)
68. I think that taking my anti-infective medications as directed will help my family and friends by giving them hope.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/35)
69. I ask my health care provider for information about my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/36)
70. I talk to my health care provider before changing the way I take my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/37)
71. Someone close to me reminds me to take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/38)
72. I build taking my anti-infective medications into my schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/39)
73. I use a pill organizer or timer to help me take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/40)
74. When I am on vacation or away from home, I make special efforts to continue taking my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/41)
75. I encourage myself to stick to my regular medication schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/42)
76. I get upset with myself when I skip my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/43)
77. I feel that when I take my anti-infective medications as directed, I am a good role model for others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/44)

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
78. When I plan my day, I make sure to include taking my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/45)
79. I use everyday events like brushing my teeth or when my alarm clock goes off to remind me to take my anti-infective medications on time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/46)
80. When it is difficult to take my anti-infective medications as directed, I remind myself that others are counting on me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/47)
81. I stick to my plan for taking my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/48)
82. I think that I am making a contribution to scientific knowledge about HIV by taking my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/49)
83. I think about the benefits of taking my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/50)
84. I call my health care provider when I am concerned about side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/51)
85. Emotional support from others helps me take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/52)
86. When I take my anti-infective medications as directed, I congratulate myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/53)
87. I try to take my anti-infective medications at the same time and place so that I won't forget.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/54)
88. When my symptoms don't seem to improve, I remind myself that it's still important to take my anti-infective medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/55)
89. I use determination to help me stick to my regular medication-taking schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/56)
90. I feel that I am less likely to be a burden to others if I take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/57)
91. I tell myself and others that I will take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/58)
92. I feel that my health care provider listens when I have questions about my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/59)
93. I have someone I can rely on to help me with my anti-infective medication schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/60)

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
94. I know that my family and friends appreciate my taking my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/61)
95. I avoid situations that make it difficult for me to remember to take my anti-infective medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/62)
96. When I'm concerned about my anti-infective medication losing its effectiveness, I remind myself of the good reasons to continue taking my medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/63)
97. I feel more responsible when I am taking my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/64)
98. I get upset by warnings about the serious problems I could have if I do not take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/65)
99. I regularly check my supply of pills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/66)
100. I remember hearing about the importance of taking my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/67)
101. I feel that my health care provider really helps me take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/68)
102. I have someone I can talk to about all my medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/69)
103. I feel that I've earned my health care provider's approval when I take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/70)
104. I use meal times to help me take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/71)
105. When I get depressed, I make special efforts to continue taking my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/72)
106. I'm not happy with myself when I don't take my anti-infective medications as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/73)
107. When I think of the times when I didn't care about taking my anti-infective medications, I feel angry with myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/74)
108. I plan ahead for when my anti-infective medication supply will run out.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(12/75)

## SECTION V PROTEASE INHIBITOR MEDICATIONS

**REMINDER:** FILL OUT THIS SECTION IF YOU HAVE EVER TAKEN ANY OF THESE PROTEASE INHIBITOR MEDICATIONS: Saquinavir (Invirase®), Ritonavir (Norvir®), or Indinavir (Crixivan®). If not, skip to page 39.

→ If you are taking more than one protease inhibitor medication NOW, please answer these questions for the medicine that is most difficult for you to take, and fill in the name of that medicine here \_\_\_\_\_ (13/1-20)

→ If you have discontinued your protease inhibitor medication, please answer these questions for the medicine that you took most recently, and fill in the name of that medicine here \_\_\_\_\_ (13/21-40)

Taking medications as directed (the prescribed amount taken at the right time) is not always easy. At one time or another most people simply forget to take a dose of their medication, and sometimes people discontinue taking their medications for a while. The following is a list of possible advantages and disadvantages of taking protease inhibitor medications as directed.

→ For each numbered statement, please mark one box with an "X" to rate HOW IMPORTANT that statement is to you when you are thinking about whether to take your protease inhibitor medication as directed.

	NOT IMPORTANT 1	SLIGHTLY IMPORTANT 2	MODERATELY IMPORTANT 3	VERY IMPORTANT 4	EXTREMELY IMPORTANT 5	
1. It is a hassle to take my protease inhibitor medication several times a day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/41)
2. Taking my protease inhibitor medication as directed may delay some symptoms of HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/42)
3. My family or friends approve when I remember to take my protease inhibitor medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/43)
4. Taking too many medications may not be good for my health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/44)
5. When I take my protease inhibitor medication as directed my doctor approves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/45)
6. Taking all of my protease inhibitor medication as directed is too expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/46)
7. If I take my protease inhibitor medication as directed, I can avoid possible complications of HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/47)
8. Taking my protease inhibitor medication as directed may make up for my unhealthy habits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/48)

	NOT IMPORTANT 1	SLIGHTLY IMPORTANT 2	MODERATELY IMPORTANT 3	VERY IMPORTANT 4	EXTREMELY IMPORTANT 5	
9. When I take my protease inhibitor medication as directed, I feel more responsible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/49)
10. When I'm away from home or on vacation, taking my protease inhibitor medication as directed is difficult.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/50)
11. When I take my protease inhibitor medication as directed, it makes me feel depressed about having HIV infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/51)
12. Taking my protease inhibitor medication as directed causes too many annoying side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/52)
13. Taking my protease inhibitor medication as directed will slow down this illness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/53)
14. I worry that taking all the doses that are prescribed might not be good for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/54)
15. Taking my protease inhibitor medication as directed gives me hope.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/55)
16. I worry that the protease inhibitor medication is doing more harm than good.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/56)
17. Taking my protease inhibitor medication as directed may help me stay well longer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/57)
18. It may be hard on my system, if I take my protease inhibitor medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/58)
19. I worry that people will know that I'm sick if I take my protease inhibitor medication as directed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/59)
20. Taking my protease inhibitor medication as directed will help me feel better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/60)



Sometimes people take their medications as directed for a while, and then stop taking them for a while.

→ The following 2 questions are about how you are taking your protease inhibitor medication **RIGHT NOW**.

21. Do you consistently take your protease inhibitor medication as directed? ("as directed" (13/61) means taking your medication at the right time and taking the prescribed amount)

- \_\_\_ a. No, I do not, and I am not considering taking my protease inhibitor medication as directed.
- \_\_\_ b. No, I do not, but I am considering taking my protease inhibitor medication as directed.
- \_\_\_ c. No, I do not, but I am planning to start taking my protease inhibitor medication as directed within the next month.
- \_\_\_ d. Yes, I consistently take my protease inhibitor medication as directed.

If yes.

22. How long have you been taking your protease inhibitor medication as directed? (13/62)

- \_\_\_ a. 0-3 months
- \_\_\_ b. 4-6 months
- \_\_\_ c. 6-12 months
- \_\_\_ d. more than 12 months

Now here are some situations that might affect whether you take your protease inhibitor medication for HIV infection as directed.

→ For each situation, please mark one box with an "X" to rate **HOW TEMPTED** you would be to skip your protease inhibitor medication or take a dose which is different from the one prescribed.

	EXTREMELY TEMPTED 5	VERY TEMPTED 4	MODERATELY TEMPTED 3	SLIGHTLY TEMPTED 2	NOT TEMPTED 1	
23. When you feel good and think you don't need it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/63)
24. When you are anxious about side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/64)
25. When you want to save on the cost of your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/65)
26. When you wonder whether you really need your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/66)
27. When you feel down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/67)
28. When you experience minor side effects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/68)
29. When you start to feel better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/69)
30. When your doctor doesn't seem interested in whether you take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/70)

	1	2	3	4	5	
	NOT TEMPTED	SLIGHTLY TEMPTED	MODERATELY TEMPTED	VERY TEMPTED	EXTREMELY TEMPTED	
31. When you have no energy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/71)
32. When side effects are annoying.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/72)
33. When someone doesn't remind you to take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/73)
34. When your medical condition doesn't seem that bad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/74)
35. When you are taking several medications at the same time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/75)
36. When it seems too complex to keep track of all your medications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/76)
37. When you feel like giving up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/77)
38. When your doctor doesn't explain why you need to take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/78)
39. When you have to take several medications every day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/79)
40. When you aren't sure if the medicine is really helping you.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(13/80)
41. When you feel that your medication is too expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/1)
42. When you don't understand why you need your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/2)
43. When you think that you aren't that sick.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/3)
44. When your family or friends don't seem concerned enough about your condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/4)
45. When your doctor doesn't encourage you to take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/5)
46. When your family or friends don't seem interested in whether you take your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/6)
47. When your doctor doesn't seem concerned enough about your condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/7)
48. When your insurance doesn't cover the cost of your medication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/8)
49. When you lose confidence in your doctor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/9)
50. When you worry that taking too many medications might be bad for your health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/10)
51. When you feel you should give your body a rest.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/11)

EXTREMELY TEMPTED	5
VERY TEMPTED	4
MODERATELY TEMPTED	3
SLIGHTLY TEMPTED	2
NOT TEMPTED	1

52. When you worry that the chemicals in the medication might harm or hurt your body.      (14/12)

### SECTION VI WAYS OF COPING WITH HIV

Here are some ways that different people may cope with HIV and its treatments. There are no right or wrong answers.

→ In the last month, HOW OFTEN did you think, feel, or do each item?  
(Please circle one number for each item)

VERY OFTEN	5
OFTEN	4
OCCASIONALLY	3
RARELY	2
NEVER	1

In the last month, I

	1	2	3	4	5	
1. concentrated on the next step	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/13)
2. felt the only thing to do was wait	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/14)
3. did something just to do something	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/15)
4. talked to someone to find out more	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/16)
5. criticized or lectured myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/17)
6. tried not to close off options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/18)
7. hoped a miracle would happen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/19)
8. went along with fate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/20)
9. went on as if it were not happening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/21)
10. tried to keep my feelings to myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/22)
11. looked for the silver lining, looked on the bright side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/23)
12. slept more than usual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/24)
13. looked for sympathy or understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/25)
14. was inspired to be creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/26)
15. tried to forget the whole thing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/27)
16. tried to get professional help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/28)
17. changed or grew as a person in a good way	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/29)
18. waited to see what would happen before acting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/30)

	NEVER	RARELY	OCCASIONALLY	OFTEN	VERY OFTEN	
	1	2	3	4	5	
19. made a plan of action and followed it .....	1	2	3	4	5	(14/31)
20. let my feelings out somehow .....	1	2	3	4	5	(14/32)
21. came out of the experience better than before .....	1	2	3	4	5	(14/33)
22. talked to someone who could do something .....	1	2	3	4	5	(14/34)
23. tried to make myself feel better by eating, drinking, smoking or drug use .....	1	2	3	4	5	(14/35)
24. took a big chance and did something risky .....	1	2	3	4	5	(14/36)
25. acted not to act too hastily .....	1	2	3	4	5	(14/37)
26. found new faith .....	1	2	3	4	5	(14/38)
27. rediscovered what is important in life .....	1	2	3	4	5	(14/39)
28. changed something so things will turn out .....	1	2	3	4	5	(14/40)
29. avoided being with people .....	1	2	3	4	5	(14/41)
30. didn't let it get to me; refused to think about it .....	1	2	3	4	5	(14/42)
31. asked a friend or relative for advice .....	1	2	3	4	5	(14/43)
32. kept others from knowing how bad things were .....	1	2	3	4	5	(14/44)
33. made light of it; refused to get too serious .....	1	2	3	4	5	(14/45)
34. talked to someone about how I was feeling .....	1	2	3	4	5	(14/46)
35. took it out on other people .....	1	2	3	4	5	(14/47)
36. drew on past experiences from similar situations .....	1	2	3	4	5	(14/48)
37. knew what had to be done, so increased efforts .....	1	2	3	4	5	(14/49)
38. refused to believe it was happening .....	1	2	3	4	5	(14/50)
39. came up with different solutions .....	1	2	3	4	5	(14/51)
40. tried to keep my feelings from interfering .....	1	2	3	4	5	(14/52)
41. changed something about myself .....	1	2	3	4	5	(14/53)
42. wished the situation would go away or be over .....	1	2	3	4	5	(14/54)
43. had fantasies/wishes about how it might turn out .....	1	2	3	4	5	(14/55)
44. prayed .....	1	2	3	4	5	(14/56)
45. prepared for the worst .....	1	2	3	4	5	(14/57)
46. went over in my mind what I would say or do .....	1	2	3	4	5	(14/58)
47. thought of how a person I admire would act .....	1	2	3	4	5	(14/59)
48. reminded myself how much worse things could be .....	1	2	3	4	5	(14/60)
49. tried to find out as much as I could .....	1	2	3	4	5	(14/61)
50. treated the illness as a challenge .....	1	2	3	4	5	(14/62)

Now here are some questions about injection (skin popping or IV) drugs.

Please circle or fill in the correct response for each question.

51. Have you ever used injection drugs? (14/63)

- No
- Yes.

If yes.

→ Please fill out the remaining questions only if you have ever used injection drugs.

52. Do you use injection drugs now? (14/64)

- No, not in the past 6 months
- Not now, but once or twice in the past 6 months
- Yes, occasionally
- Yes, regularly

If injected at all during the past 6 months.

→ 53. During the past 6 months, how often have you injected the following:

	NEVER	LESS THAN TWICE PER MONTH	2-4 TIMES PER MONTH	2-7 TIMES PER WEEK	MORE THAN ONCE PER DAY	
a. Heroin by itself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/65)
b. Cocaine by itself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/66)
c. Cocaine and heroin, or speedball?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/67)
d. Amphetamines, such as uppers, speed, meth, or crack?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/68)

→ 54. During the past 6 months, how often did you use a brand new needle or one that you are sure no one else used EACH TIME you shot up? (14/69)

- Never
- Rarely
- Sometimes
- Almost always
- Always

→ 55. During the past 6 months, how many people did you share needles or works with? (14/70)

- None
- 1 other person
- 2-3 different people
- 4-10 different People
- More than 10 different people

→ 56. During the past 6 months, how often have:

	NEVER	LESS THAN TWICE PER MONTH	2-4 TIMES PER MONTH	2-7 TIMES PER WEEK	MORE THAN ONCE PER DAY	
a. You used needles or works after someone without cleaning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/71)
b. Others used needles or works after you without cleaning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/72)
c. You used a needle after someone who is HIV positive had used it?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/73)
d. You shot up in a shooting gallery, hit house or another place where groups of users shoot up?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/74)
e. You shared rinse water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/75)
f. You shared a cooker?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/76)
g. You shared cotton?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(14/77)

→ 57. During the past 6 months, where did you get needles?

	<u>SOME of your needles</u> (Answer yes or no to all)			<u>MOST of your needles</u> (Check only one)	
	YES	NO			
a. At a needle exchange?	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	(14/78)
b. On the street?	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	(14/79)
c. In a shooting gallery?	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	(14/80)
d. At a drugstore?	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	(15/1)
e. At the same place where you buy drugs?	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	(15/2)
f. From a diabetic?	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	(15/3)
g. From another person not mentioned?	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	(15/4)
h. From another place not mentioned?	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	(15/5)

→ 58. During the past 6 months, if you haven't used a needle exchange...or if you had difficulties getting needles from a needle exchange, how come? (15/6-11)

Please check all that apply

- Don't know about it
- Too far
- Open too few hours
- Scared of getting arrested
- Scared someone will see me there
- Other reason (please specify) \_\_\_\_\_

(15/12-32)

59. Are you planning to use only your own works (needles, syringes, cotton, cooker, rinse water) or a brand new needle EVERY TIME you inject within the next 6 months? If so, how soon? (15/33)

- NO. I am not planning to start using new needles every time
- YES, within the next year
- YES, within the next 6 months
- YES, within the next month
- YES. I already use new needles every time

60. Have you been using new needles every time you use IV needles? If so, for how long? (15/34)

- NO. I have not been using using new needles every time
- YES, for 30 days or less
- YES, for MORE than 30 days but LESS than 6 months
- YES, for MORE than 6 months but LESS than a year
- YES, for MORE than a year

61. Now, how ready are you to STOP using injection drugs completely? (15/35)

- Not ready
- Somewhat ready
- Ready
- Very Ready

*For information about needle exchange in Rhode Island, call (401) 277-2320.*

*For information on the "Medication for The Needy-Assistance Program" at The University of Rhode Island, call 1-800-215-9001.*

***This completes this survey. Thank you for your assistance with this project & for sharing your thoughts on HIV related medications.***

SUPPLEMENT TO SECTION II

MEDICATION #4

MEDICINE NAME \_\_\_\_\_

(15/36-55)

1. This medicine is for:

(15/56)

- HIV infection
- To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
- To treat or prevent MAI (*Mycobacterium avium complex*) infection
- To treat or prevent fungal infections (*Candida* or "thrush")
- Other: \_\_\_\_\_
- Don't know

(15/57-76)

2. How often do you take this medicine?

(15/77)

- Two times a week
- Three times a week
- Every other day
- Once a day
- Two times a day
- Three times a day
- Four times a day
- Five times a day
- Other: \_\_\_\_\_

3. How long have you been taking this medication?

(16/1-20)

- \_\_\_ Less than 1 month      \_\_\_ 6 months to 1 year
- \_\_\_ 1 to 3 months        \_\_\_ 1 to 2 years
- \_\_\_ 4 to 6 months        \_\_\_ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better?

(16/21)

- YES       NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse?

(16/22)

- YES       NO

6. During the last 3 months, have you ever forgotten to take this medication?

(16/23)

- YES       NO

7. During the last 3 months, have you at times been careless about taking this medication?

(16/24)

- YES       NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better?

(16/25)

- YES       NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse?

(16/26)

- YES       NO



10. Since you began taking this medication, have you ever purposely:

- |   | YES                      | NO                       |         |
|---|--------------------------|--------------------------|---------|
| a) taken more of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (16/27) |
| b) taken less of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (16/28) |
| c) discontinued or stopped taking your medication?            | <input type="checkbox"/> | <input type="checkbox"/> | (16/29) |

If yes,

→ 11.a) How many times have you discontinued your medication for more than 3 days? \_\_\_\_\_ (16/30-31)

b) What were your reasons for discontinuing your medication? (16/32-37)  
*Please check all that apply*

- My doctor recommended it
- Too many side effects
- I didn't want to be reminded of my illness
- Problems with insurance coverage
- I didn't think it was working
- Other: \_\_\_\_\_ (38-57)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 4? \_\_\_\_\_ (16/58-59)

13. During the past month, about how many times did you miss a dose of MEDICATION 4? \_\_\_\_\_ (16/60-61)

14. During the past three months, about how many times did you miss a dose MEDICATION 4? \_\_\_\_\_ (16/62-63)

15. Please check any side effect(s) you are having that you believe are caused by this medicine: (16/64-79)

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> nausea         | <input type="checkbox"/> shortness of breath    | <input type="checkbox"/> headaches          |
| <input type="checkbox"/> dizziness      | <input type="checkbox"/> muscle aches           | <input type="checkbox"/> anxiety/worry      |
| <input type="checkbox"/> vomiting       | <input type="checkbox"/> fatigue                | <input type="checkbox"/> depression         |
| <input type="checkbox"/> abdominal pain | <input type="checkbox"/> tingling in hands/feet | <input type="checkbox"/> rash               |
| <input type="checkbox"/> diarrhea       | <input type="checkbox"/> numbness in hands/feet | <input type="checkbox"/> sensitivity to sun |
| <input type="checkbox"/> other: _____   |   |   |
- \_\_\_\_\_ (17/1-20)
- \_\_\_\_\_
- \_\_\_\_\_

## MEDICATION #5

MEDICINE NAME \_\_\_\_\_

(17/21-40)

1. This medicine is for: (17/41)
- HIV infection
  - To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
  - To treat or prevent MAI (*Mycobacterium avium complex*) infection
  - To treat or prevent fungal infections (*Candida* or "thrush")
  - Other: \_\_\_\_\_
  - Don't know (17/42-61)
2. How often do you take this medicine? (17/62)
- Two times a week
  - Three times a week
  - Every other day
  - Once a day
  - Two times a day
  - Three times a day
  - Four times a day
  - Five times a day
  - Other: \_\_\_\_\_ (18/1-20)
3. How long have you been taking this medication? (18/21)
- |                       |                        |
|-----------------------|------------------------|
| ___ Less than 1 month | ___ 6 months to 1 year |
| ___ 1 to 3 months     | ___ 1 to 2 years       |
| ___ 4 to 6 months     | ___ more than 2 years  |
4. During the last 3 months, have you ever stopped taking this medication because you felt better? (18/22)
- YES       NO
5. During the last 3 months, have you ever stopped taking this medication because you felt worse? (18/23)
- YES       NO
6. During the last 3 months, have you ever forgotten to take this medication? (18/24)
- YES       NO
7. During the last 3 months, have you at times been careless about taking this medication? (18/25)
- YES       NO
8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better? (18/26)
- YES       NO
9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse? (18/27)
- YES       NO

10. Since you began taking this medication, have you ever purposely:

- |   | YES                      | NO                       |         |
|---|--------------------------|--------------------------|---------|
| a) taken more of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (18/28) |
| b) taken less of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (18/29) |
| c) discontinued or stopped taking your medication?            | <input type="checkbox"/> | <input type="checkbox"/> | (18/30) |

If yes,

→ 11.a) How many times have you discontinued your medication for more than 3 days? \_\_\_\_\_ (18/31-32)

b) What were your reasons for discontinuing your medication? (18/33-38)  
*Please check all that apply*

- My doctor recommended it
- Too many side effects
- I didn't want to be reminded of my illness
- Problems with insurance coverage
- I didn't think it was working
- Other: \_\_\_\_\_ (18/39-58)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 5? \_\_\_\_\_ (18/59-60)

13. During the past month, about how many times did you miss a dose of MEDICATION 5? \_\_\_\_\_ (18/61-62)

14. During the past three months, about how many times did you miss a dose MEDICATION 5? \_\_\_\_\_ (18/63-64)

15. Please check any side effect(s) you are having that you believe are caused by this medicine: (18/65-80)

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> nausea         | <input type="checkbox"/> shortness of breath    | <input type="checkbox"/> headaches          |
| <input type="checkbox"/> dizziness      | <input type="checkbox"/> muscle aches           | <input type="checkbox"/> anxiety/worry      |
| <input type="checkbox"/> vomiting       | <input type="checkbox"/> fatigue                | <input type="checkbox"/> depression         |
| <input type="checkbox"/> abdominal pain | <input type="checkbox"/> tingling in hands/feet | <input type="checkbox"/> rash               |
| <input type="checkbox"/> diarrhea       | <input type="checkbox"/> numbness in hands/feet | <input type="checkbox"/> sensitivity to sun |
| <input type="checkbox"/> other: _____   | _____   |   |
- \_\_\_\_\_
- \_\_\_\_\_

MEDICATION #6

MEDICINE NAME \_\_\_\_\_

(19/21-40)

1. This medicine is for:

(19/41)

- HIV infection
- To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
- To treat or prevent MAI (*Mycobacterium avium complex*) infection
- To treat or prevent fungal infections (*Candida* or "thrush")
- Other: \_\_\_\_\_
- Don't know

(19/42-61)

2. How often do you take this medicine?

(19/62)

- Two times a week
- Three times a week
- Every other day
- Once a day
- Two times a day
- Three times a day
- Four times a day
- Five times a day
- Other: \_\_\_\_\_

(20/1-20)

3. How long have you been taking this medication?

(20/21)

- \_\_\_ Less than 1 month      \_\_\_ 6 months to 1 year
- \_\_\_ 1 to 3 months        \_\_\_ 1 to 2 years
- \_\_\_ 4 to 6 months        \_\_\_ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better?

(20/22)

- YES                       NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse?

(20/23)

- YES                       NO

6. During the last 3 months, have you ever forgotten to take this medication?

(20/24)

- YES                       NO

7. During the last 3 months, have you at times been careless about taking this medication?

(20/25)

- YES                       NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better?

(20/26)

- YES                       NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse?

(20/27)

- YES                       NO

10. Since you began taking this medication, have you ever purposely:

- |   | YES                      | NO                       |         |
|---|--------------------------|--------------------------|---------|
| a) taken more of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (20/28) |
| b) taken less of the medicine than your physician prescribed? | <input type="checkbox"/> | <input type="checkbox"/> | (20/29) |
| c) discontinued or stopped taking your medication?            | <input type="checkbox"/> | <input type="checkbox"/> | (20/30) |

If yes.

+ 11.a) How many times have you discontinued your medication for more than 3 days? \_\_\_\_\_ (20/31-32)

b) What were your reasons for discontinuing your medication? (20/33-38)  
*Please check all that apply.*

- My doctor recommended it
- Too many side effects
- I didn't want to be reminded of my illness
- Problems with insurance coverage
- I didn't think it was working
- Other: \_\_\_\_\_ (20/39-58)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 6? \_\_\_\_\_ (20/59-60)

13. During the past month, about how many times did you miss a dose of MEDICATION 6? \_\_\_\_\_ (20/61-62)

14. During the past three months, about how many times did you miss a dose MEDICATION 6? \_\_\_\_\_ (20/63-64)

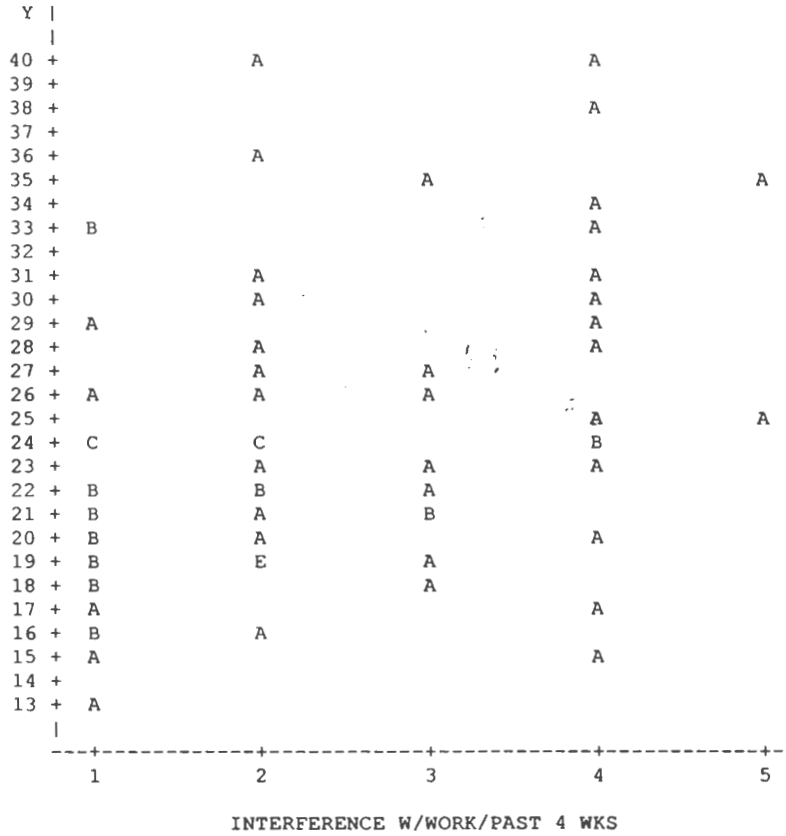
15. Please check any side effect(s) you are having that you believe are caused by this medicine: (20/65-80)

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> nausea         | <input type="checkbox"/> shortness of breath    | <input type="checkbox"/> headaches          |
| <input type="checkbox"/> dizziness      | <input type="checkbox"/> muscle aches           | <input type="checkbox"/> anxiety/worry      |
| <input type="checkbox"/> vomiting       | <input type="checkbox"/> fatigue                | <input type="checkbox"/> depression         |
| <input type="checkbox"/> abdominal pain | <input type="checkbox"/> tingling in hands/feet | <input type="checkbox"/> rash               |
| <input type="checkbox"/> diarrhea       | <input type="checkbox"/> numbness in hands/feet | <input type="checkbox"/> sensitivity to sun |
| <input type="checkbox"/> other: _____   | _____   |   |

(21/1-20)

1. Plot of Temptation to skip Protease Inhibitors for Total scale Vs Pain interfering with work in past 4 weeks

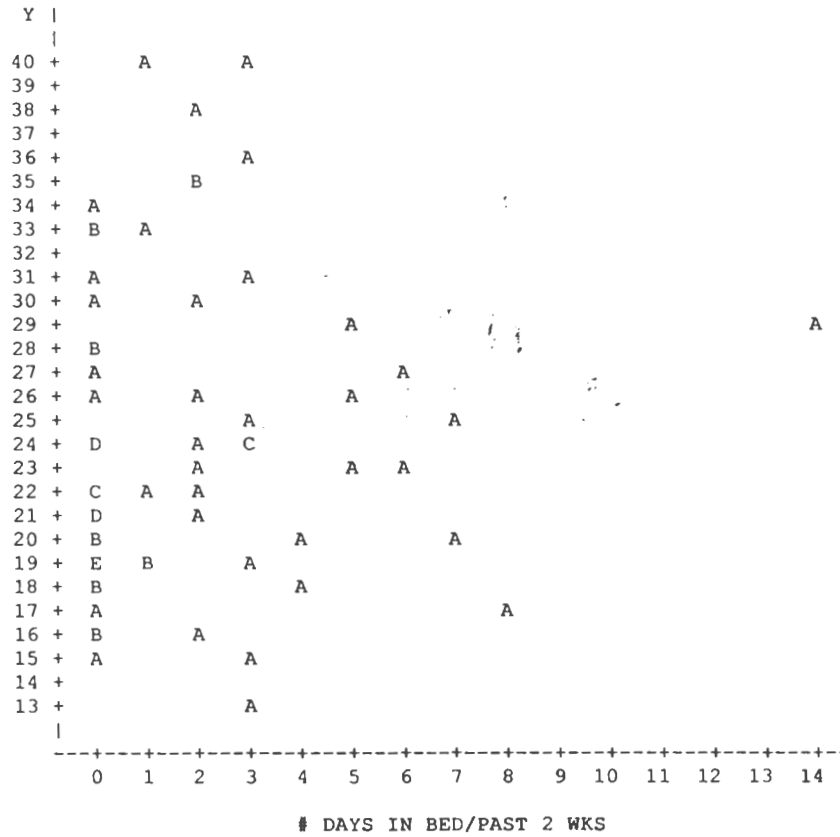
Plot of Y\*QI25. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 76 obs had missing values.

2. Plot of Temptation to skip Protease Inhibitors for Total scale Vs # of days in bed in the past 2 weeks

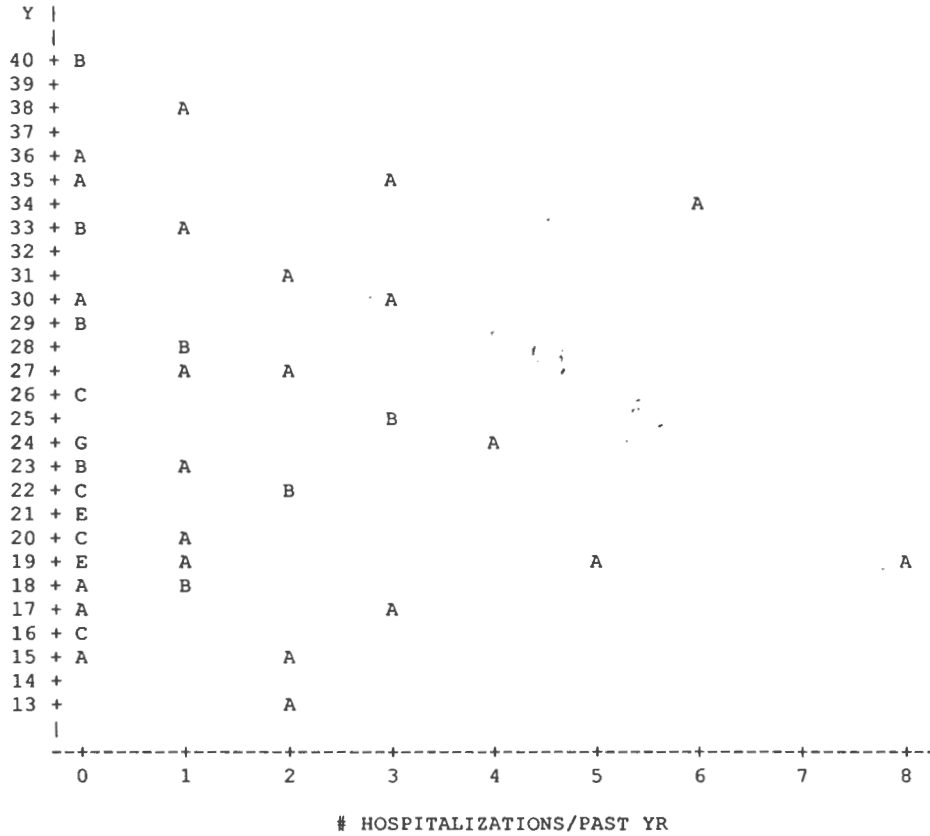
Plot of Y\*QI26. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 76 obs had missing values.

3. Plot of Temptation to skip Protease Inhibitor for Total scale Vs # of hospitalizations  
In the past year

Plot of Y\*QI27. Legend: A = 1 obs, B = 2 obs, etc.

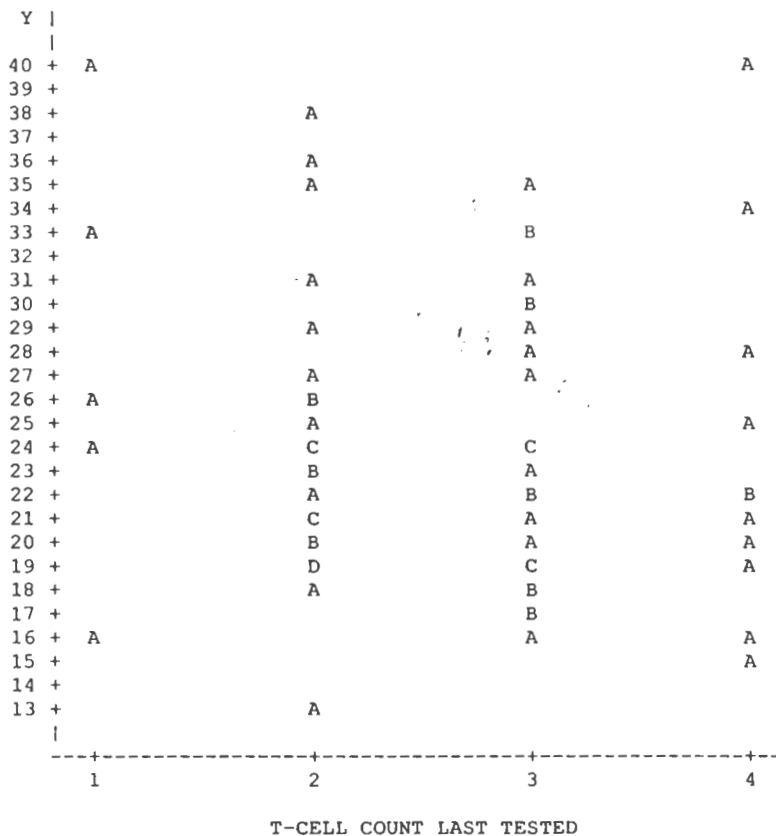


NOTE: 77 obs had missing values.



4. Plot of Temptation to skip Protease Inhibitors for Total scale Vs T cell count last tested

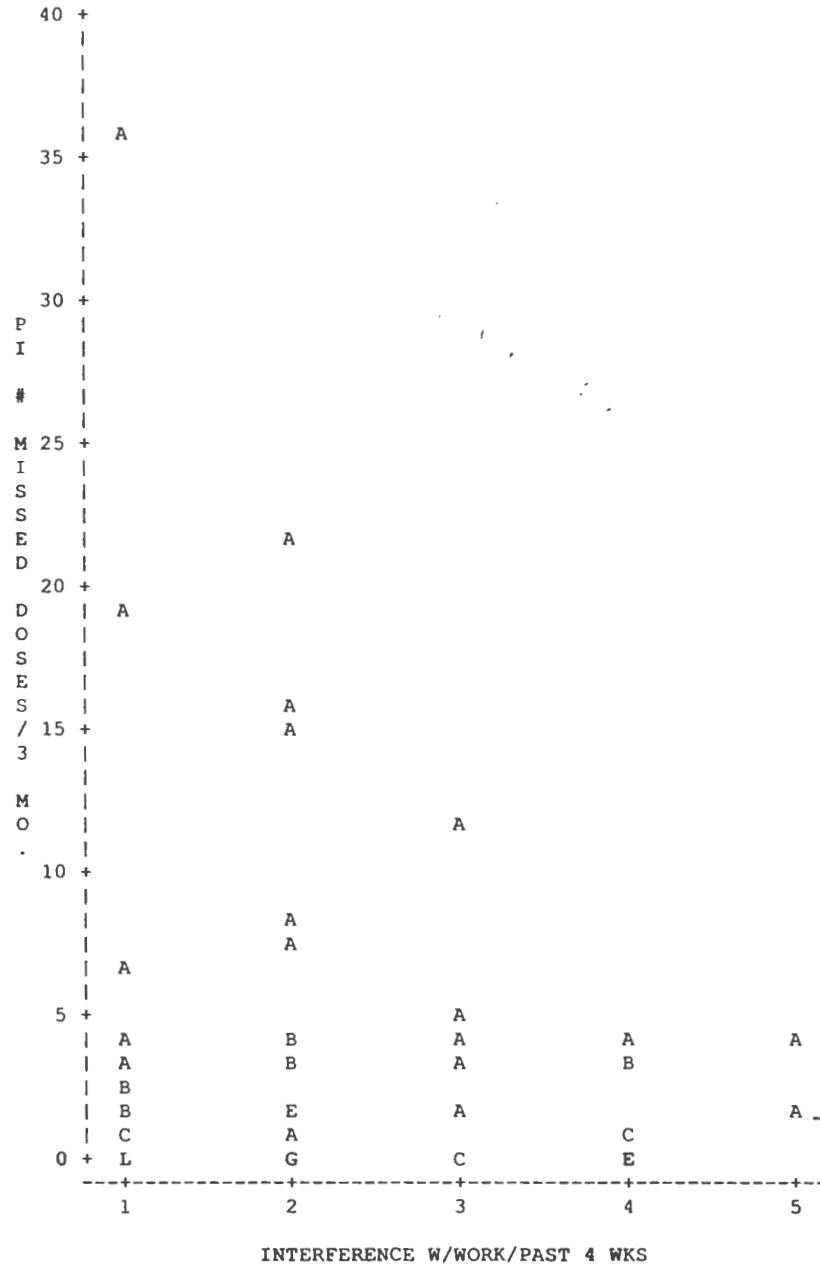
Plot of Y\*QI31. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 78 obs had missing values.

5. Plot of # of doses missed in the past three months Vs Pain interfering with work in the past 4 weeks

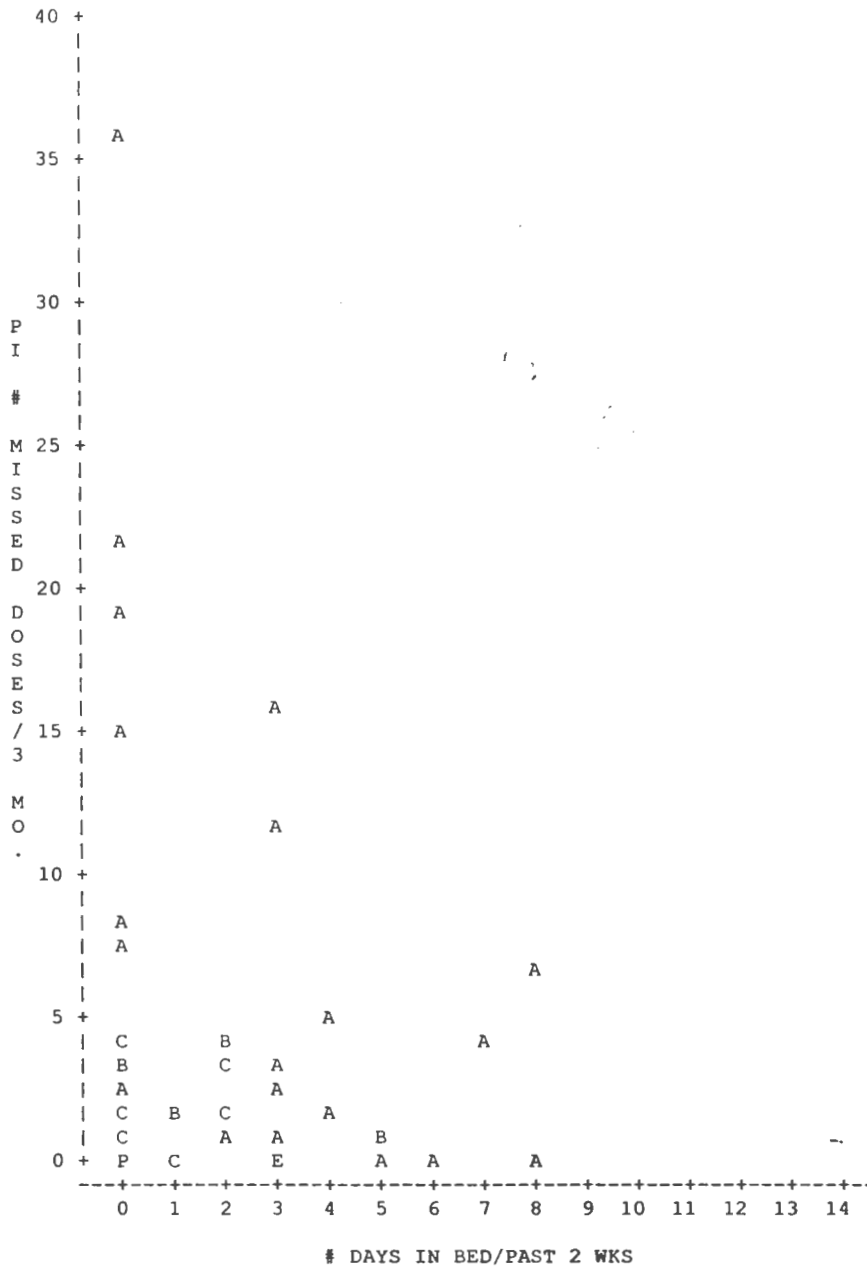
Plot of MISSPI\*QI25. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 78 obs had missing values.

6. Plot of # of doses missed in the past 3 months Vs # of days in bed in the past 2 weeks

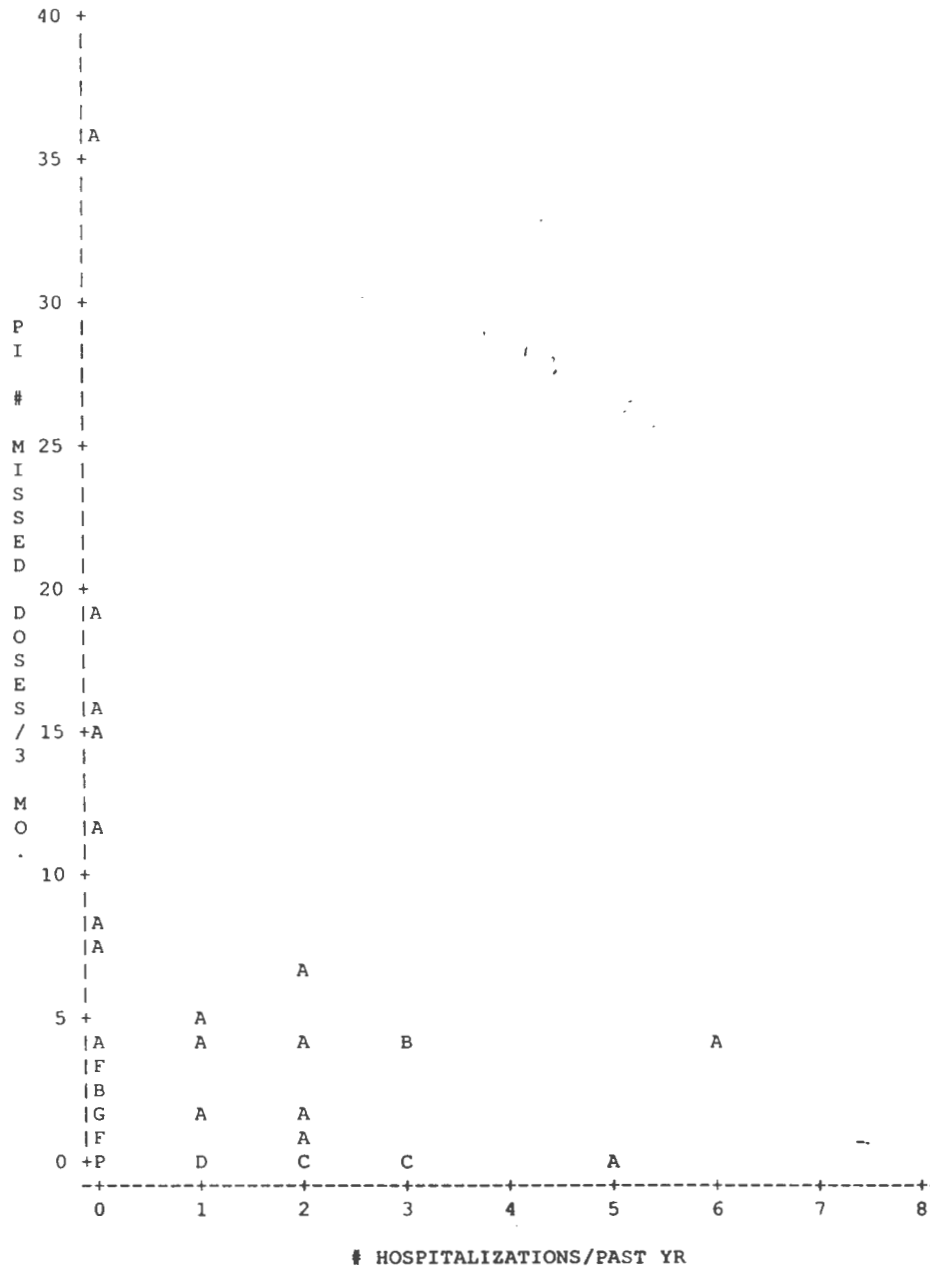
Plot of MISSPI\*QI26. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 78 obs had missing values.

7. Plot of # of doses missed in the past 3 months Vs # of hospitalization in past year

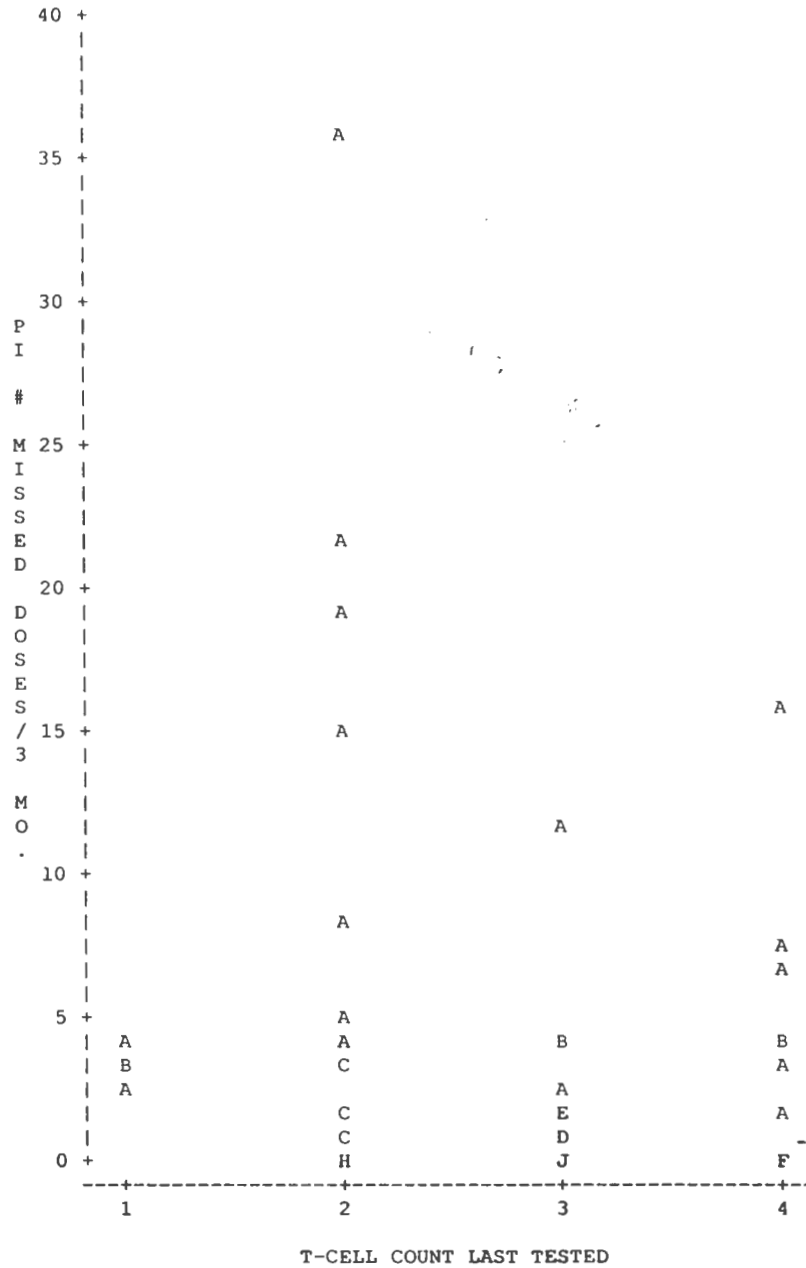
Plot of MISSPI\*QI27. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 79 obs had missing values.

8. Plot of # of doses missed in the past 3 months Vs Tcell count last tested

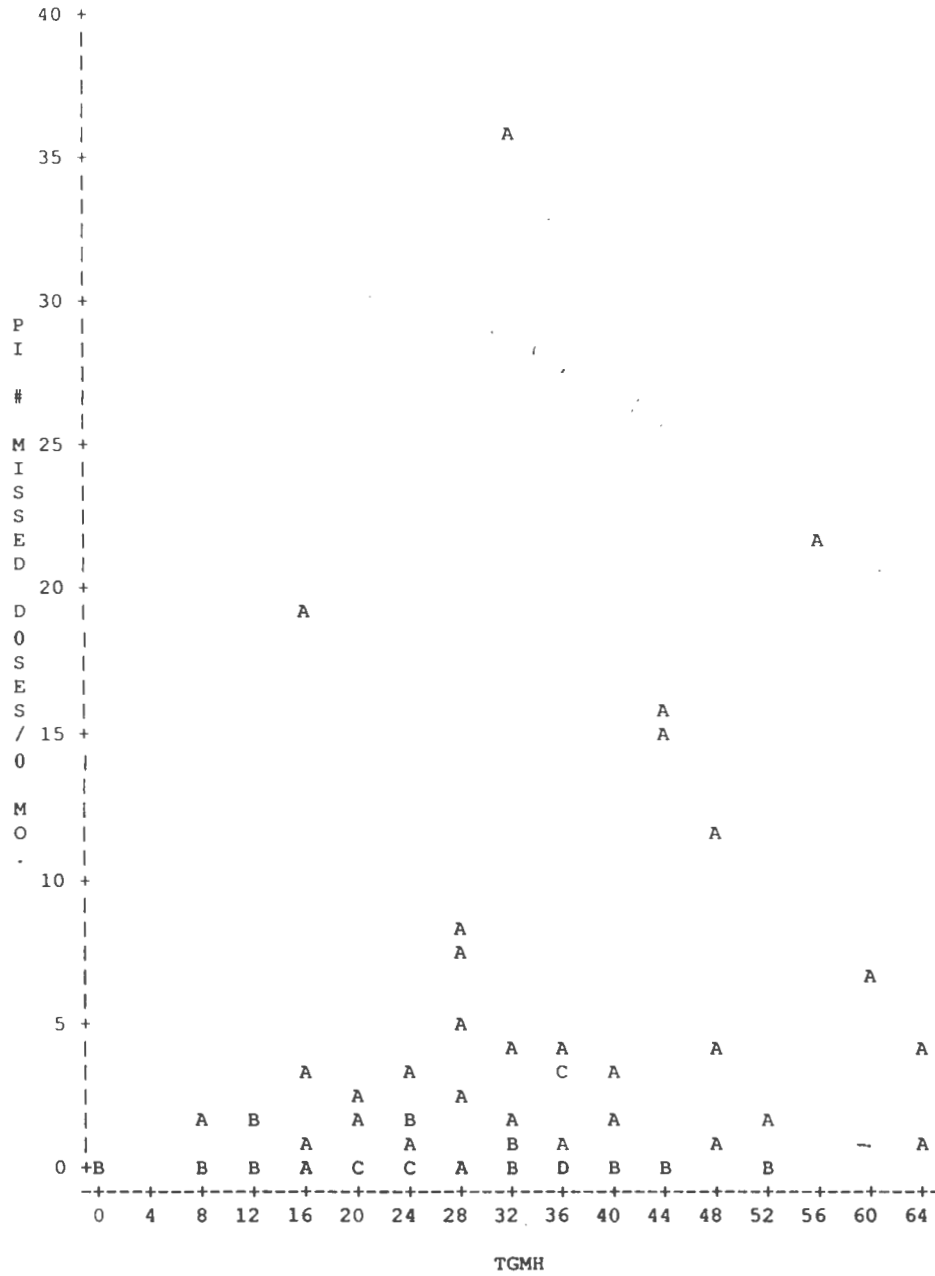
Plot of MISSPI\*QI31. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 81 obs had missing values.

9. Plot of # of doses missed in the past 3 months Vs general mental health

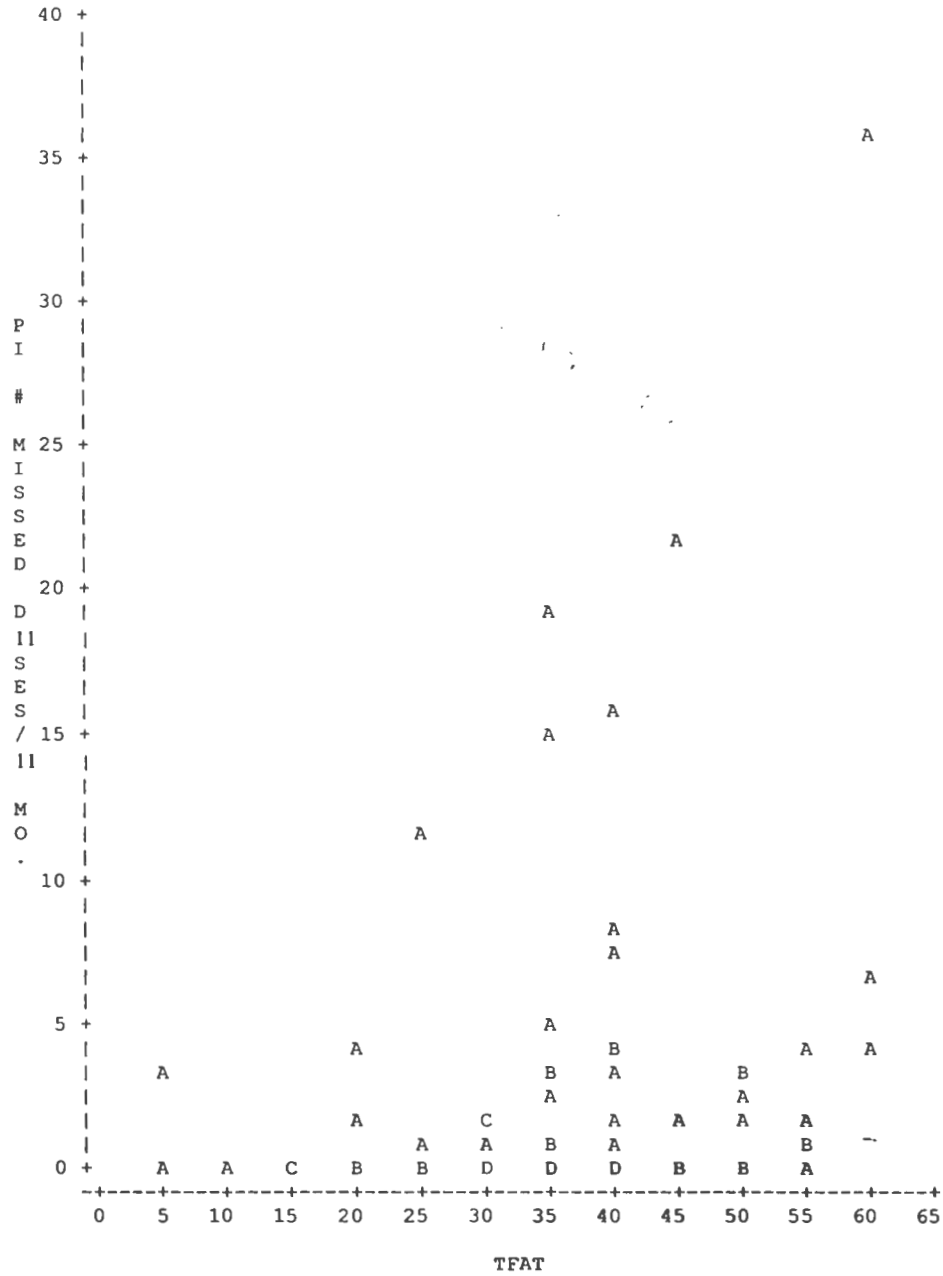
Plot of MISSPI\*TGMH. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 81 obs had missing values.

10. Plot of # of doses missed in the past 3 months Vs vitality energy and fatigue

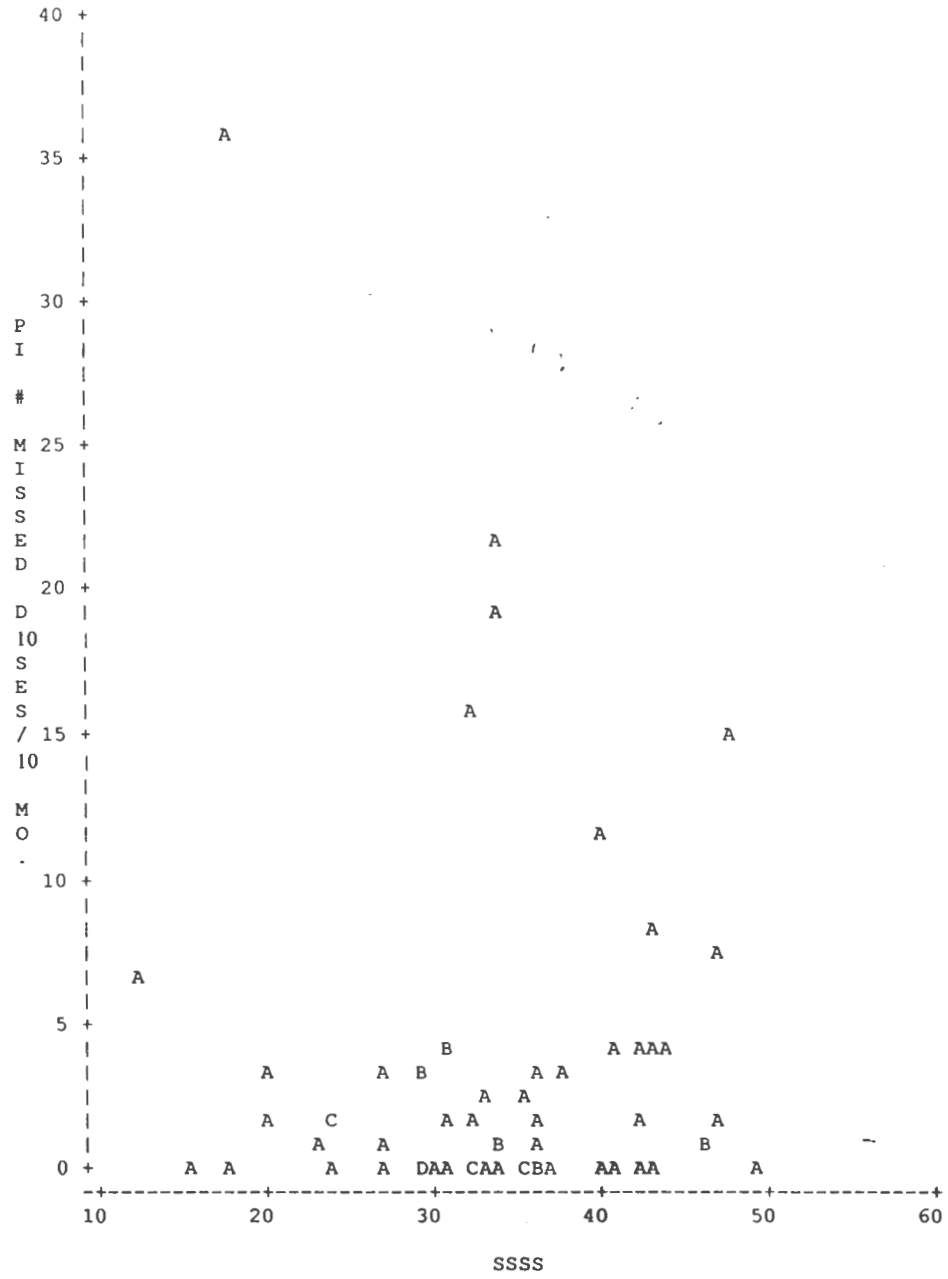
Plot of MISSPI\*TFAT. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 81 obs had missing values.

11. Plot of # of doses missed in the past 3 months Vs seek and use social support

Plot of MISSPI\*SSSS. Legend: A = 1 obs, B = 2 obs, etc.

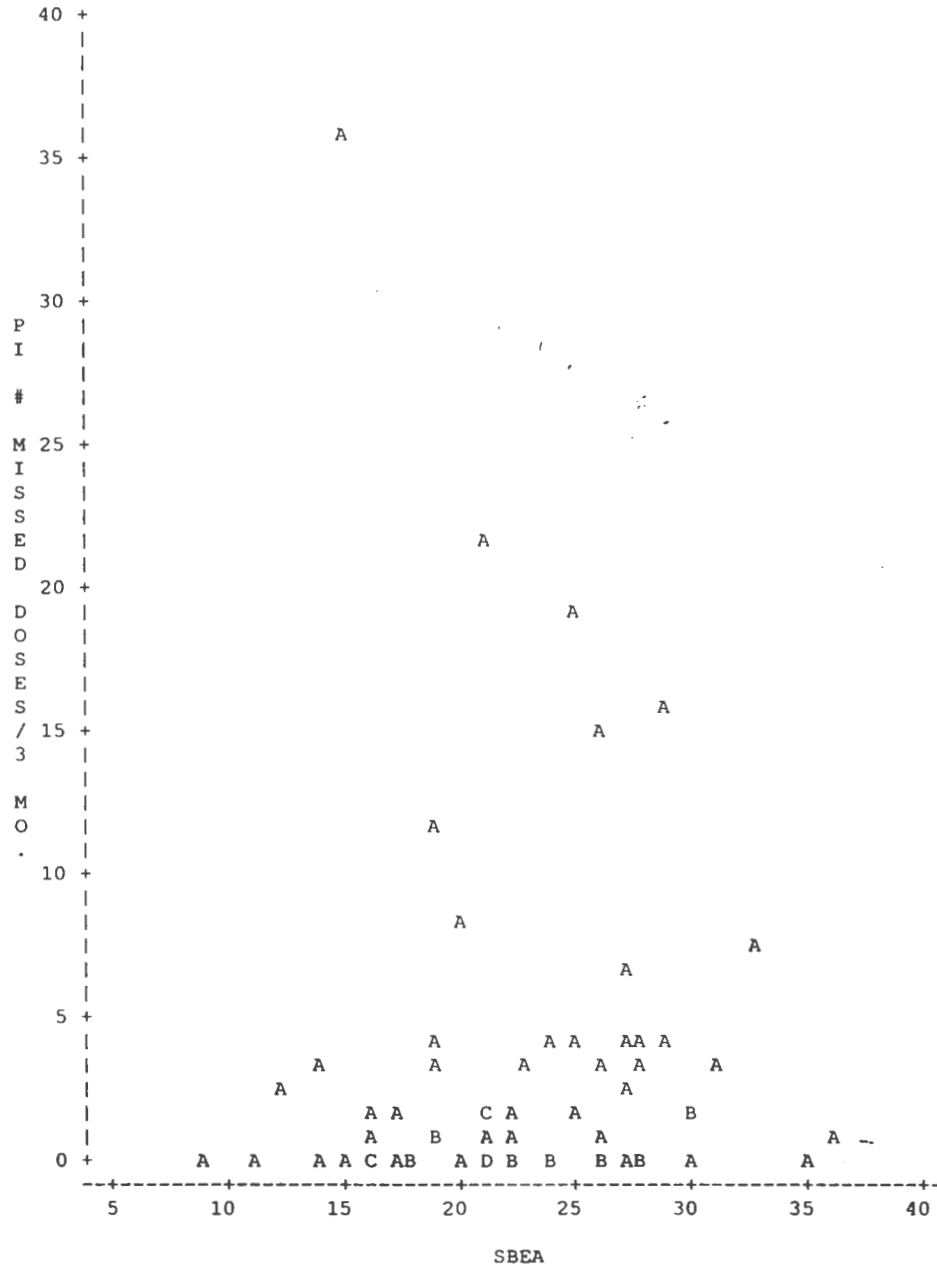


NOTE: 80 obs had missing values.



12. Plot of doses missed in the past 3 months Vs Behavioral Escape Avoidance

Plot of MISSPI\*SBEA. Legend: A = 1 obs, B = 2 obs, etc.

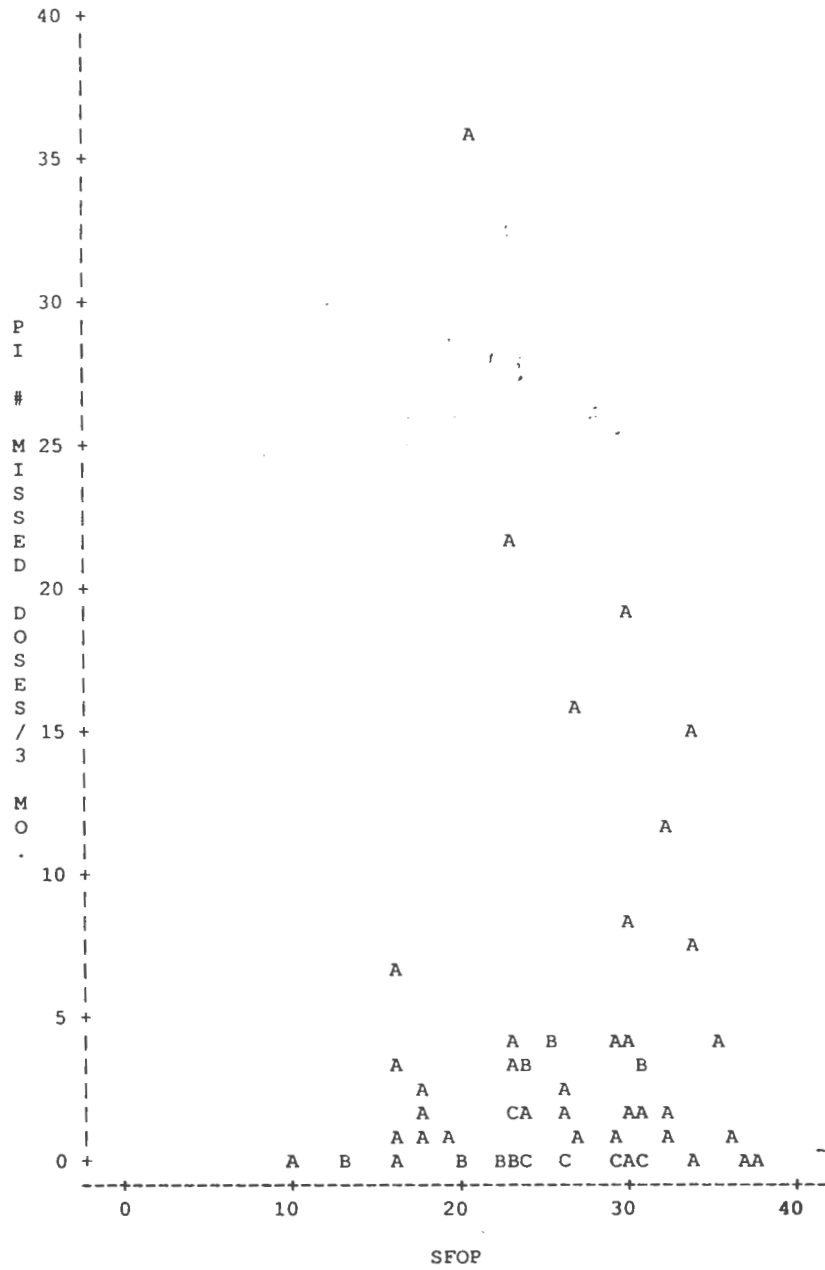


NOTE: 80 obs had missing values.



14. Plot of # of doses missed in the past 3 months Vs Focus on Positive

Plot of MISSPI\*SFOP. Legend: A = 1 obs, B = 2 obs, etc.

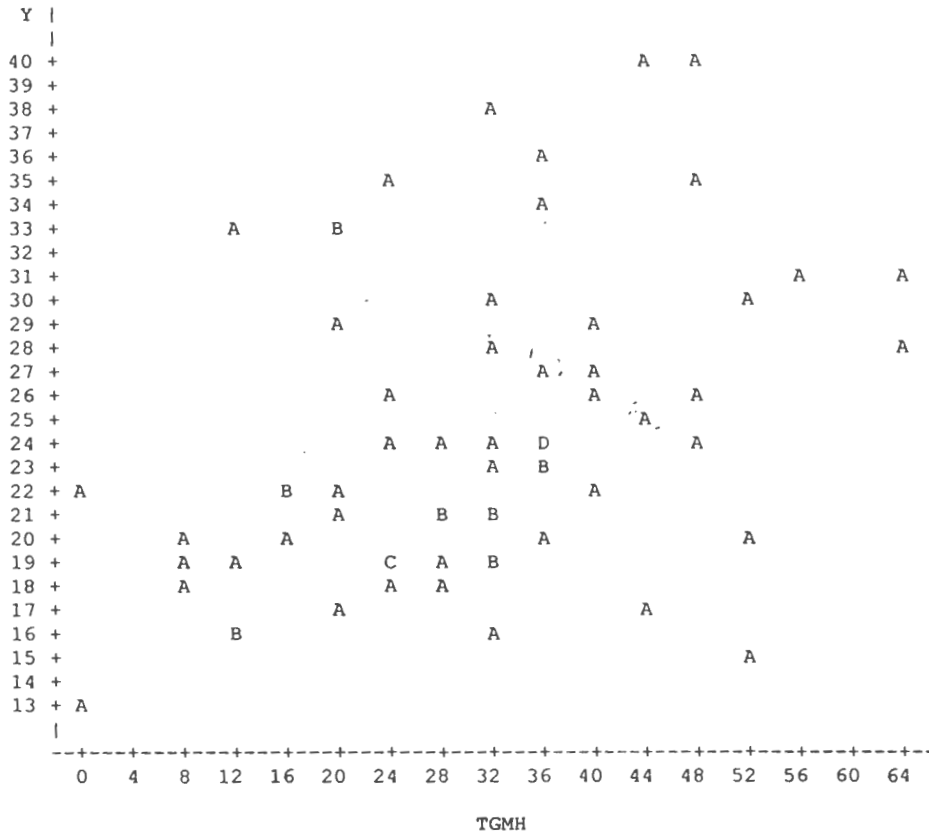


NOTE: 80 obs had missing values.



16. Plot of Temptation to skip Protease Inhibitors for the Total scale Vs General mental Health

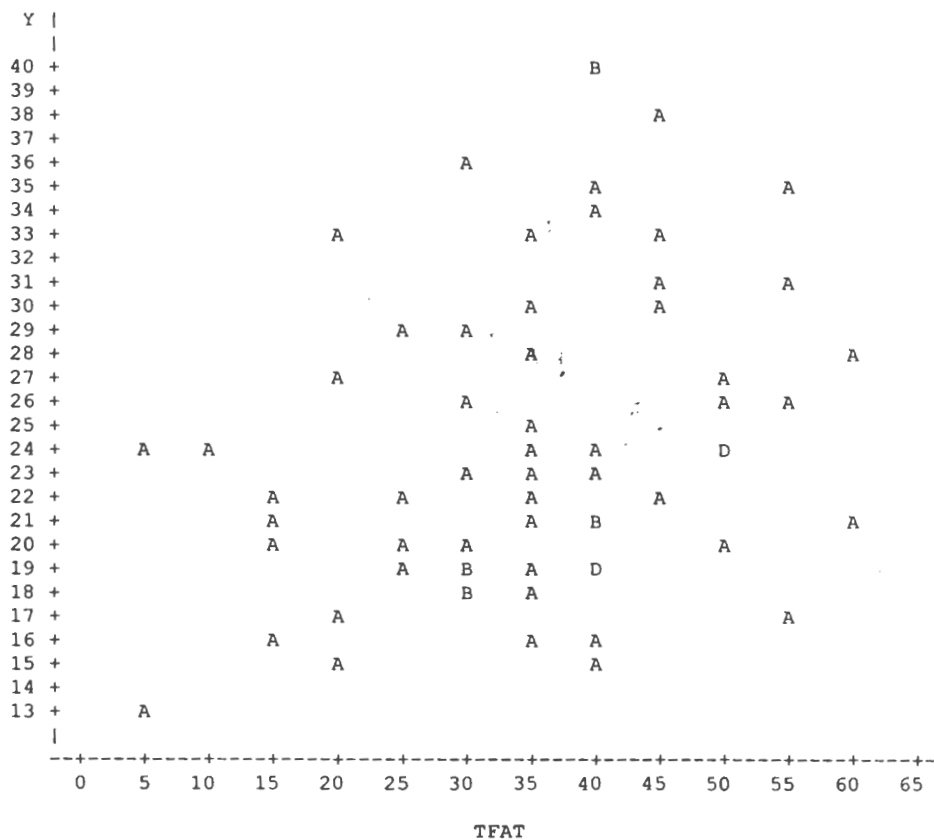
Plot of Y\*TGMH. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 78 obs had missing values.

17. Plot of Temptation to skip Protease Inhibitors for the Total scale Vs Vitality, fatigue & energy

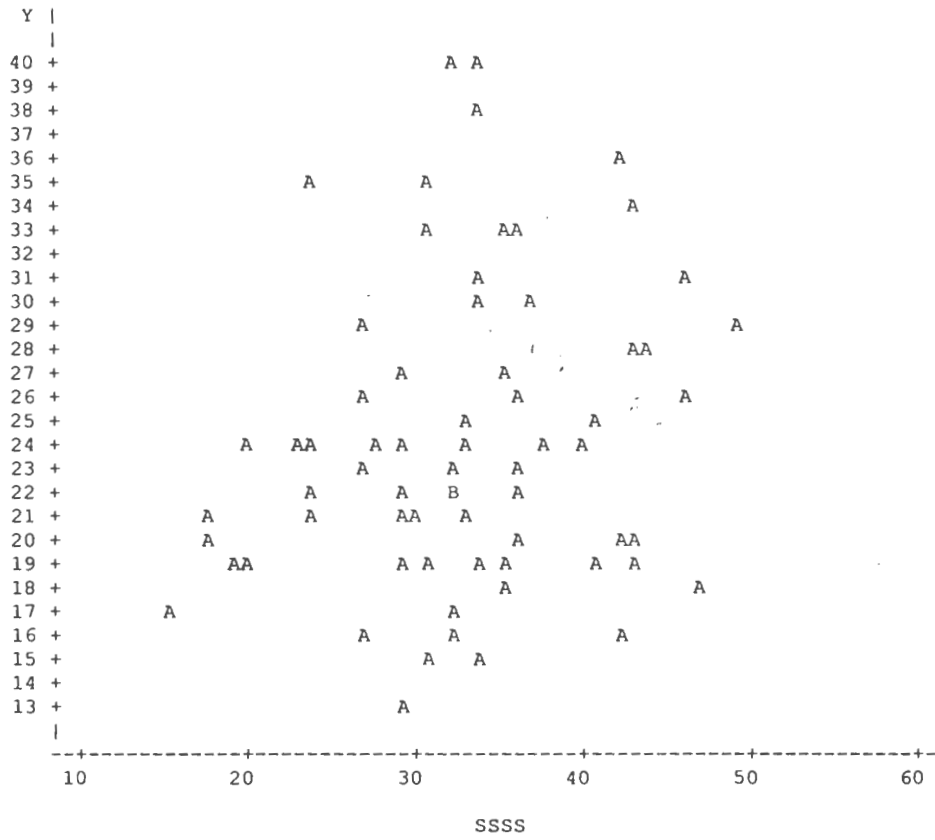
Plot of Y\*TFAT. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 78 obs had missing values.

18. Plot of Temptation to skip Protease Inhibitors for the Total scale Vs Seek and use Social support

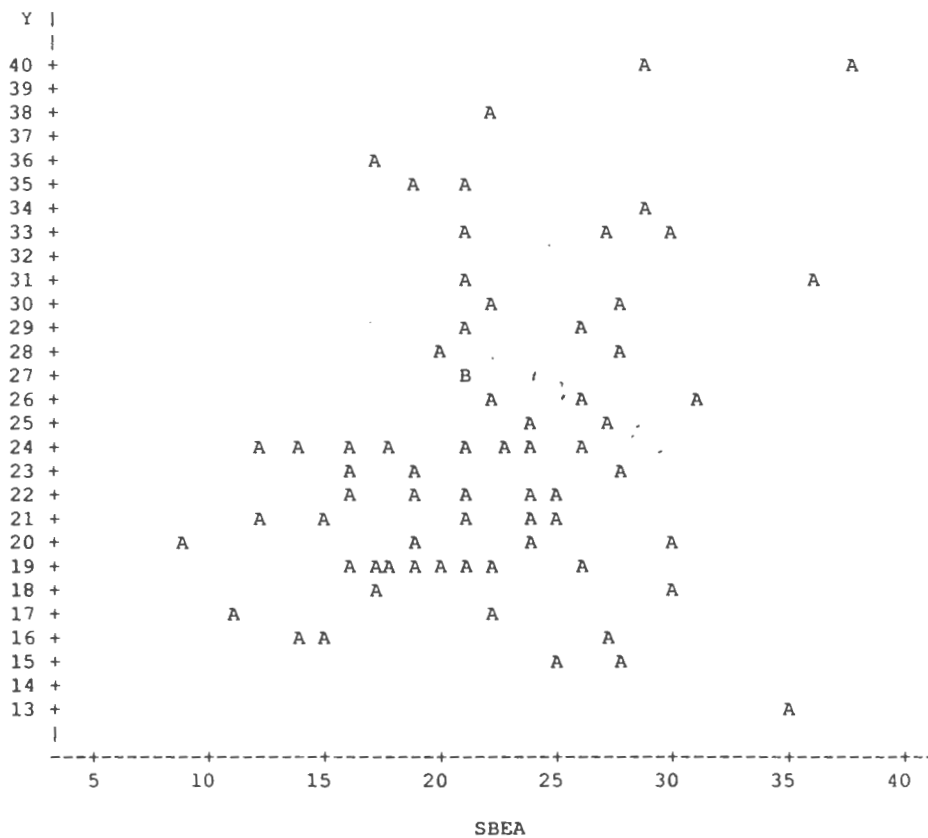
Plot of Y\*SSSS. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 77 obs had missing values.

19. Plot of Temptation to skip Protease Inhibitor for Total scale Vs Behavioral Escape Avoidance

Plot of Y\*SBEA. Legend: A = 1 obs, B = 2 obs, etc.

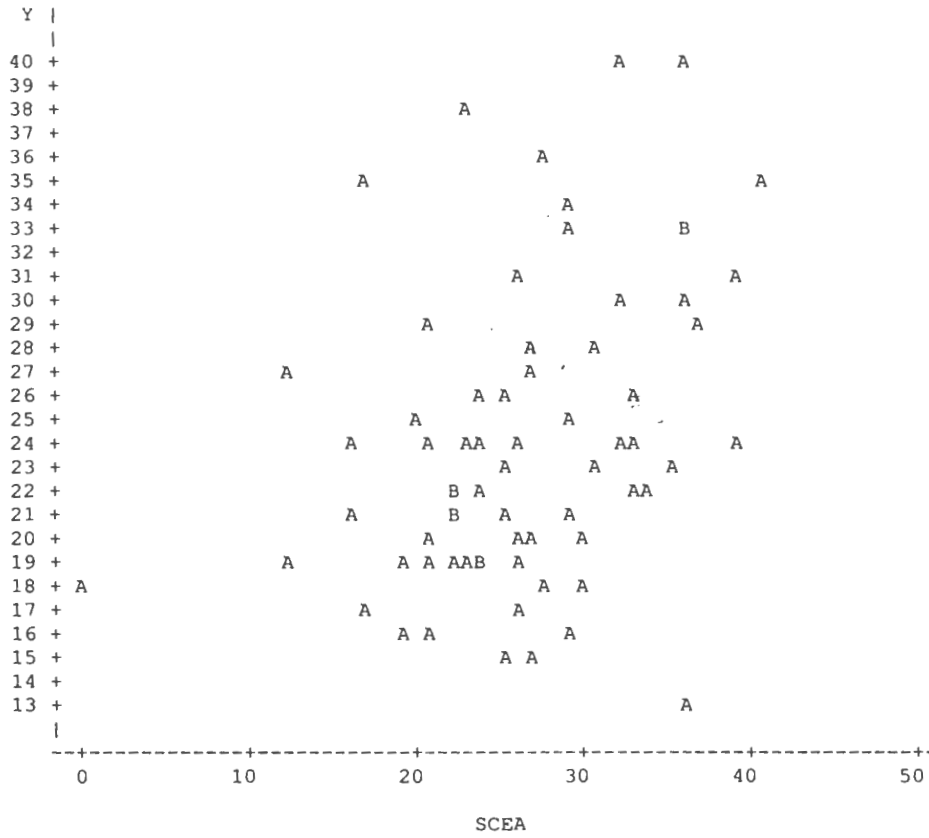


NOTE: 77 obs had missing values.



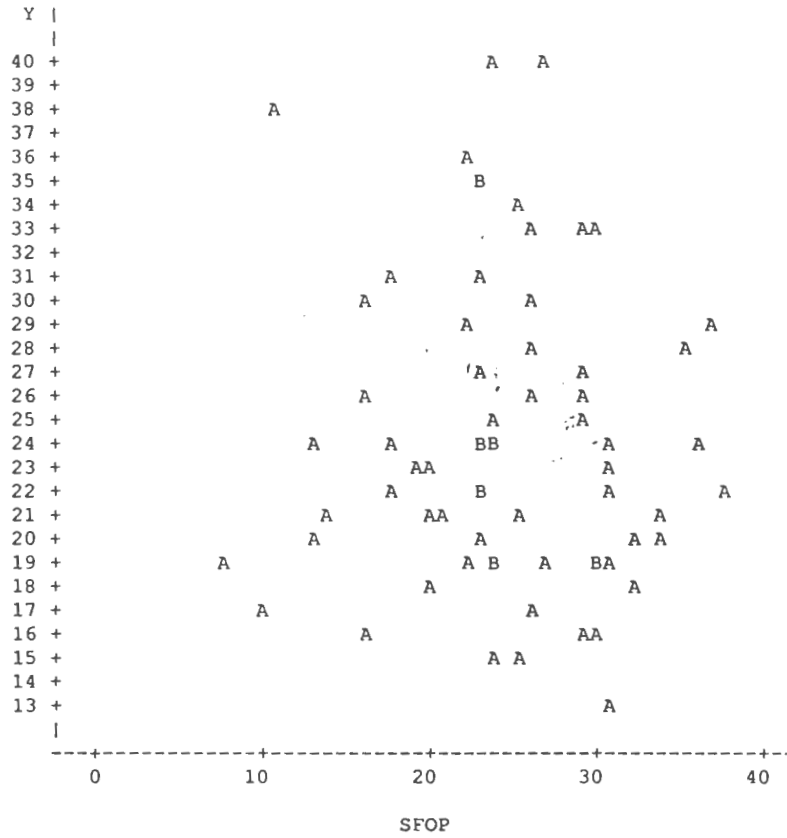
20. Plot of Temptation to skip Protease Inhibitor for Total scale Vs Cognitive Escape Avoidance

Plot of Y\*SCEA. Legend: A = 1 obs, B = 2 obs, etc.



21. Plot of Temptation to skip Protease Inhibitor for Total scale Vs Focus on Positive

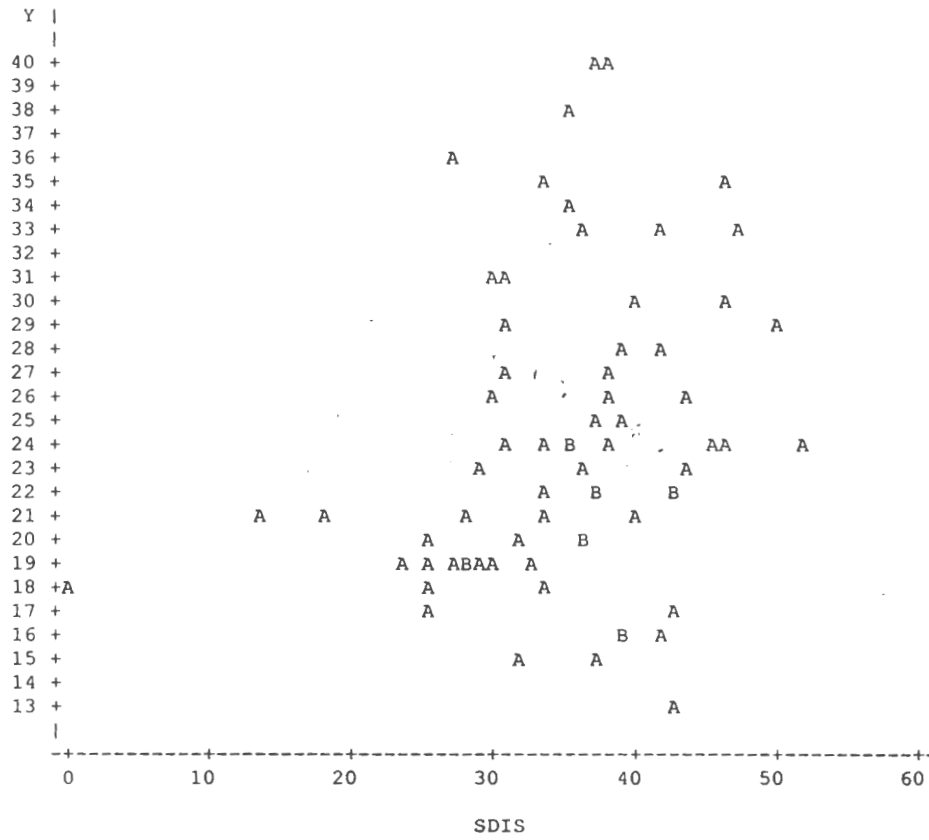
Plot of Y\*SFOP. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 77 obs had missing values.

22. Plot of Temptation to skip Protease Inhibitor for Total scale Vs Distancing

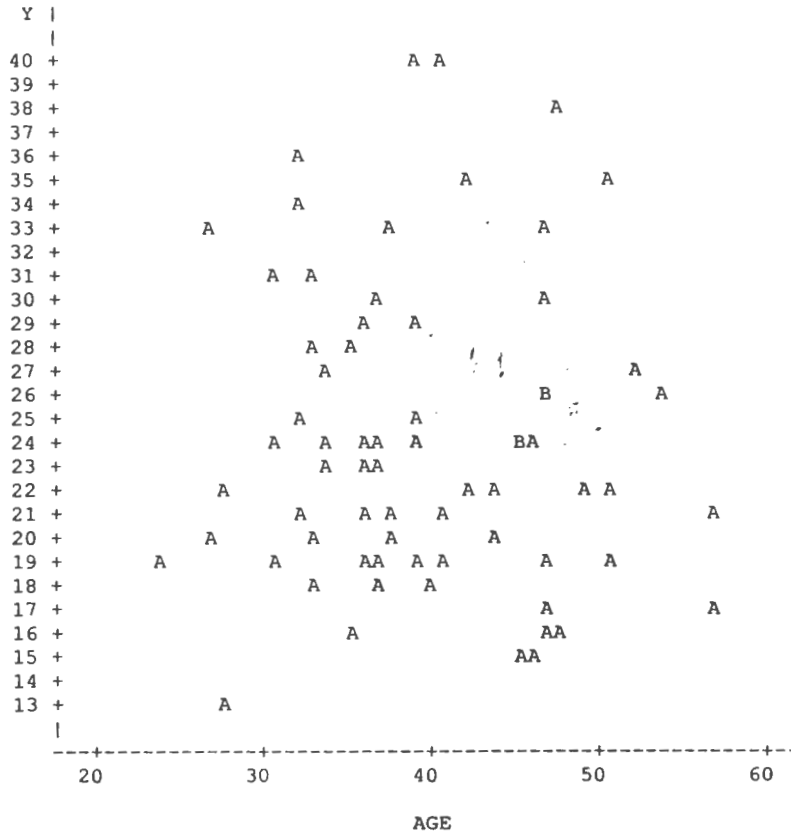
Plot of Y\*SDIS. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 76 obs had missing values.

23. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Age

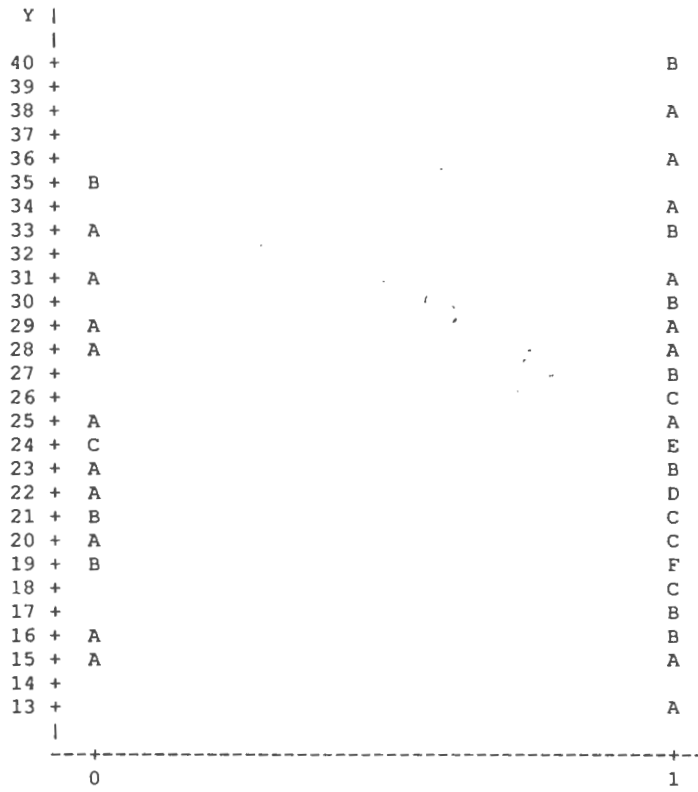
Plot of Y\*Q11. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 76 obs had missing values.

24. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs gender

Plot of Y\*QI2A. Legend: A = 1 obs, B = 2 obs, etc.

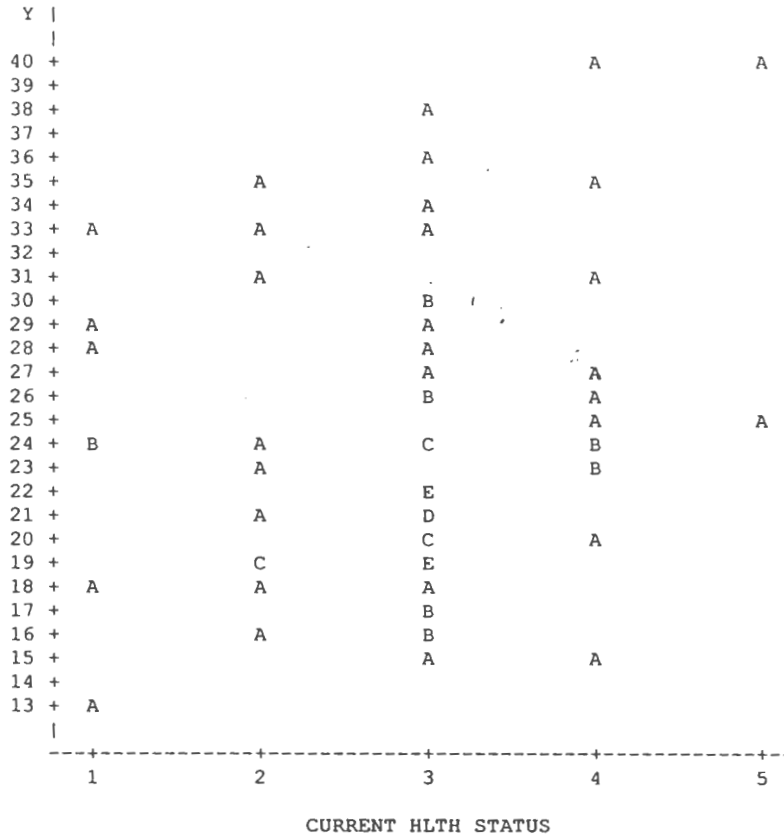


QI2A

NOTE: 76 obs had missing values.

25. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Current Health Status

Plot of Y\*QI3. Legend: A = 1 obs, B = 2 obs, etc.

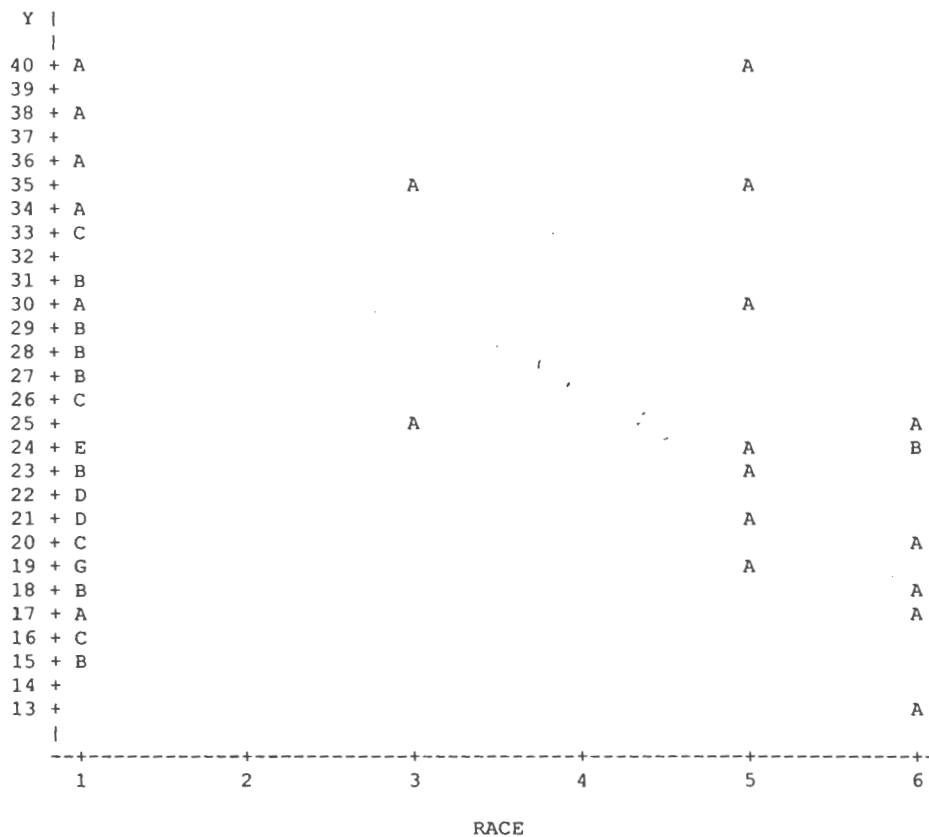


NOTE: 76 obs had missing values.

1

26. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Race

Plot of Y\*QI4. Legend: A = 1 obs, B = 2 obs, etc.

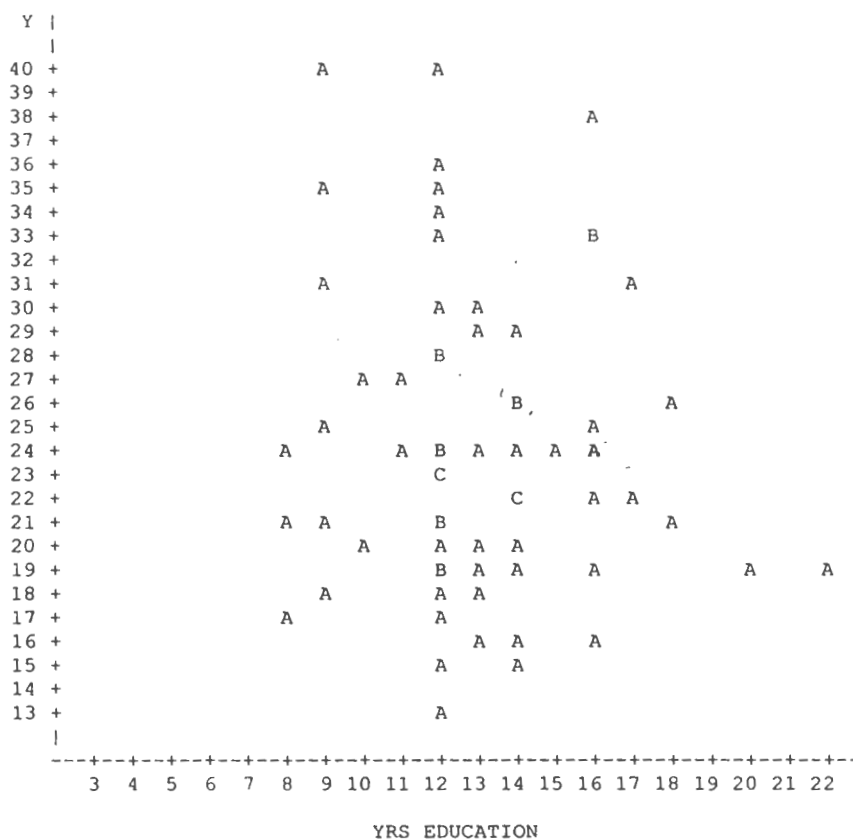


NOTE: 77 obs had missing values.

1

27. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Years of Education

Plot of Y\*QI5. Legend: A = 1 obs, B = 2 obs, etc.



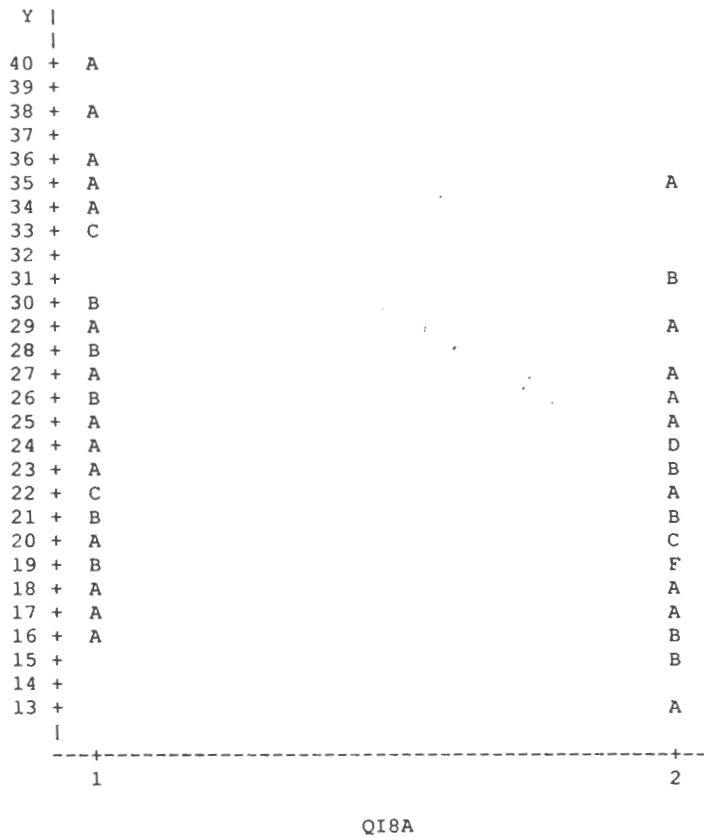
NOTE: 77 obs had missing values.

1



28. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Number of people in household

Plot of Y\*QI8A. Legend: A = 1 obs, B = 2 obs, etc.

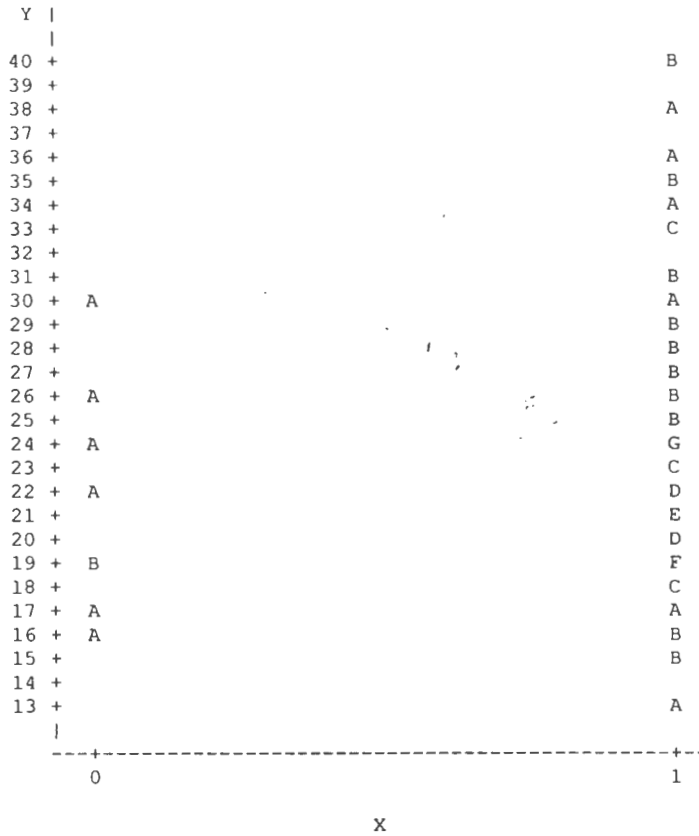


NOTE: 83 obs had missing values.

1

29. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Insurance

Plot of Y\*X. Legend: A = 1 obs, B = 2 obs, etc.

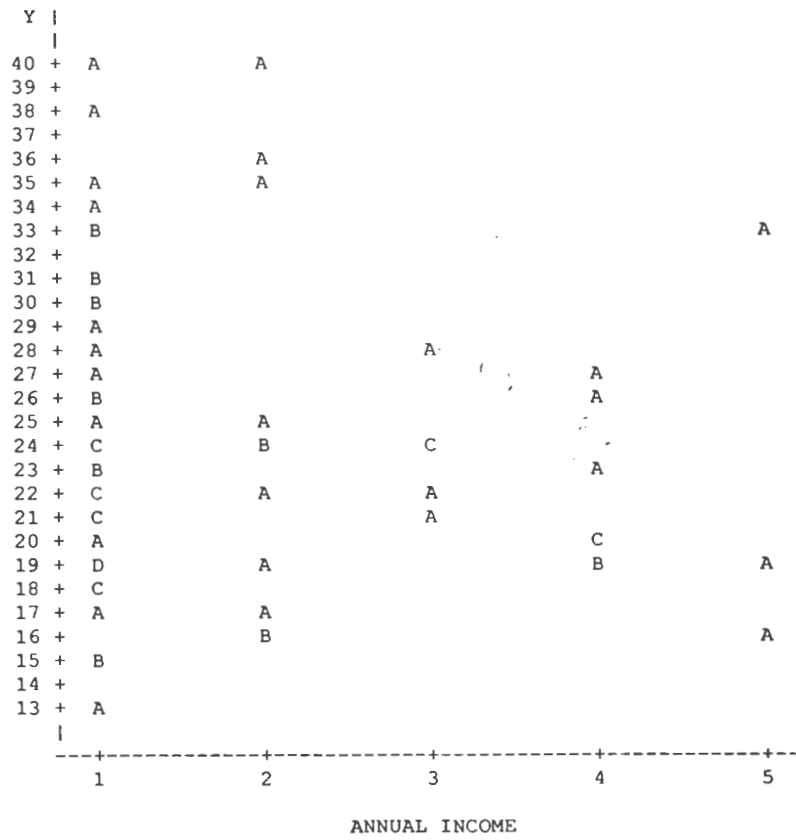


NOTE: 76 obs had missing values.

1

30. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Income

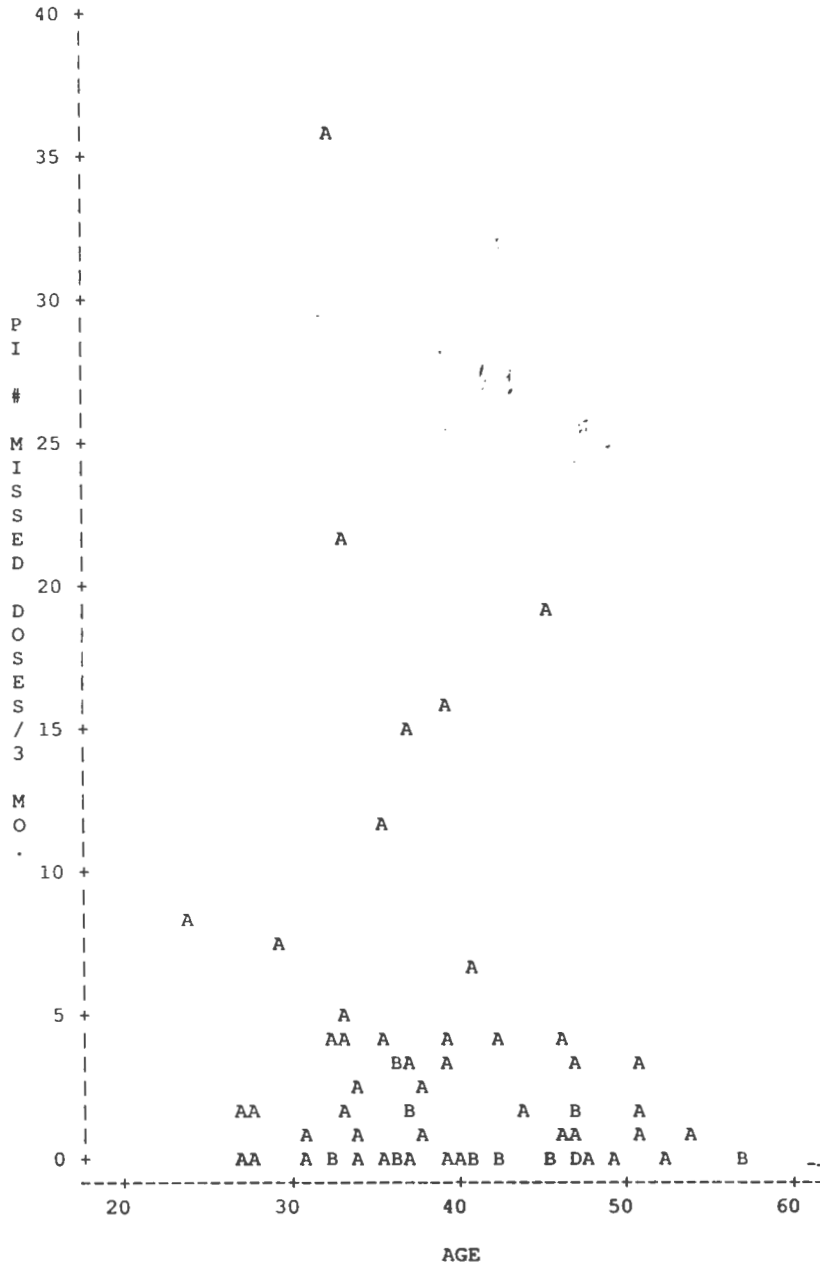
Plot of Y\*QI19. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 78 obs had missing values.

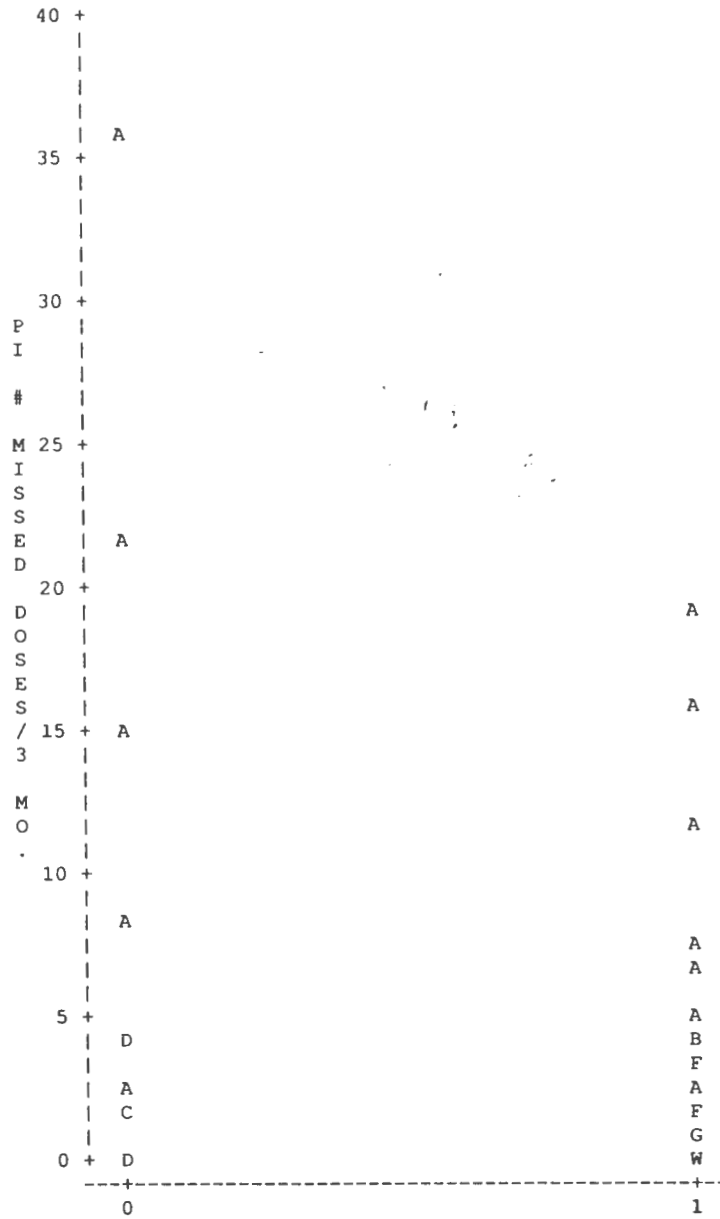
31. Plot of number of doses missed in the past 3 months Vs age

Plot of MISSPI\*Q11. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 78 obs had missing values.

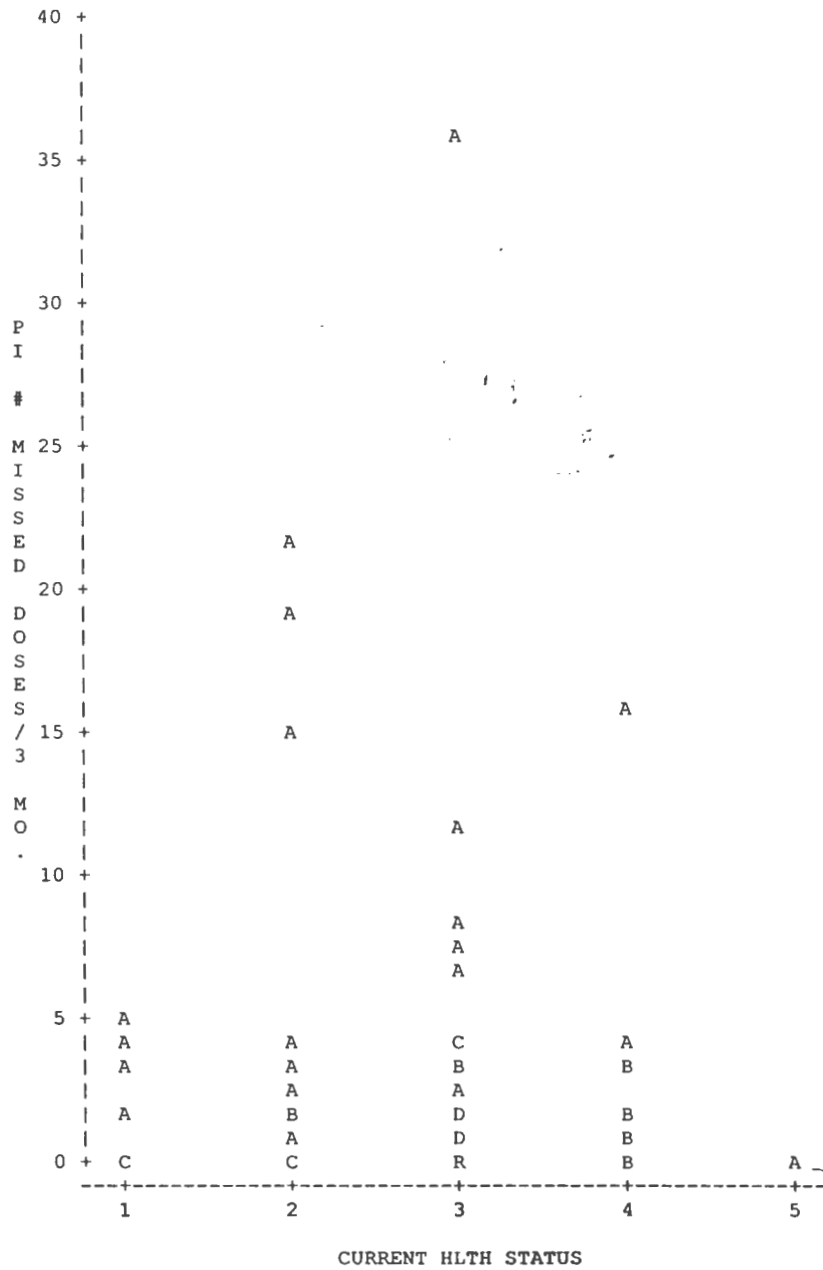
32. Plot of number of doses missed in the past 3 months Vs Gender  
 Plot of MISSPI\*QI2A. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 78 obs had missing values.

33. Plot of number of doses missed in the past 3 months Vs Current health status

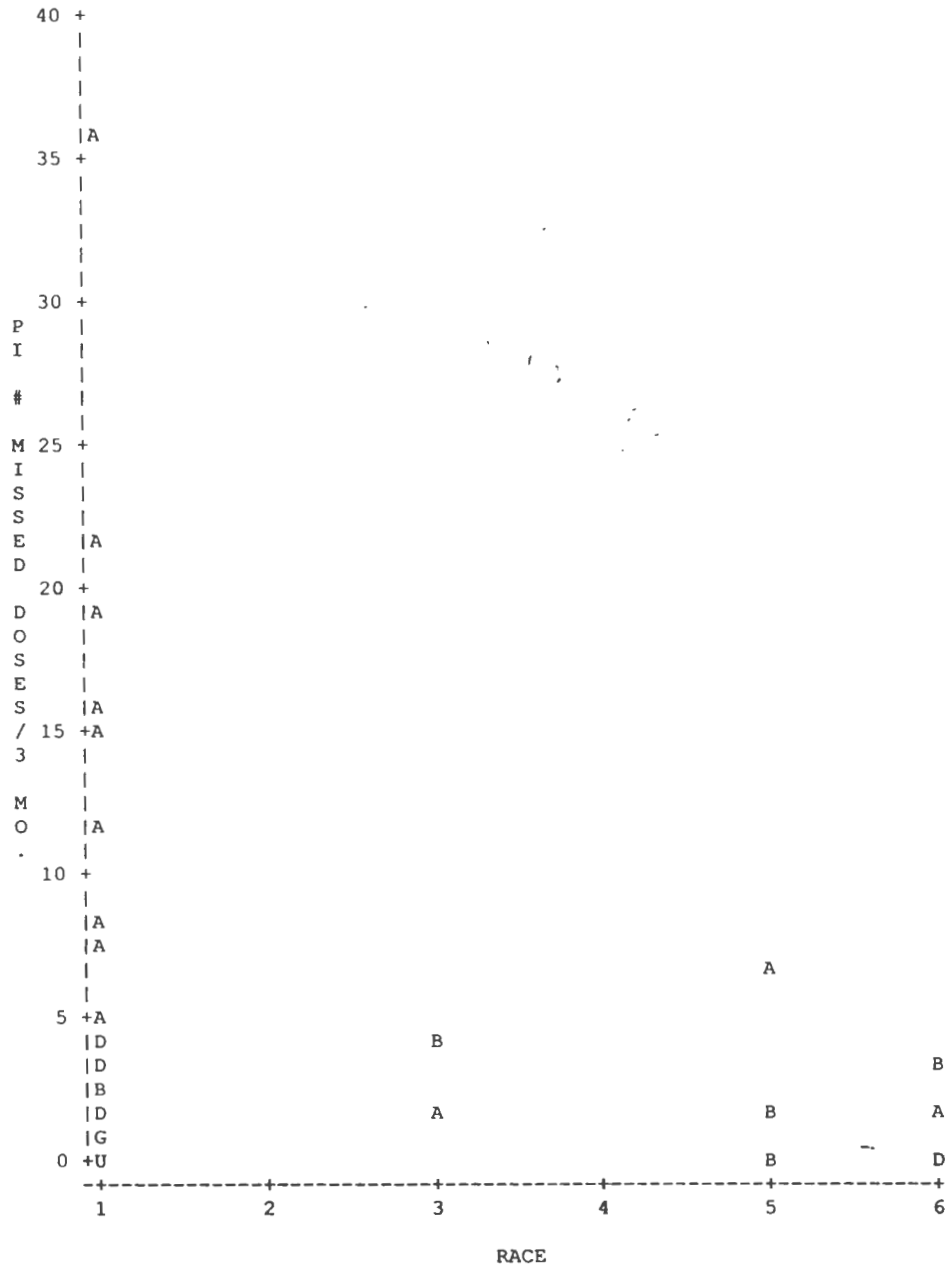
Plot of MISSPI\*QI3. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 78 obs had missing values.

34. Plot of number of doses missed in the past 3 months Vs Race

Plot of MISSPI\*QI4. Legend: A = 1 obs, B = 2 obs, etc.



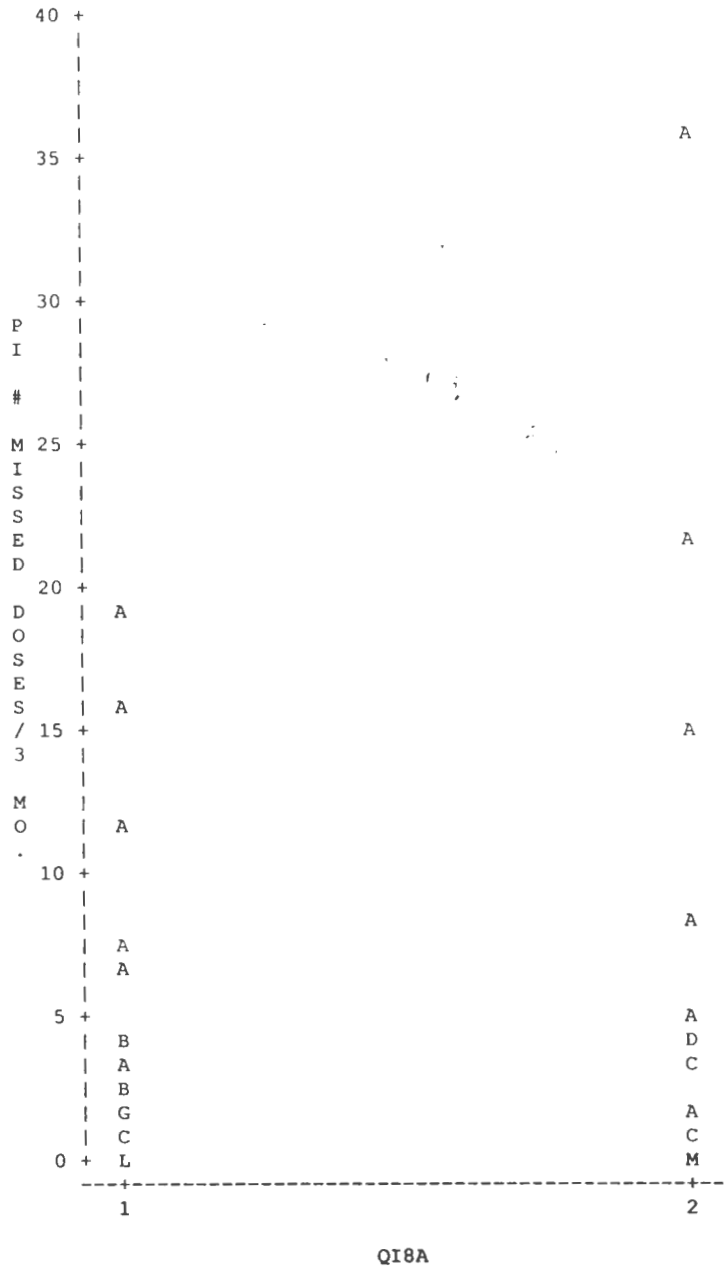
NOTE: 79 obs had missing values.





36. Plot of number of doses missed in the past 3 months Vs number of people in household

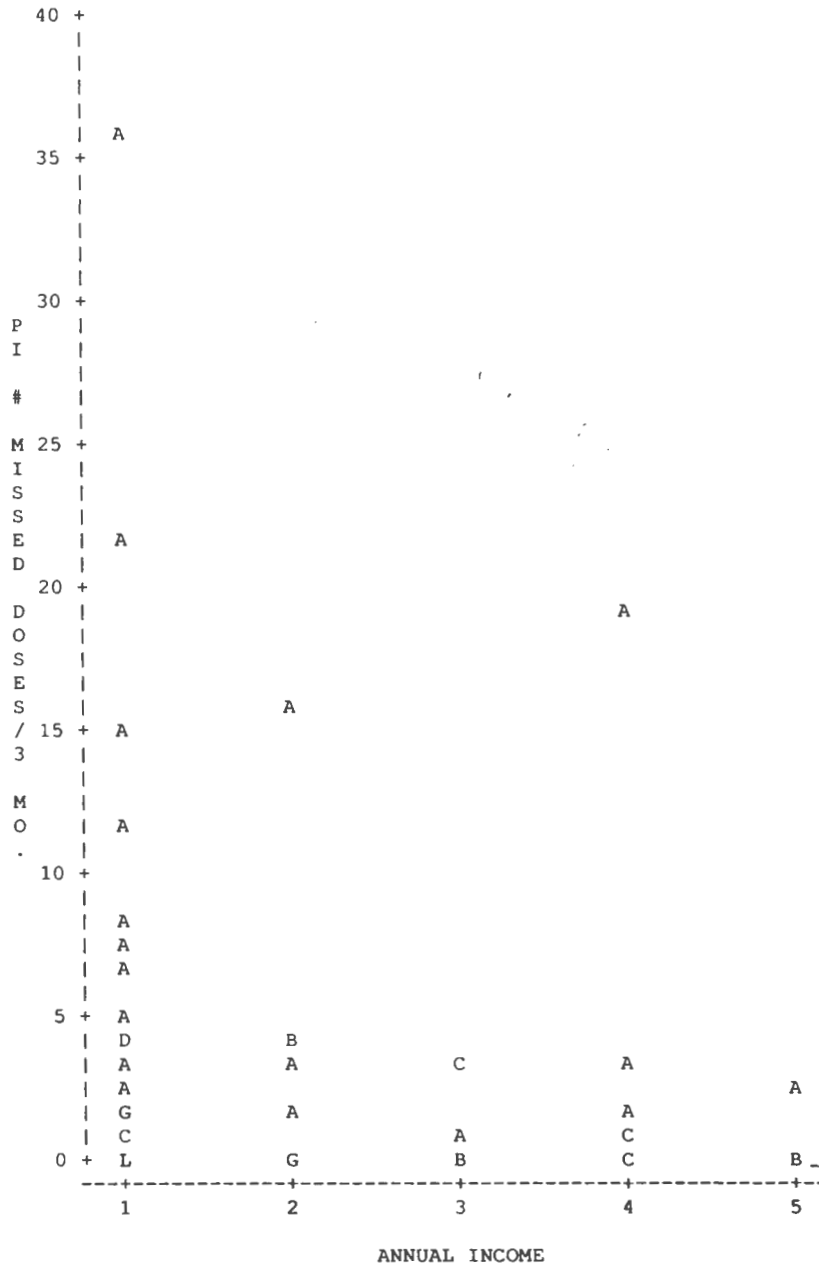
Plot of MISSPI\*QI8A. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 84 obs had missing values.

37. Plot of number of doses missed in the past 3 months vs Income

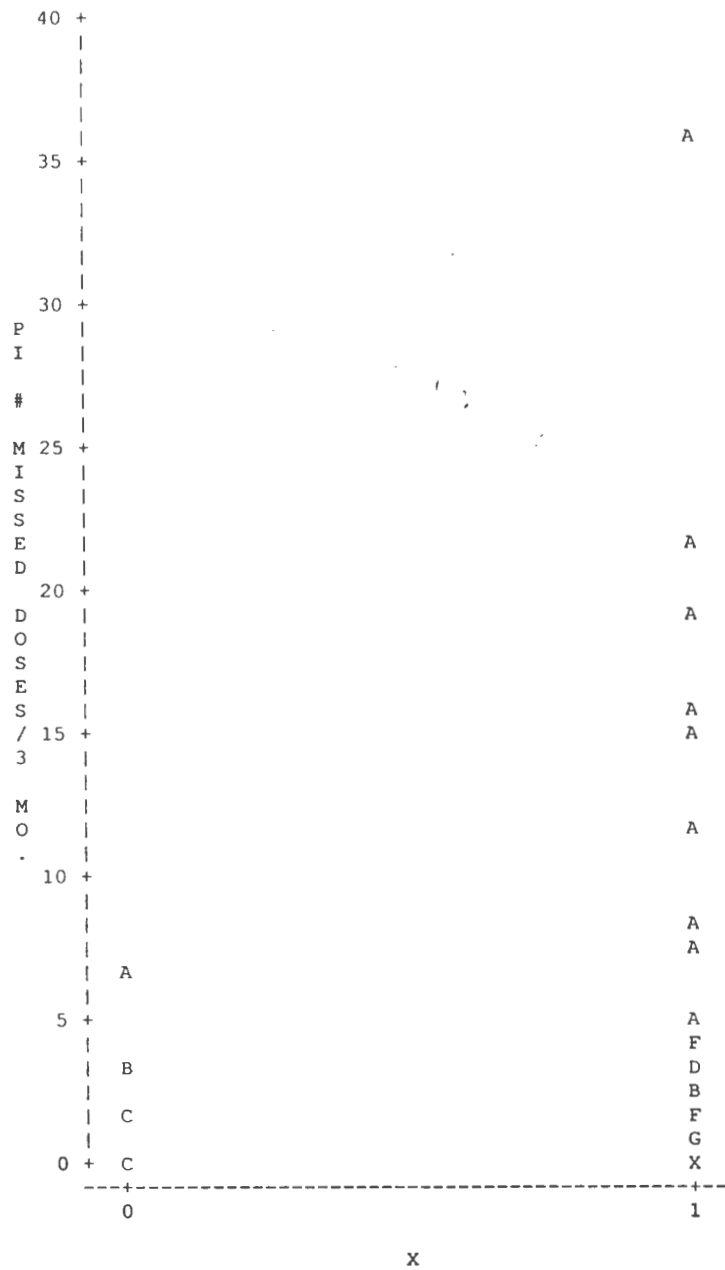
Plot of MISSPI\*QI19. Legend: A = 1 obs, B = 2 obs, etc.



NOTE: 79 obs had missing values.

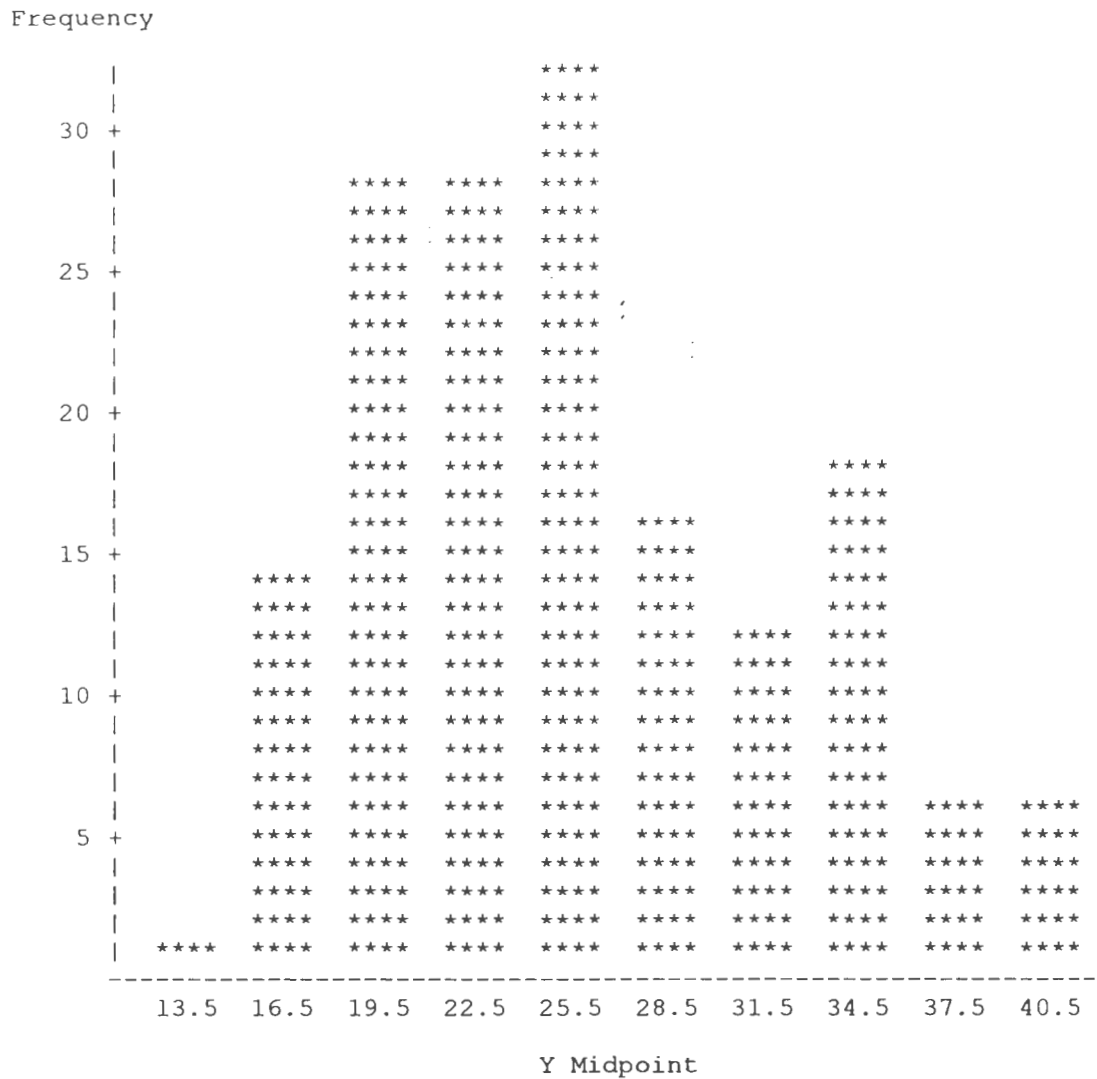
38. Plot of number of doses missed in the past 3 months Vs Insurance

Plot of MISSPI\*X. Legend: A = 1 obs, B = 2 obs, etc.

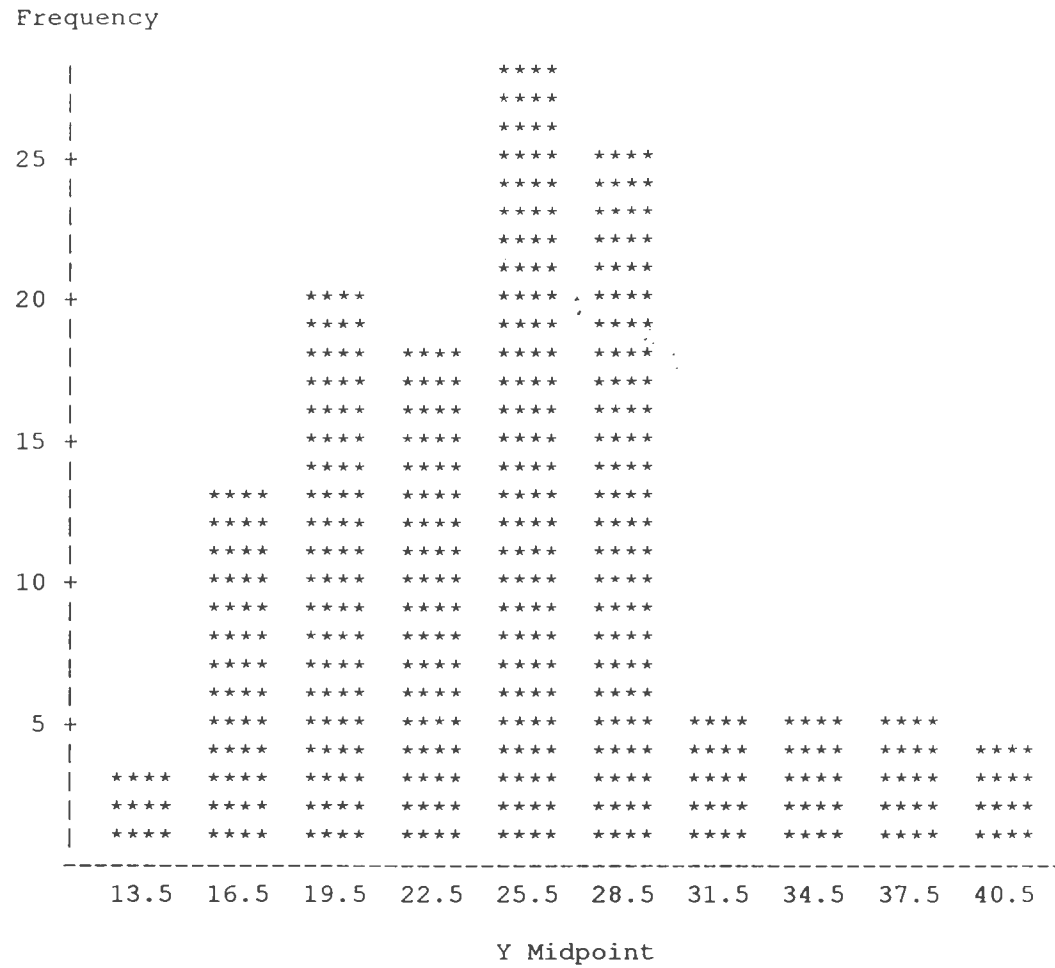


NOTE: 78 obs had missing values.

1. Plot of pain interfering with work in the past 4 weeks Vs Temptation to skip Protease Inhibitors for total scale

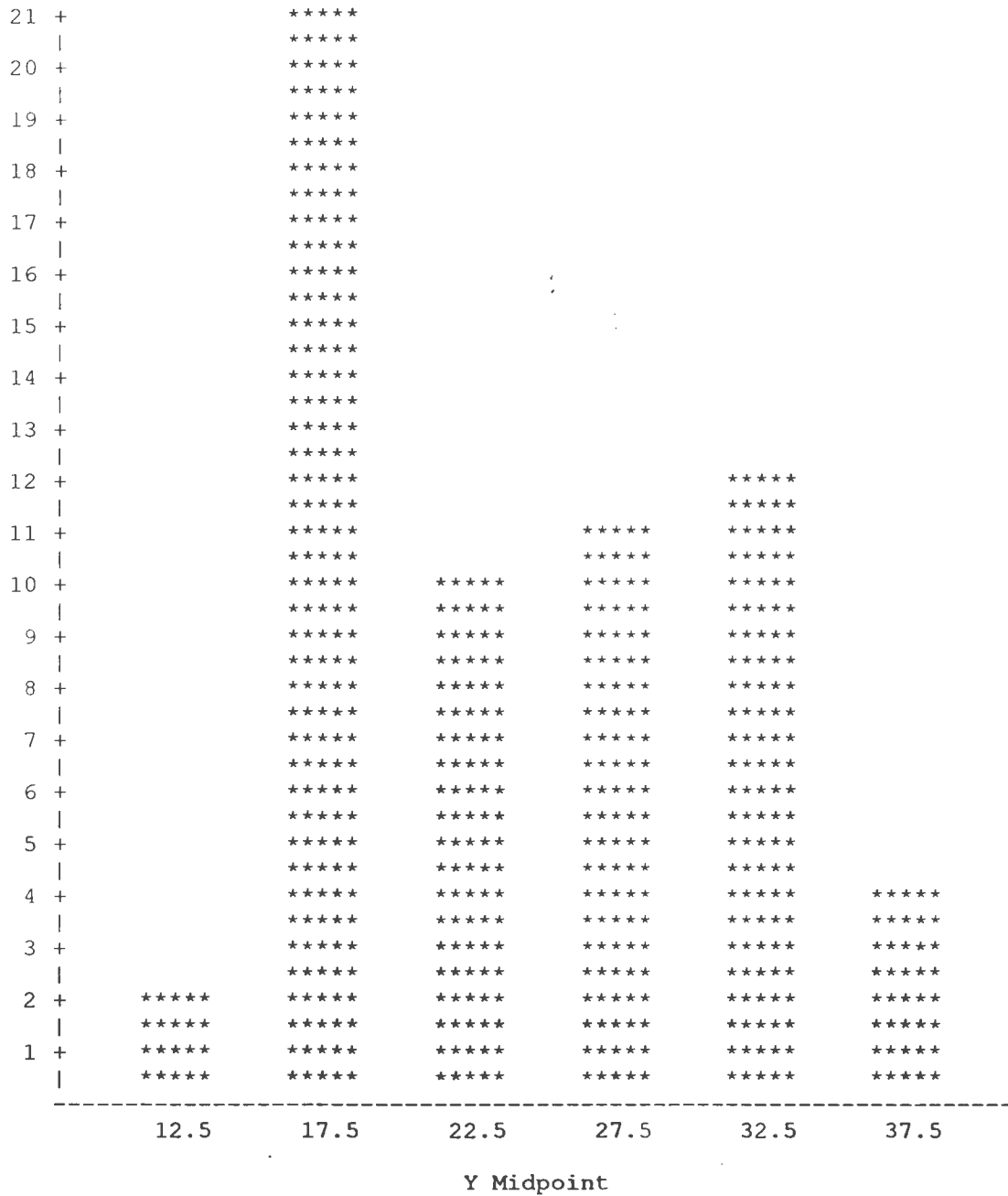


2. Plot of # of days in bed in the past 2 weeks Vs Temptation to skip Protease Inhibitors for total scale



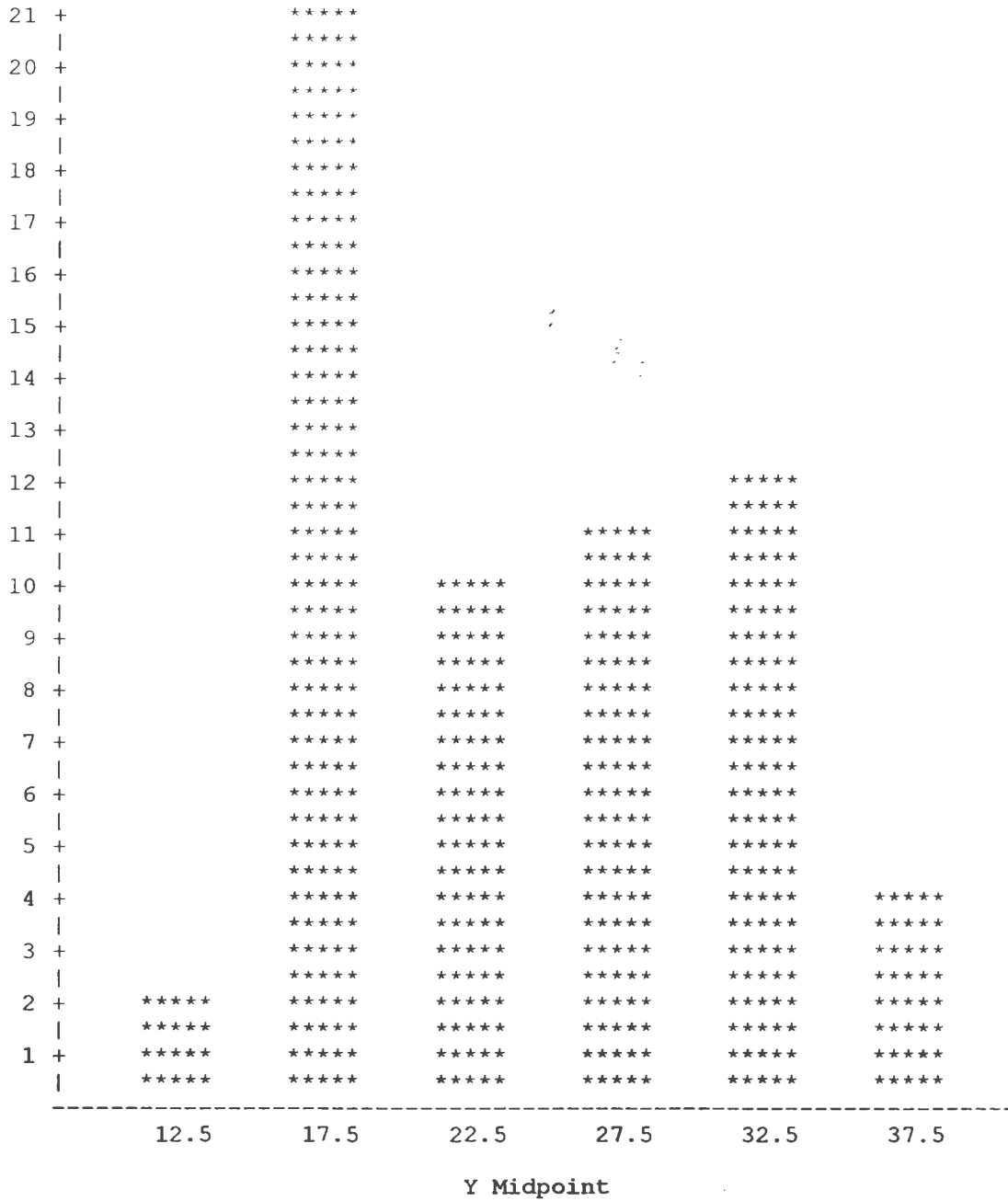
### 3. Plot of # of hospitalization in the past year Vs Temptation to skip Protease Inhibitors for total scale

Frequency

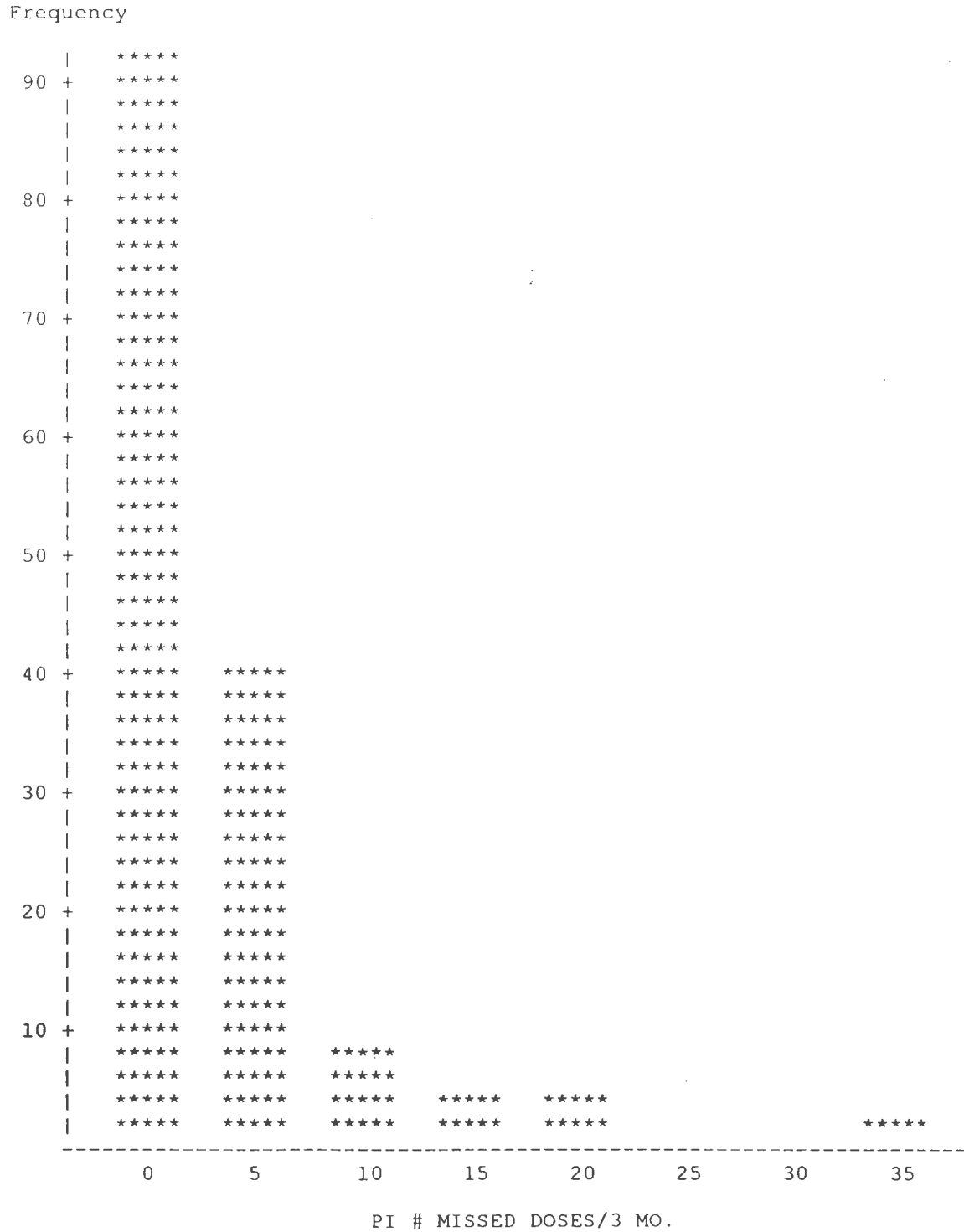


4. Plot of T cell count last tested Vs Temptation to skip Protease Inhibitors for total scale

Frequency

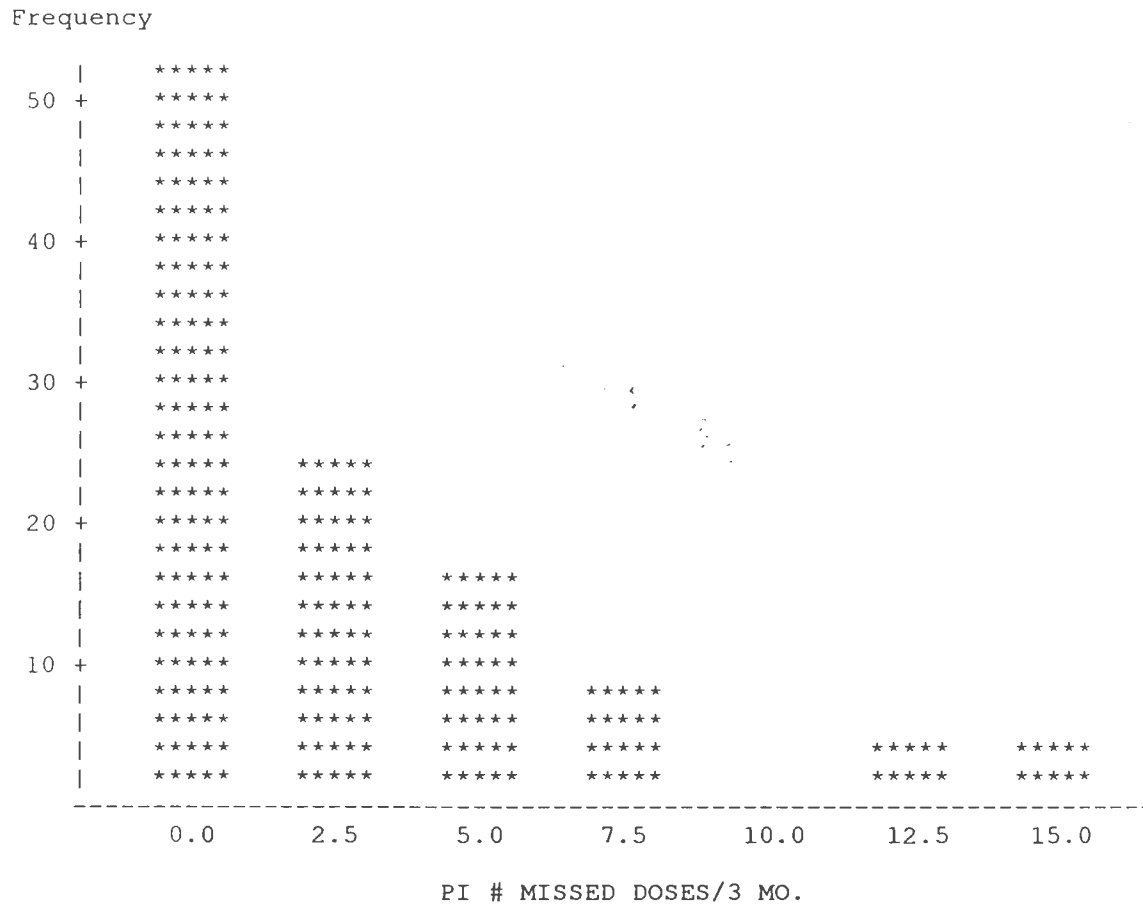


5. Plot of pain interfering with work in the past 4 weeks Vs # of doses missed in the past three months



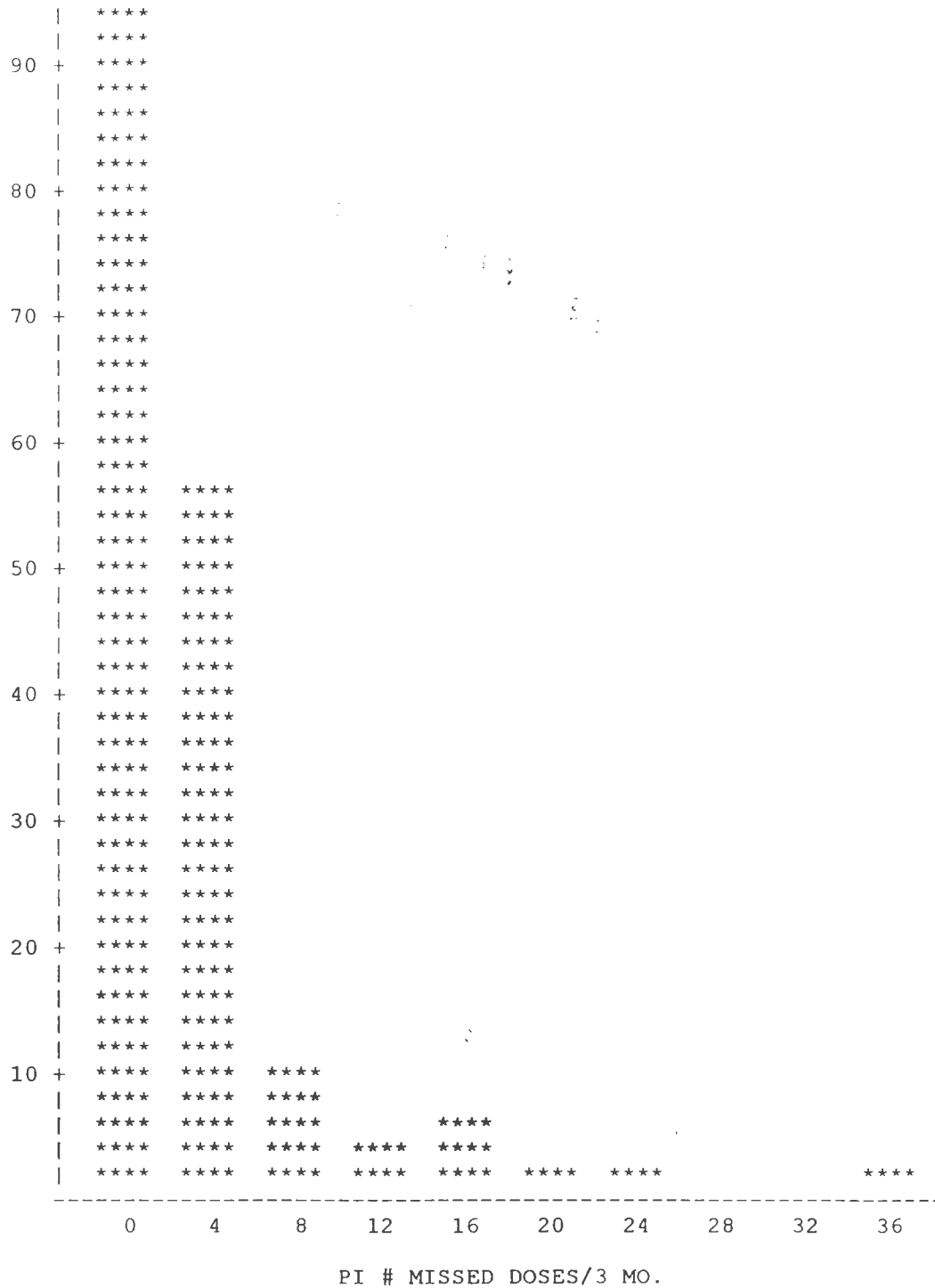


6. Plot of # of days in bed in the past 2 weeks Vs # of doses missed in the past 3 months



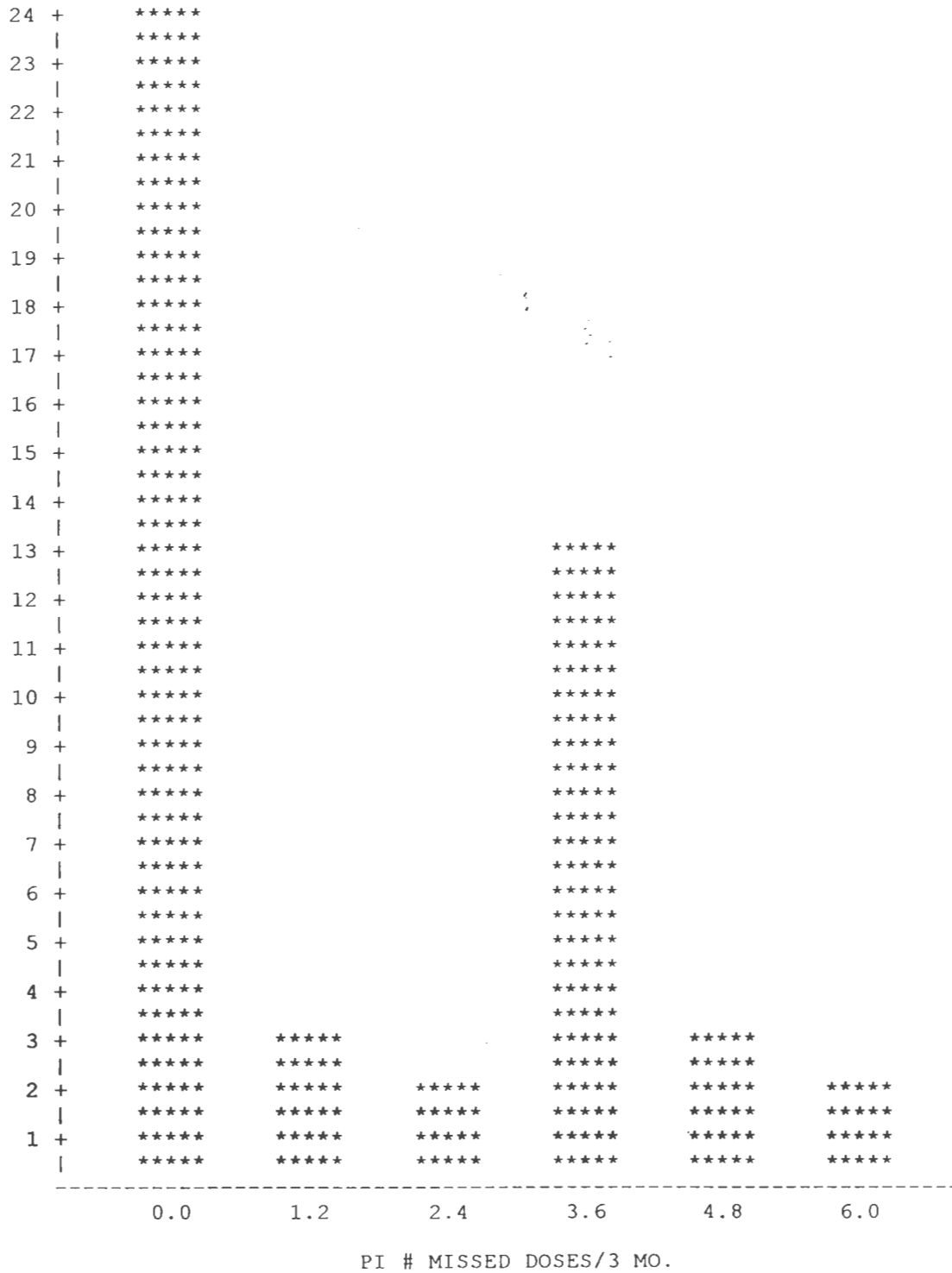
7. Plot of # of hospitalization in the past year Vs # of doses missed in the past three months

Frequency



8. Plot of T cell count last tested Vs # of doses missed in the past three months

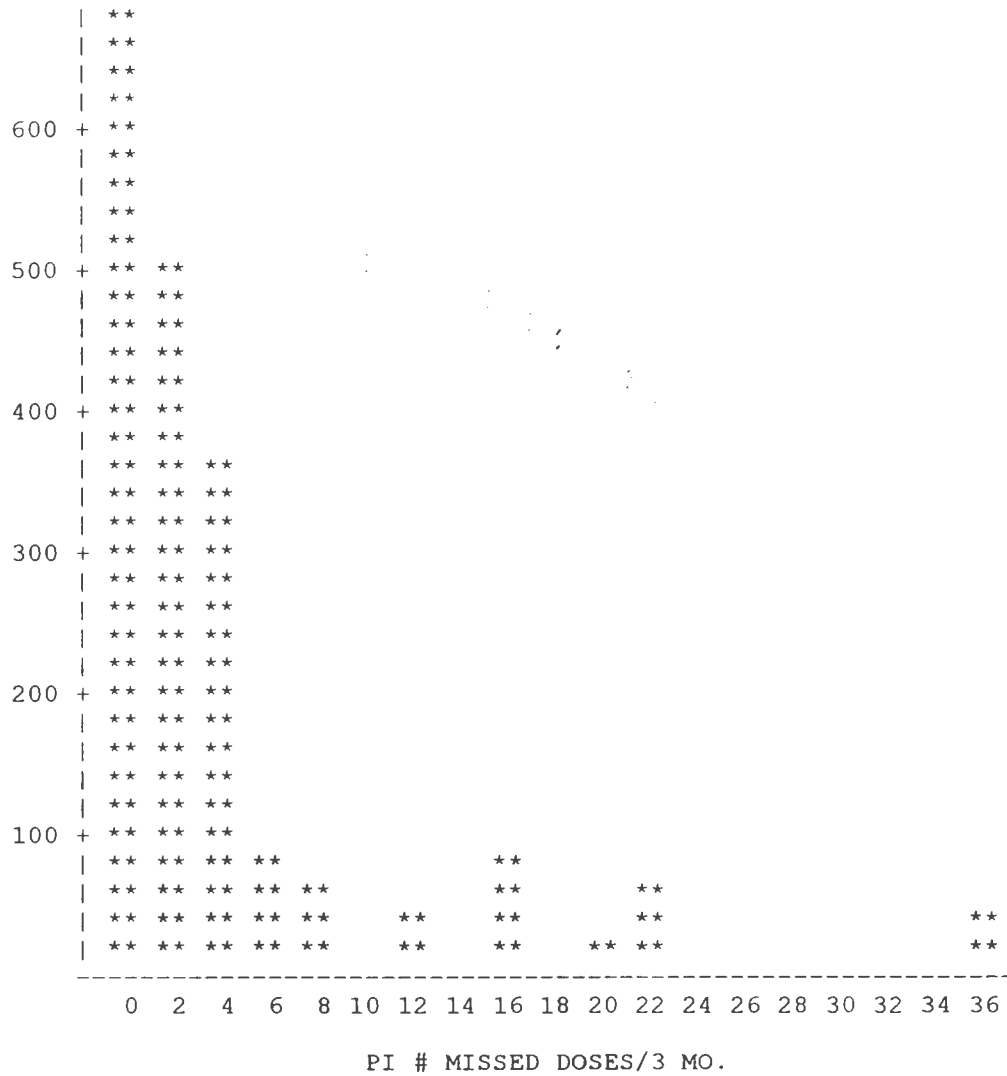
Frequency



:

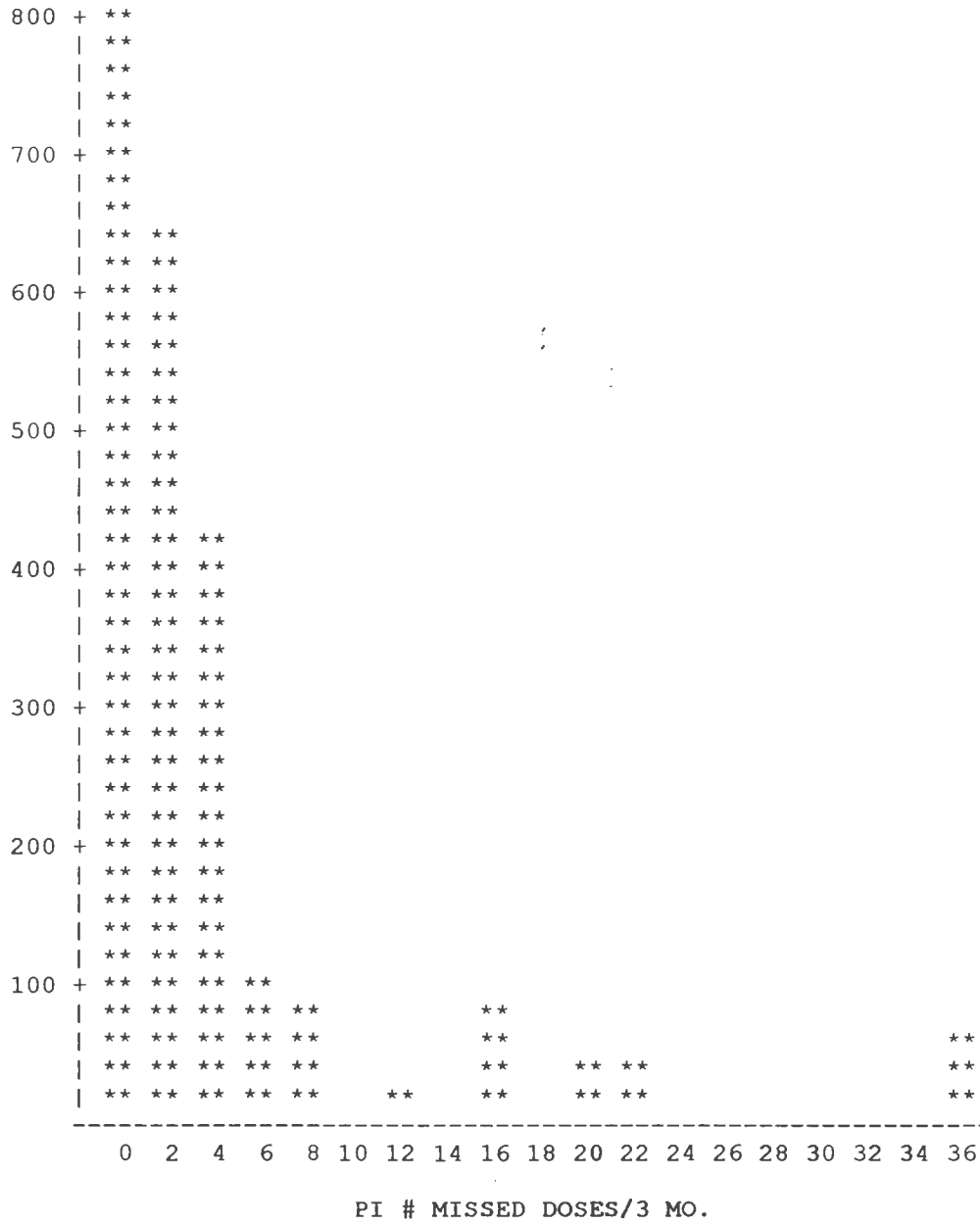
9. Plot of General mental health Vs # of doses missed in the past three months

Frequency

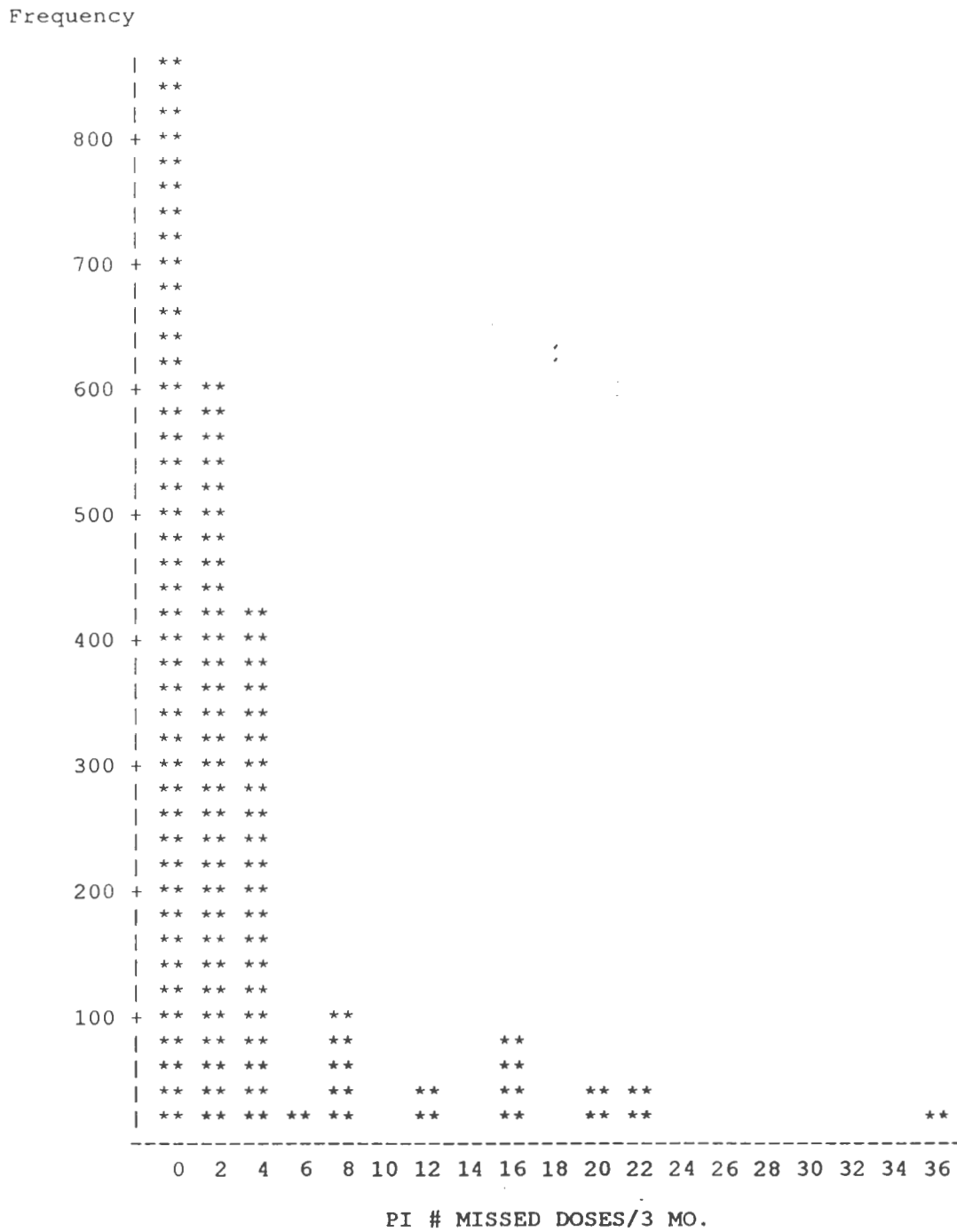


10. Plot of vitality energy and fatigue Vs # of doses missed in the past three months

Frequency

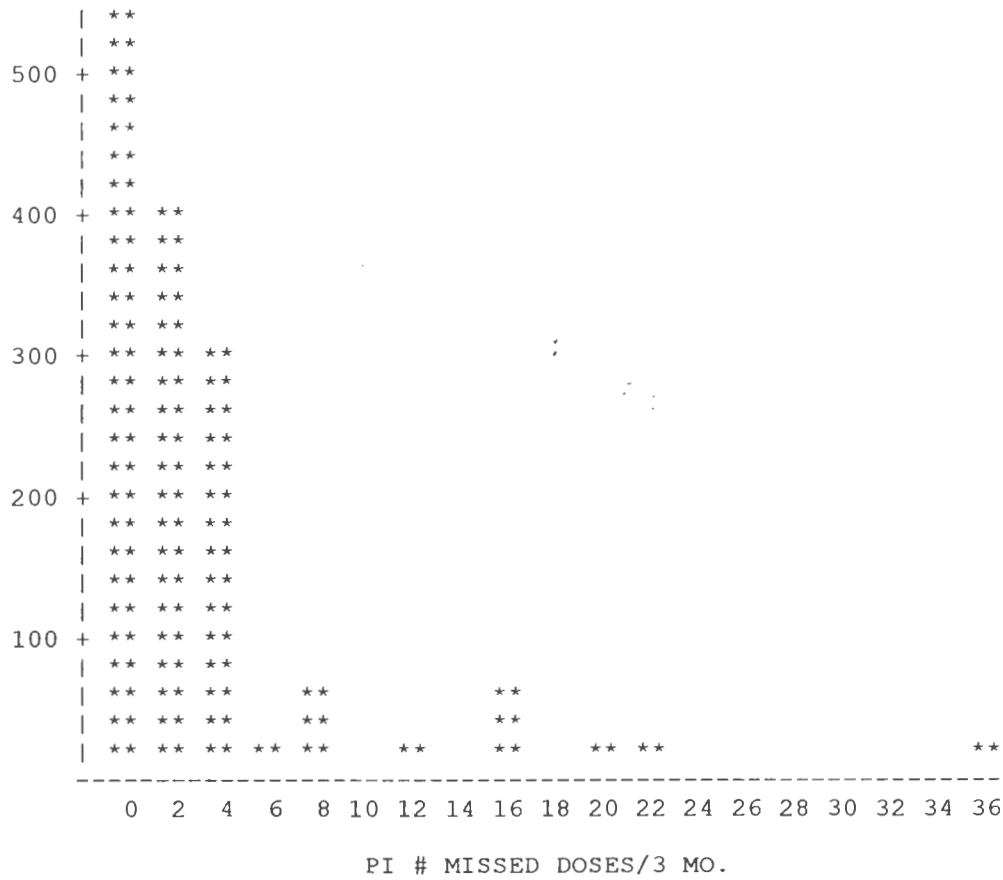


11. Plot of seek and use social support Vs # of doses missed in the past three months



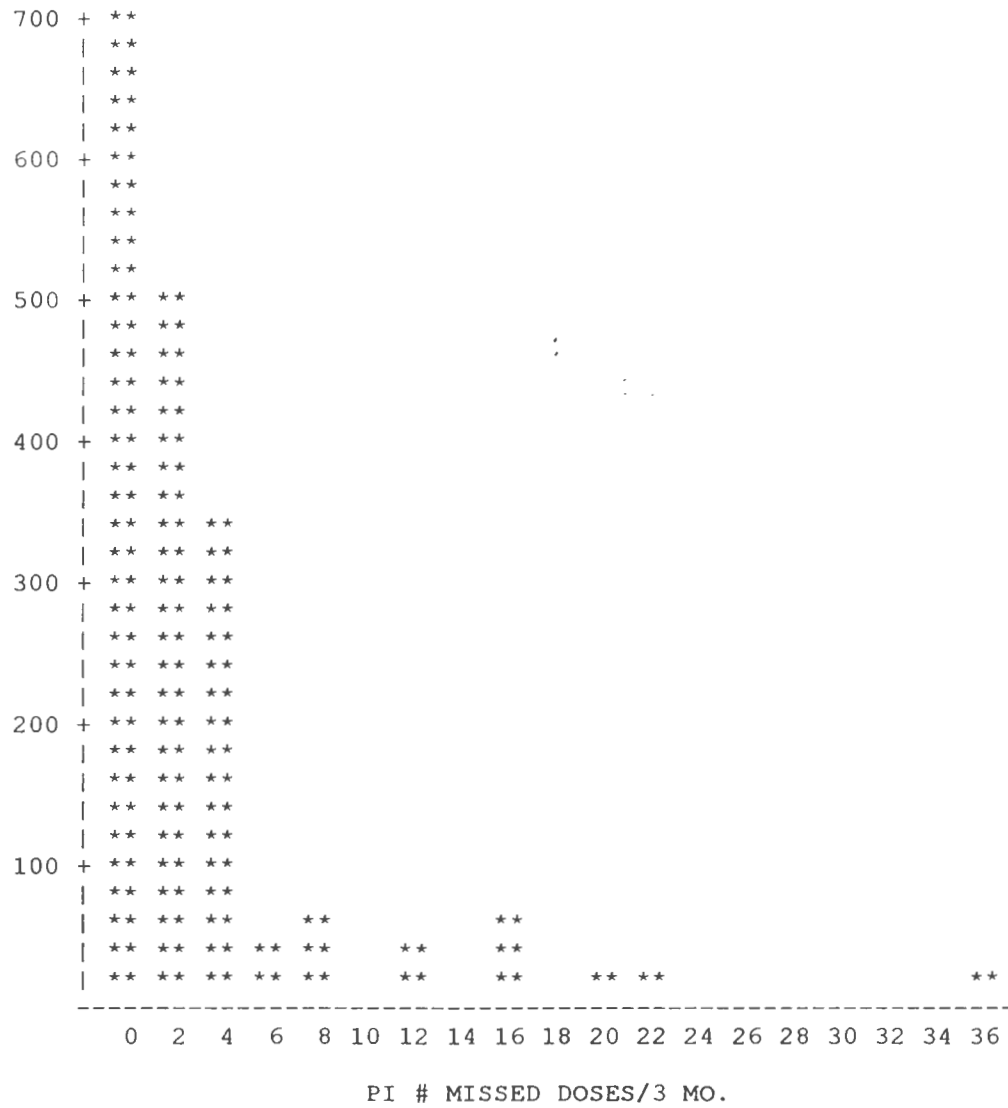
12. Plot of Behavioral escape avoidance Vs # of doses missed in the past 3 months

Frequency



13. Plot of cognitive escape avoidance Vs # of doses missed in the past 3 months

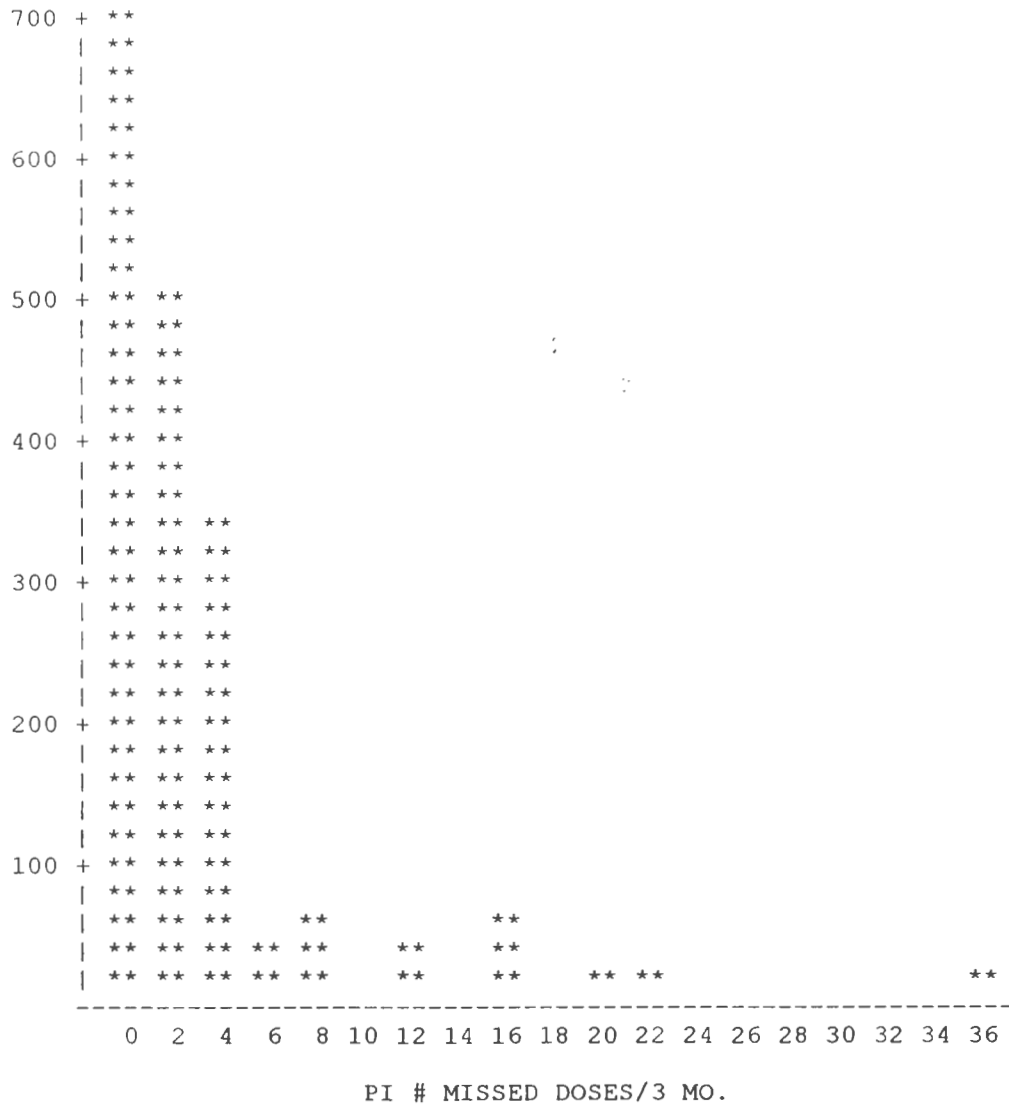
Frequency



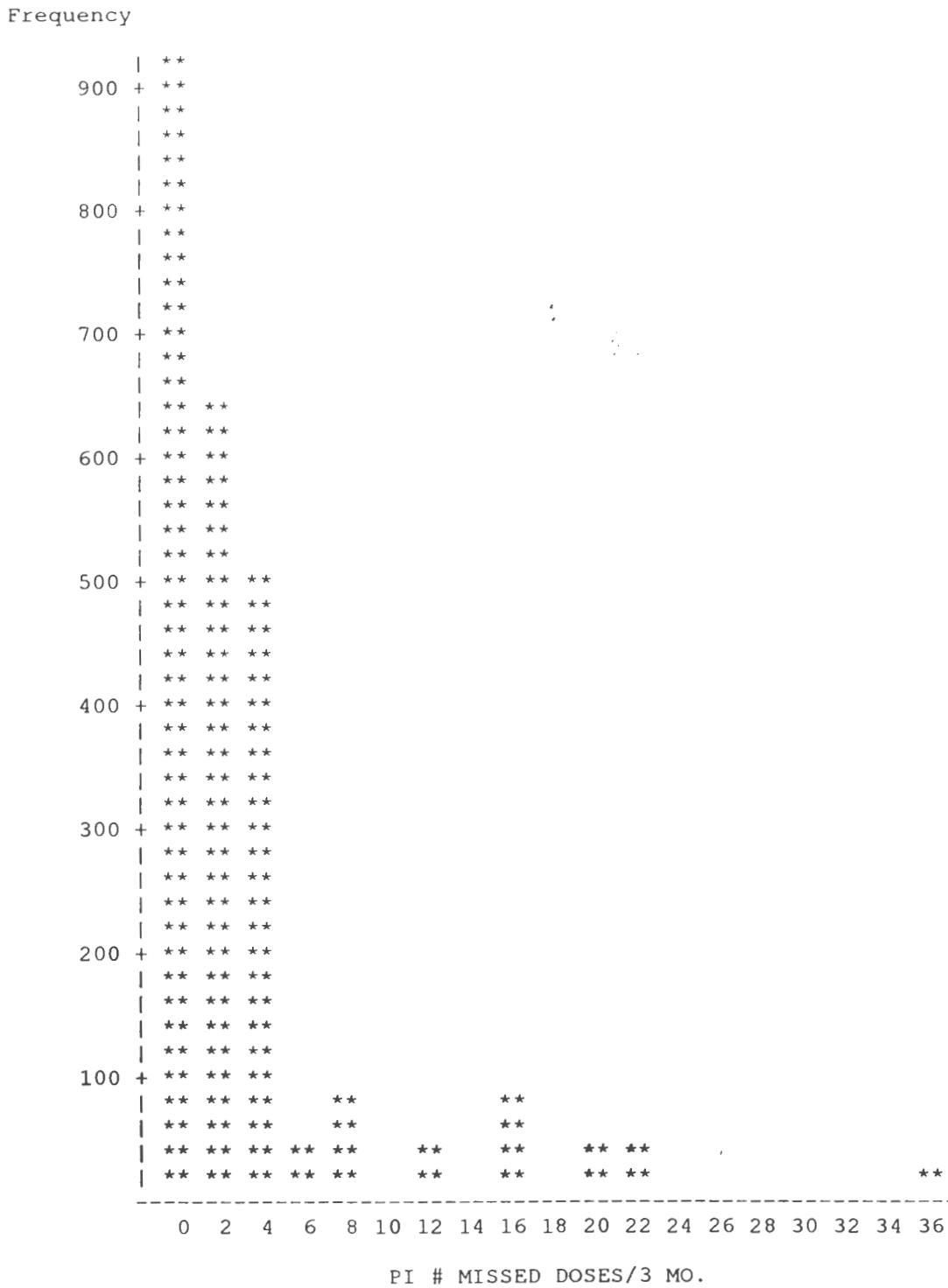


14. Plot of focus on positive Vs # of doses missed in the past three months

Frequency

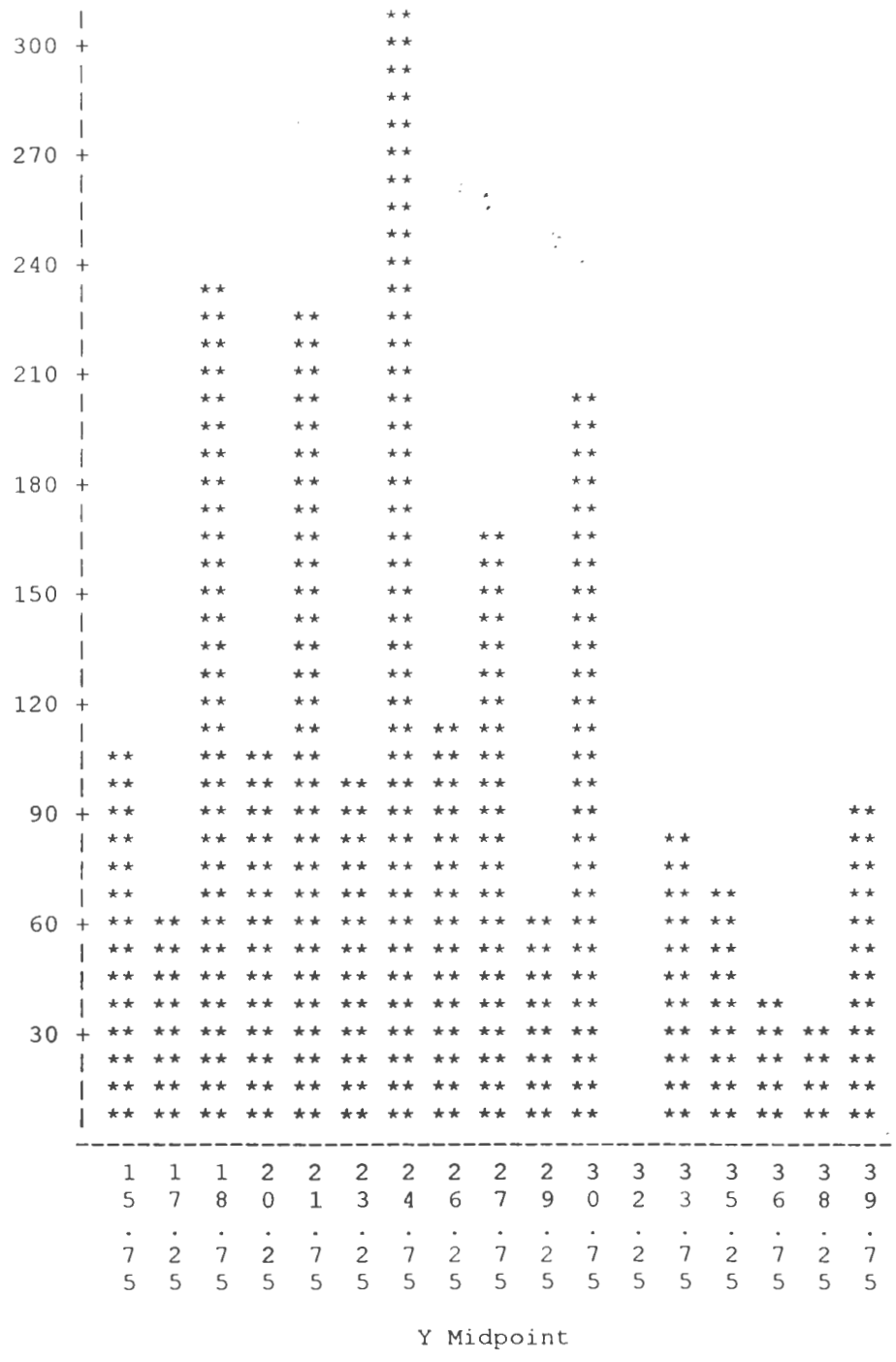


15. Plot of Distancing Vs # of doses missed in the past 3 months



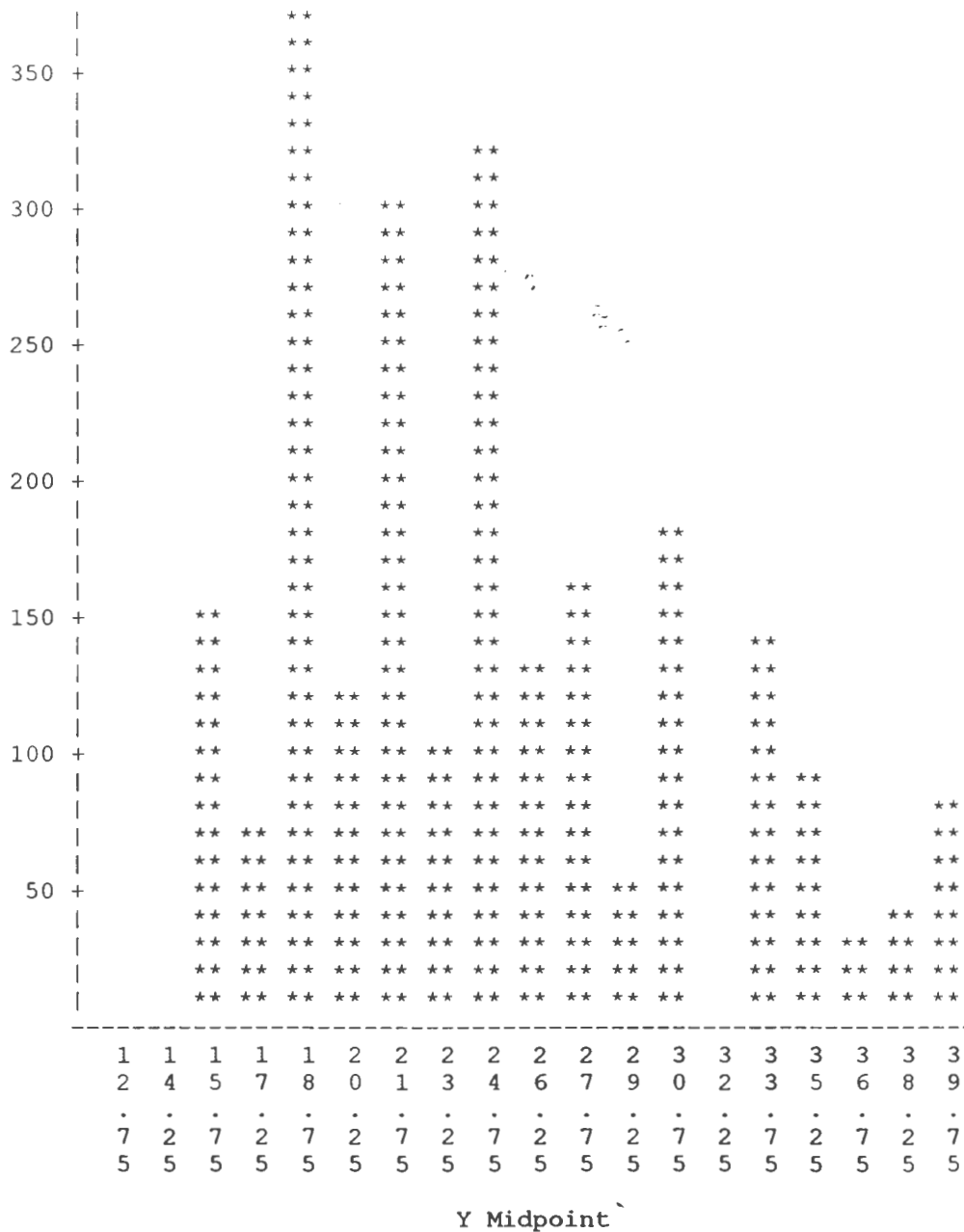
16. Plot of General mental Health Vs Temptation to skip Protease inhibitors for total scale

Frequency



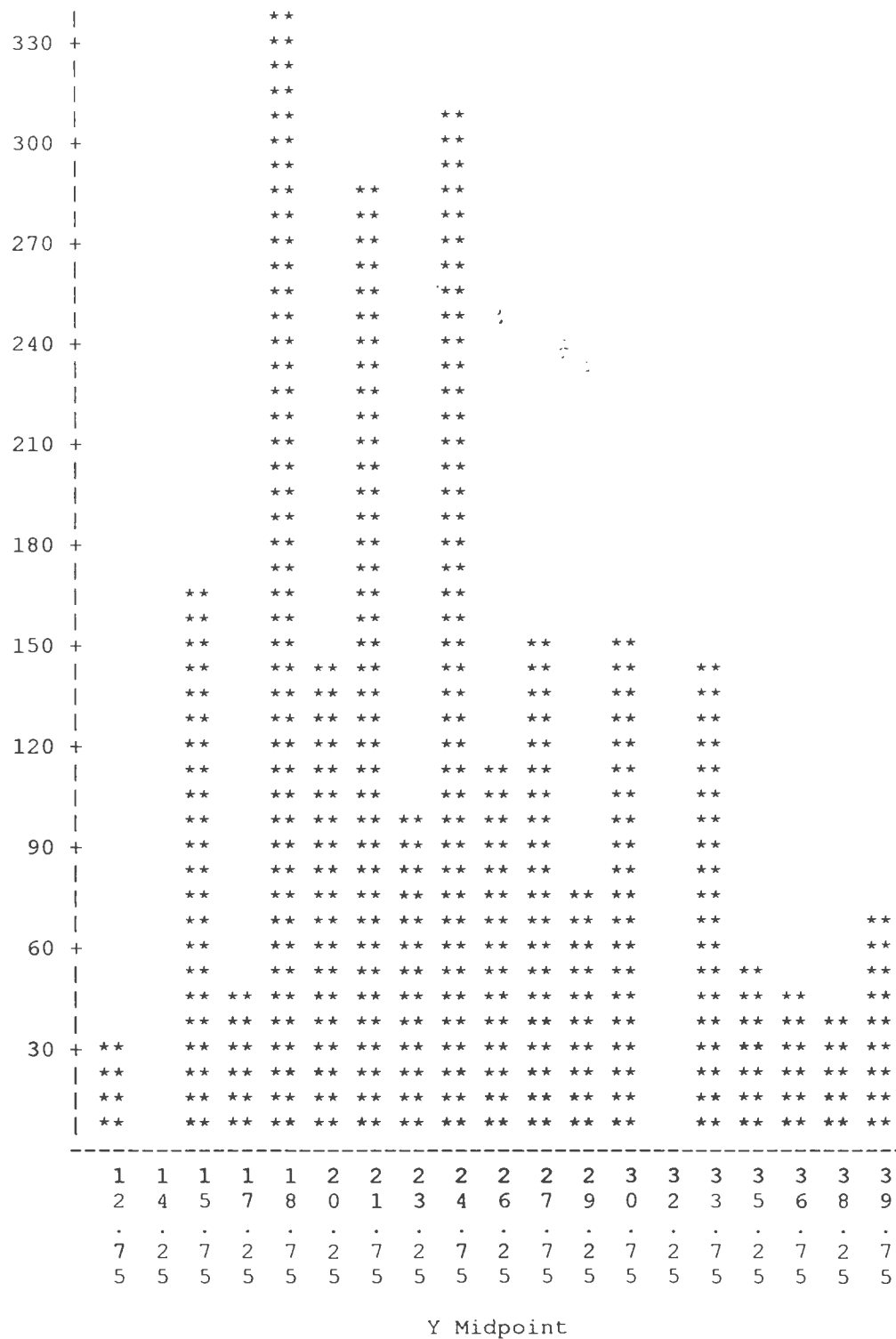
17. Plot of Vitality energy and fatigue Vs Temptation to skip Protease inhibitors for total scale

Frequency



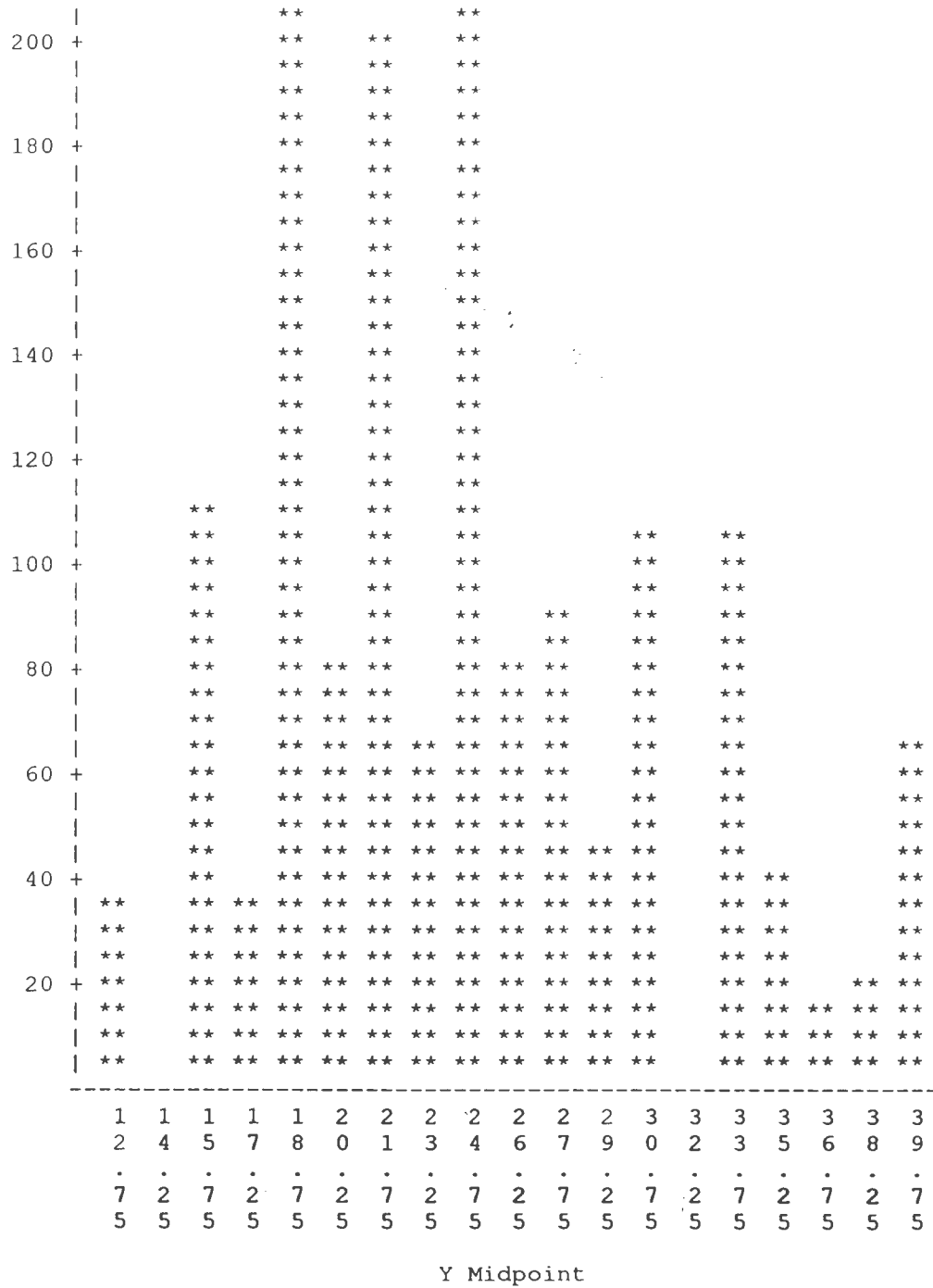
18. Plot of seek and use social support Vs Temptation to skip Protease inhibitors for total scale

Frequency



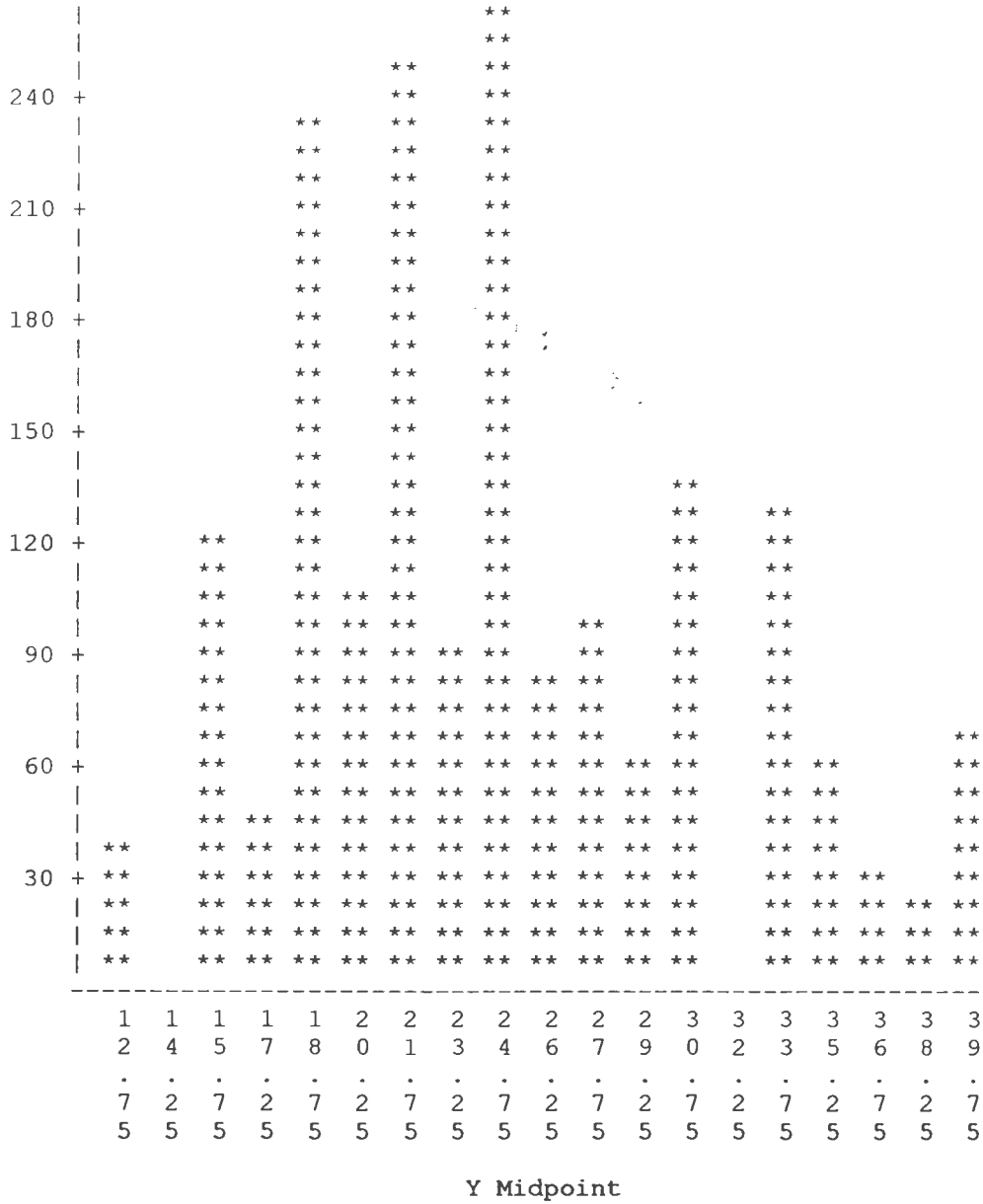
19. Plot of Behavioral escape avoidance Vs Temptation to skip Protease inhibitors for total scale

Frequency

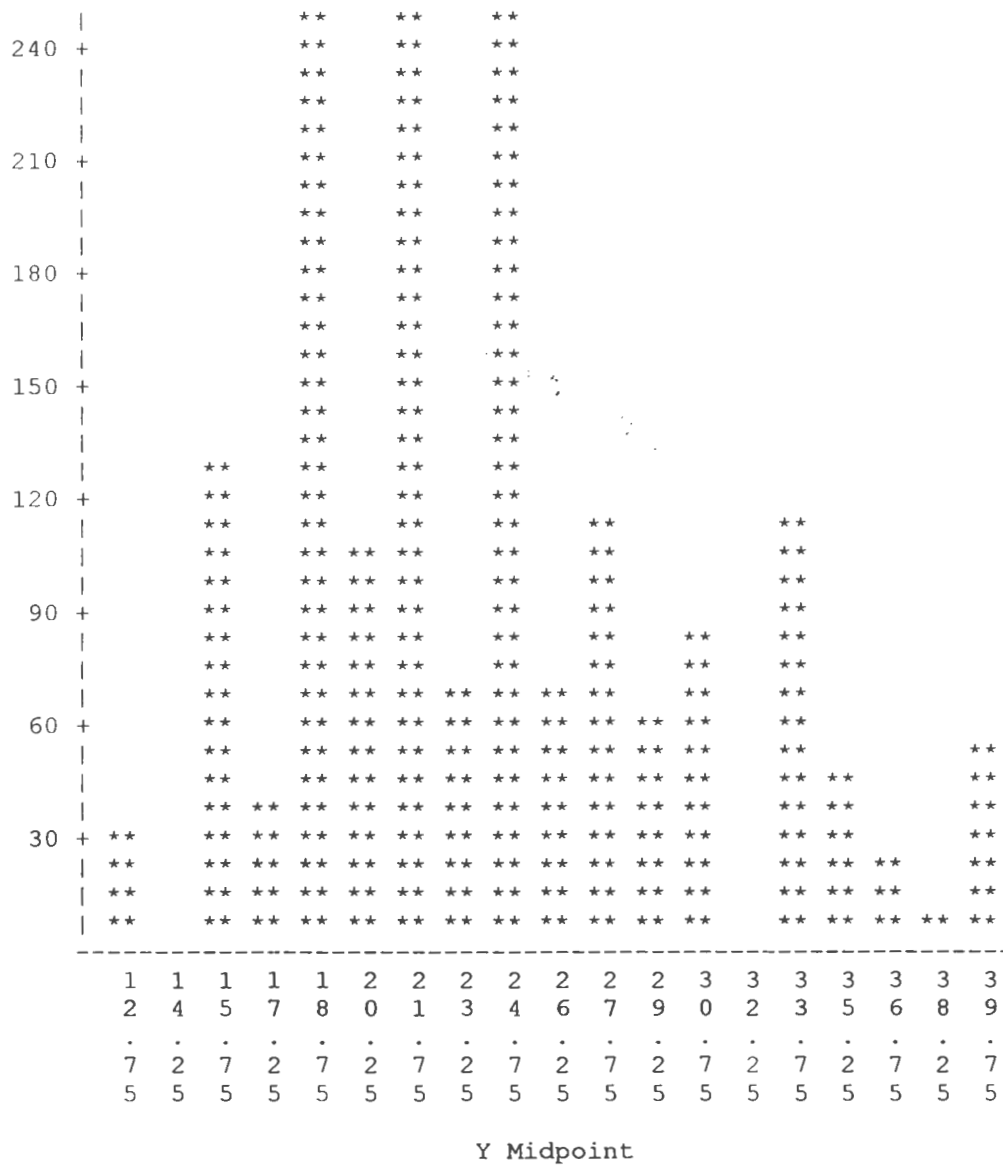


20. Plot of Cognitive escape avoidance Vs Temptation to skip Protease Inhibitors for total scale

Frequency

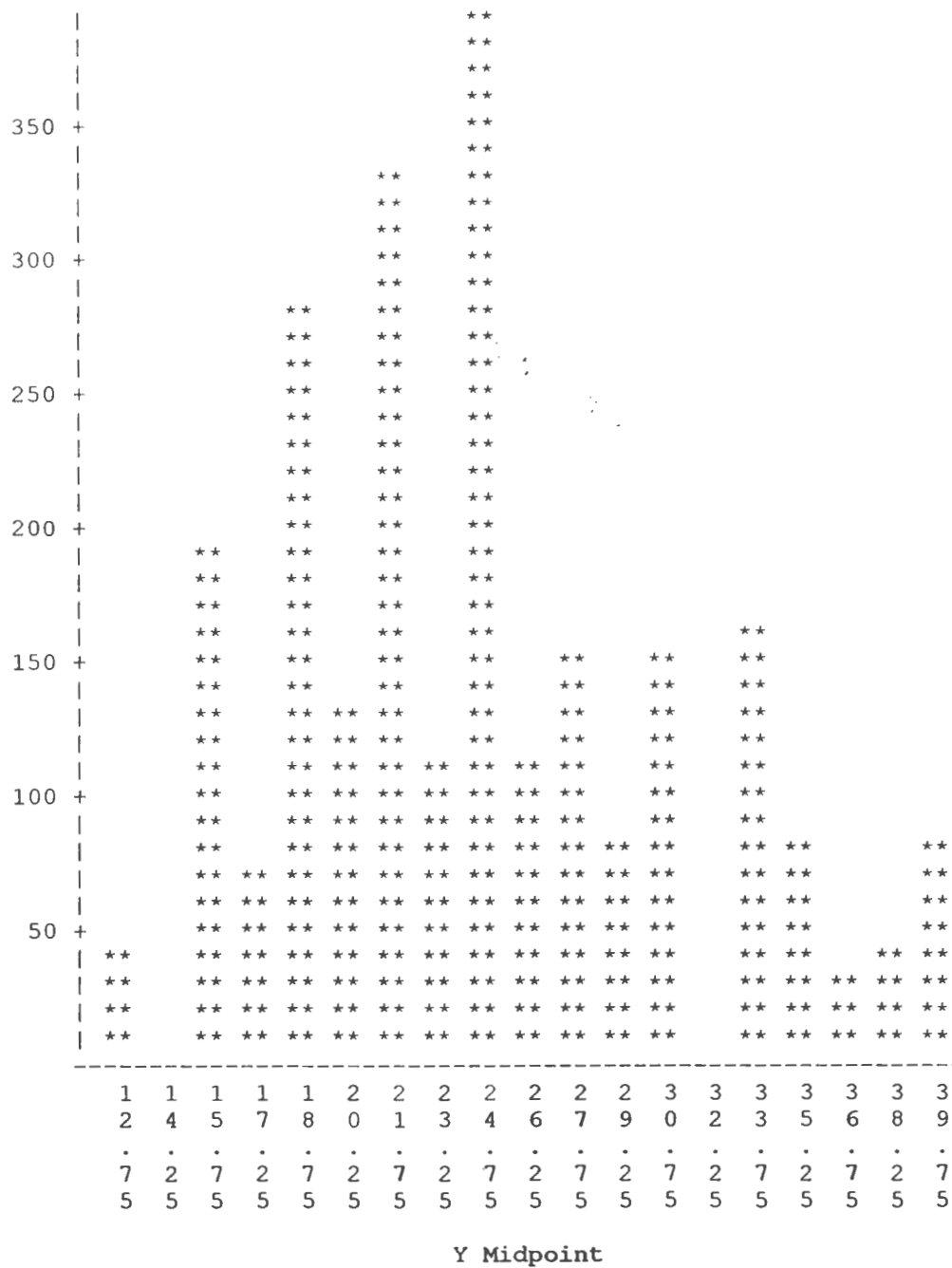


21. Plot of Focus on Positive Vs Temptation to skip Protease Inhibitors for total scale Frequency

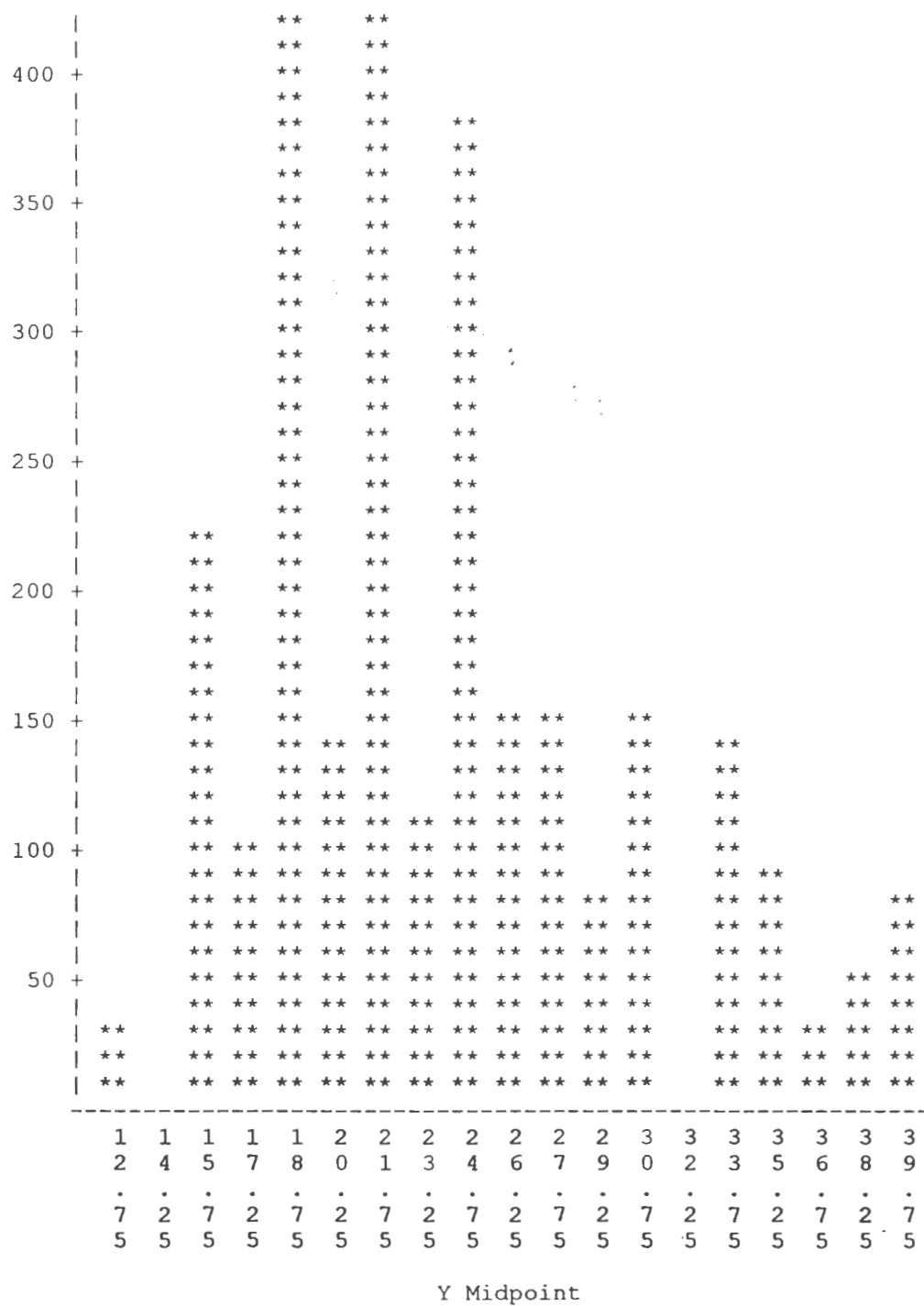




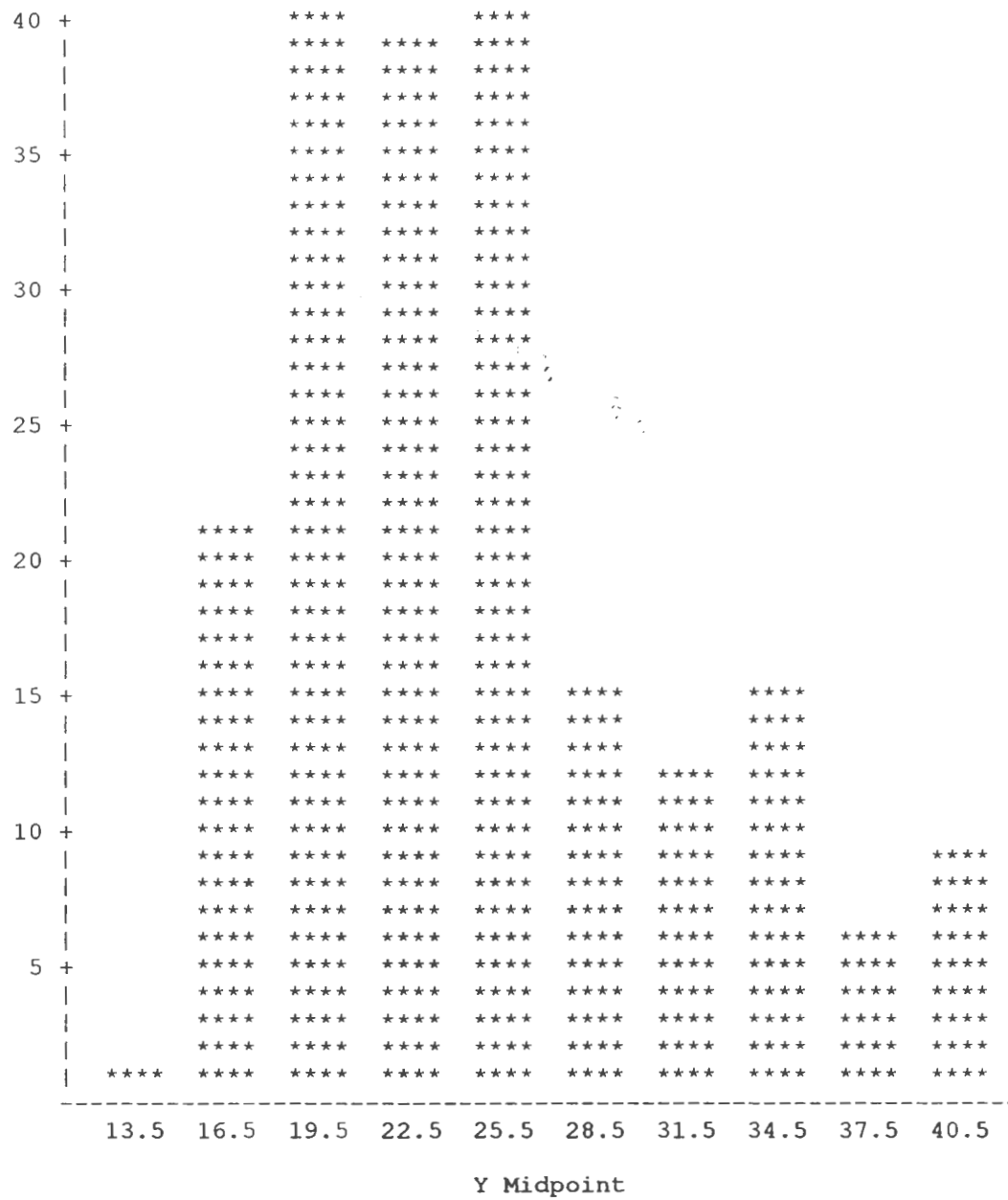
22. Plot of Distancing Vs Temptation to skip Protease inhibitor for total scale  
Frequency



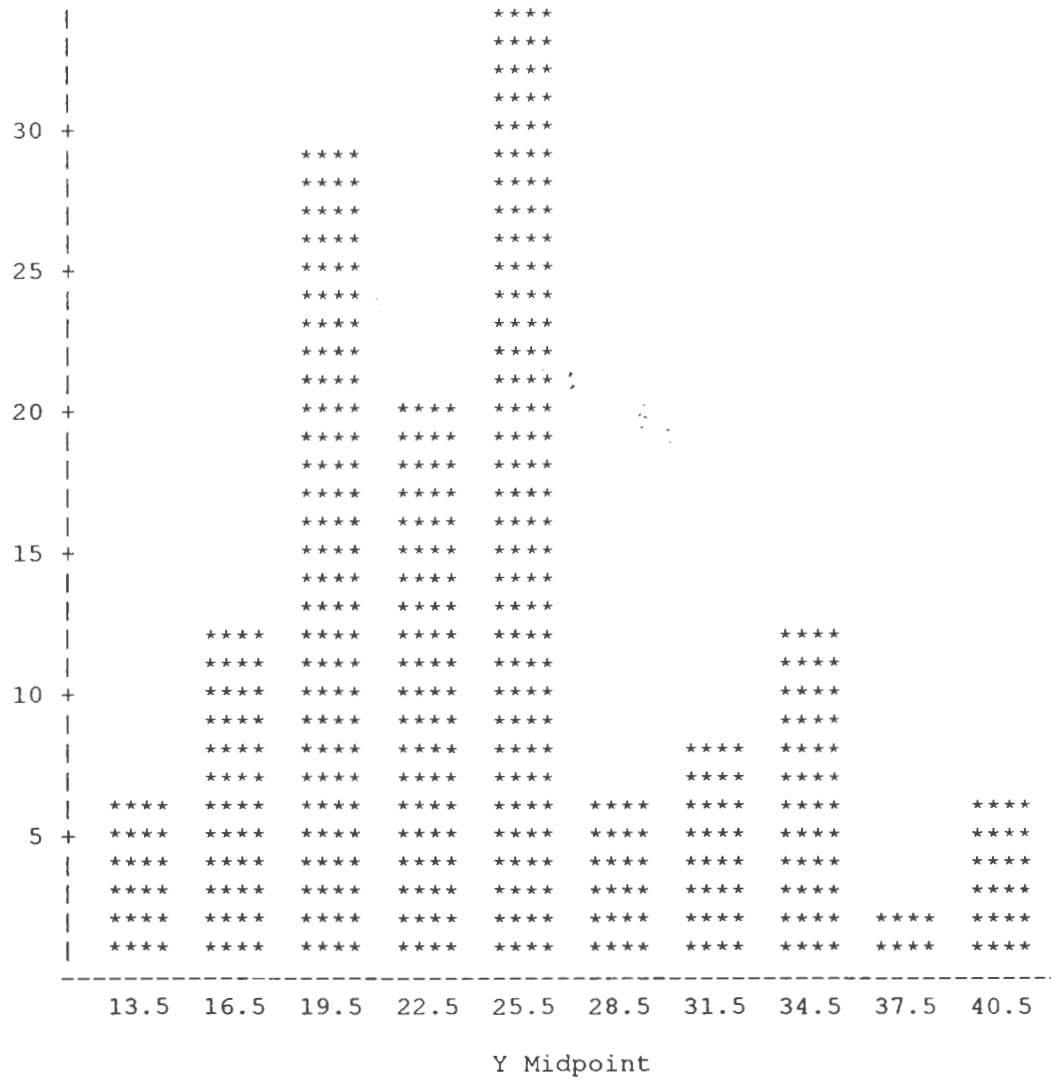
23. Plot of age Vs Temptation to skip Protease Inhibitors for total scale  
 Frequency



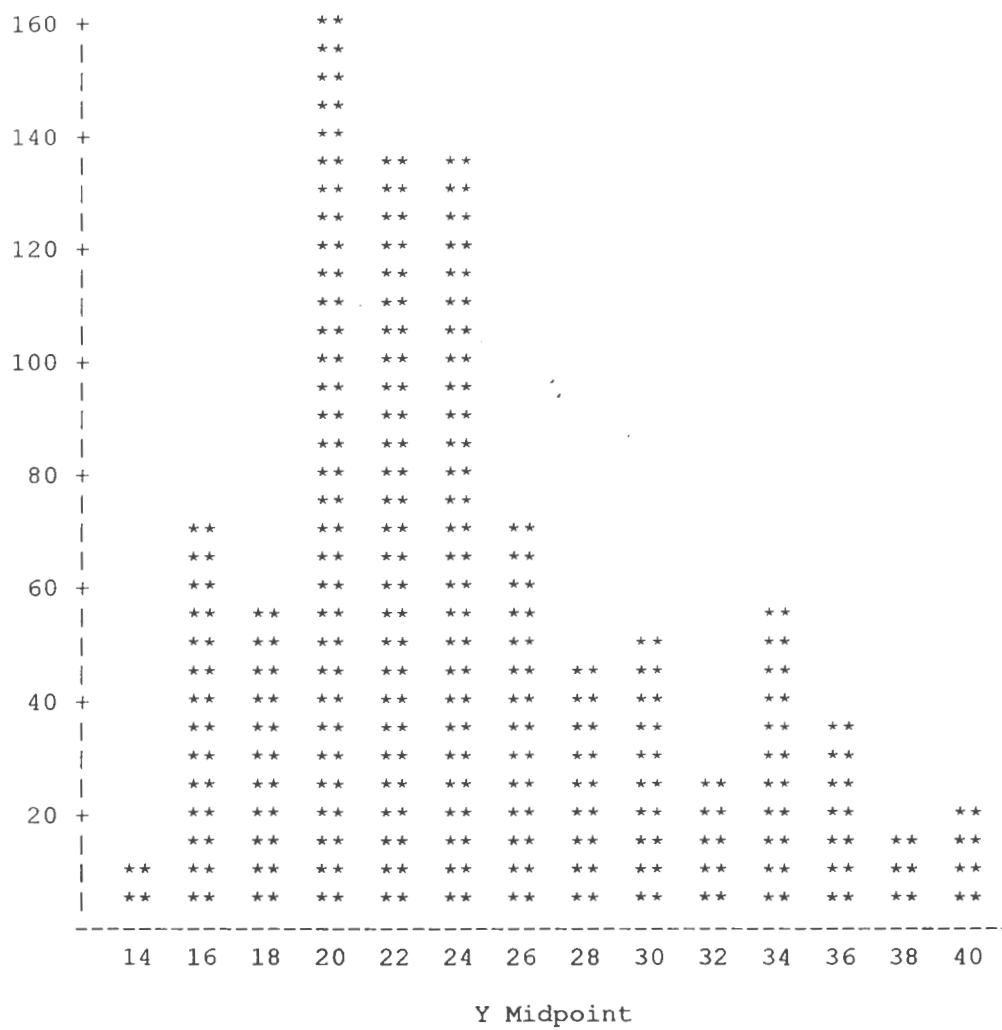
24. Plot of current health status Vs temptation to skip Protease Inhibitors for total scale  
 Frequency



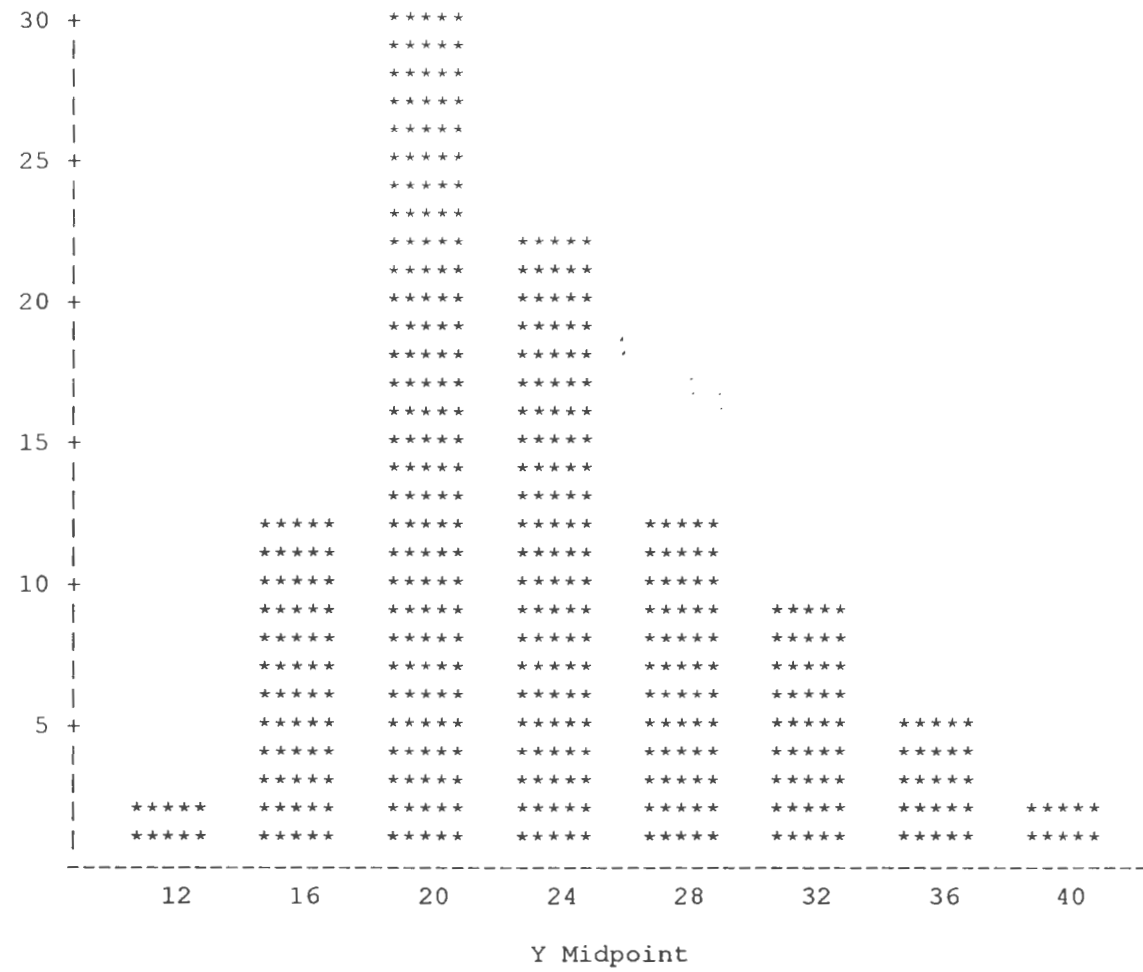
25. Plot of race Vs Temptation to skip Protease Inhibitors for total scale  
 Frequency



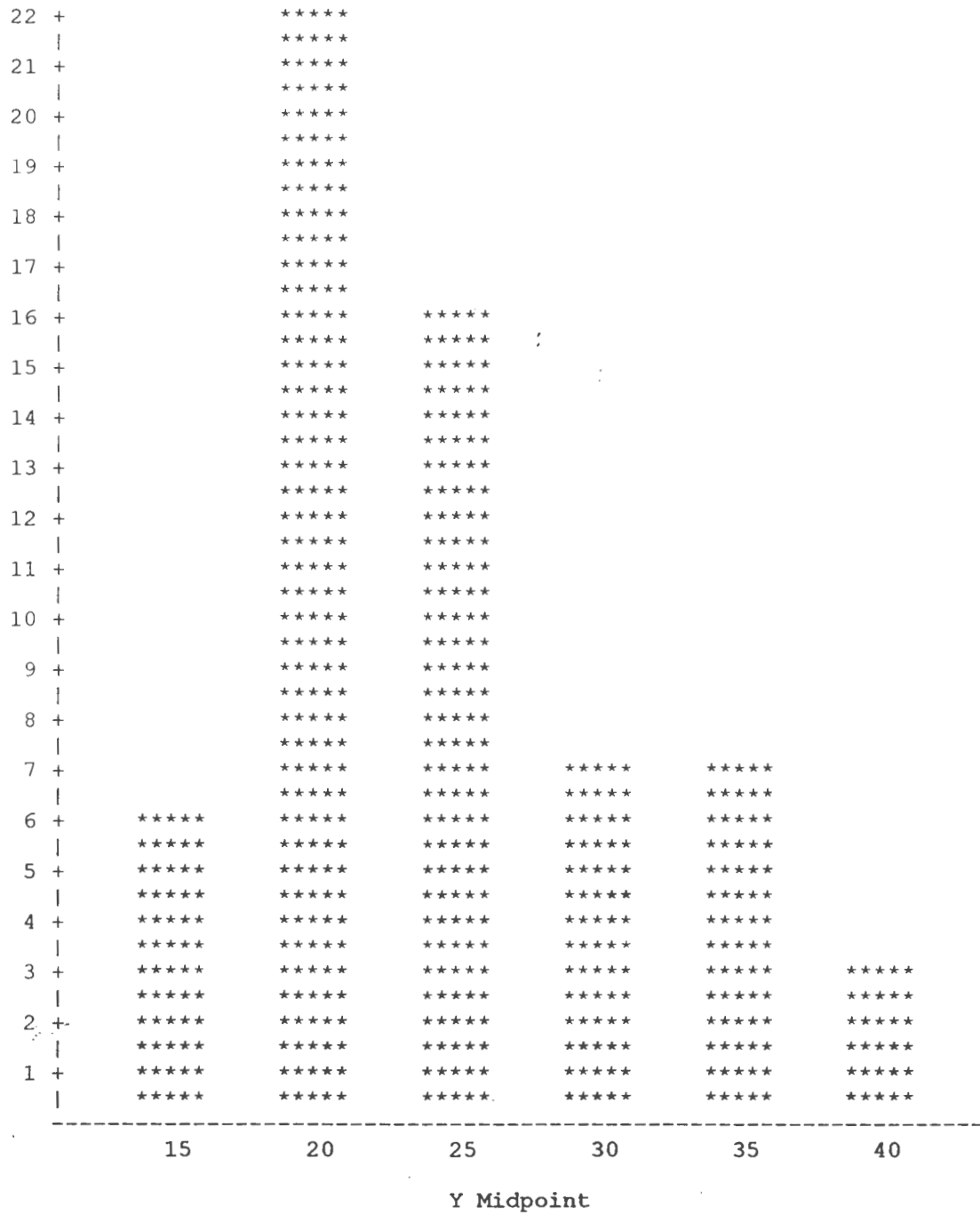
26. Years of education Vs Temptation to skip Protease Inhibitors for total scale  
 Frequency



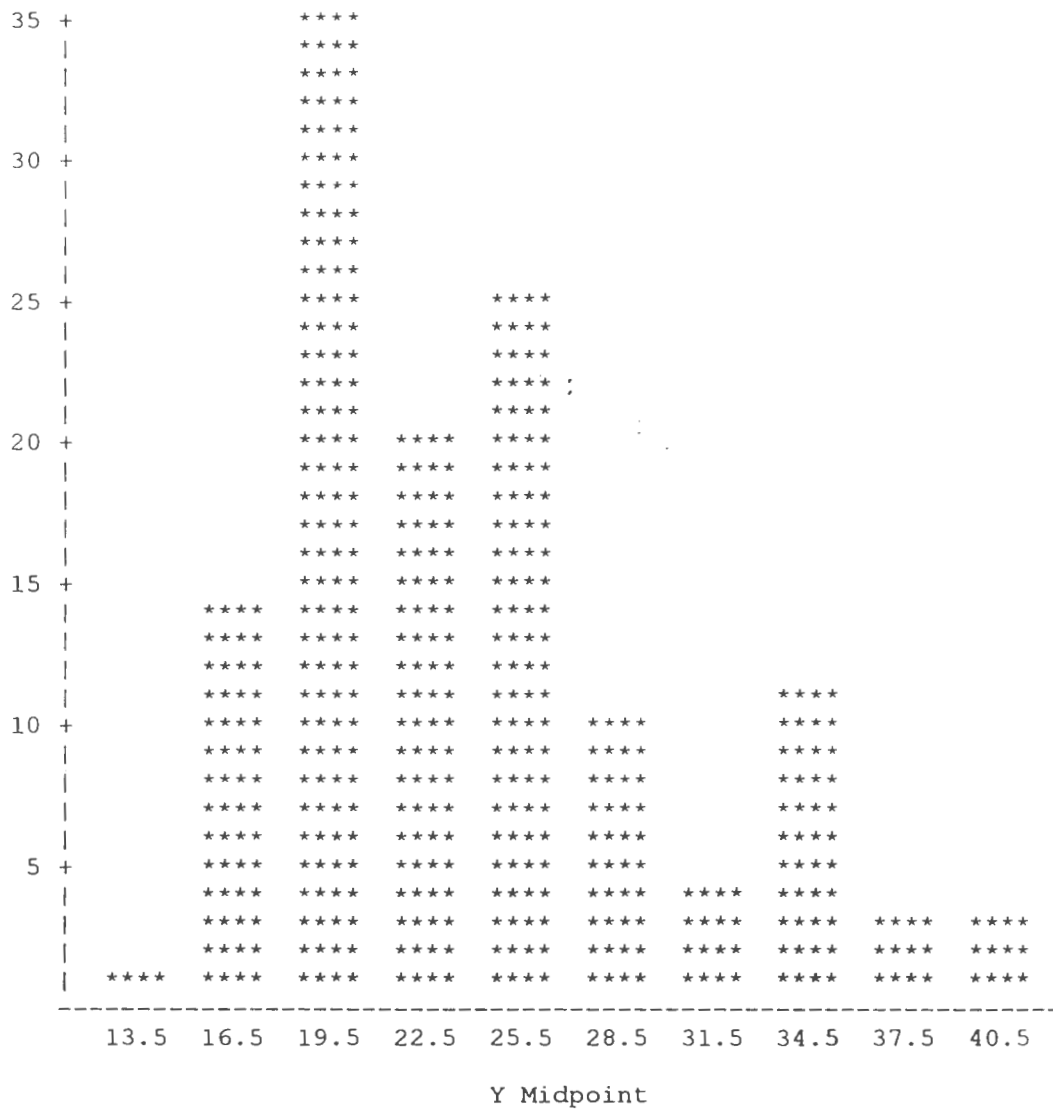
27. Number of people in household Vs Temptation to skip Protease Inhibitors for total scale  
 Frequency



28. Insurance Vs Temptation to skip Protease Inhibitors for total scale  
 Frequency

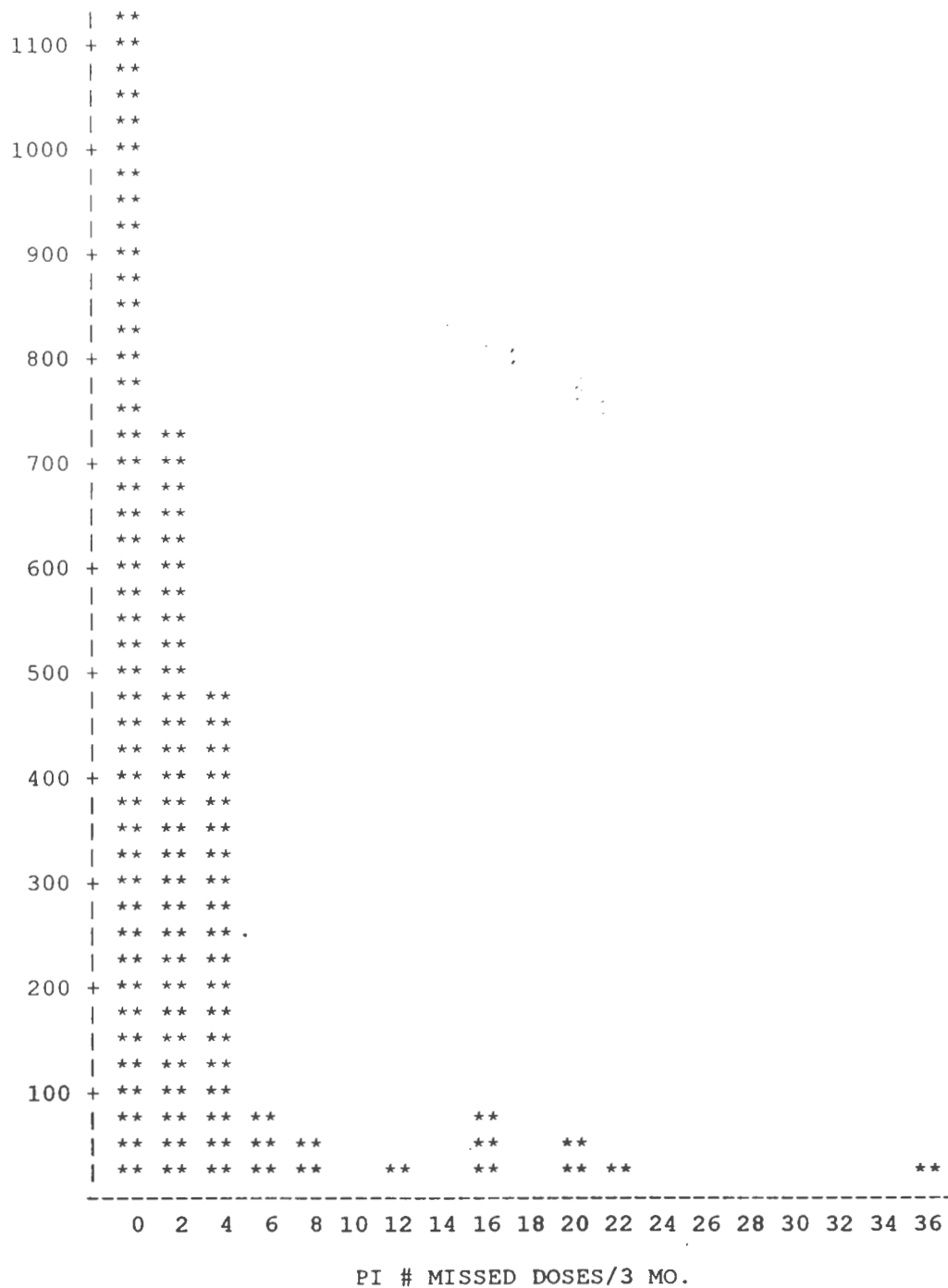


29. Income Vs Temptation to skip Protease Inhibitors for total scale  
 Frequency

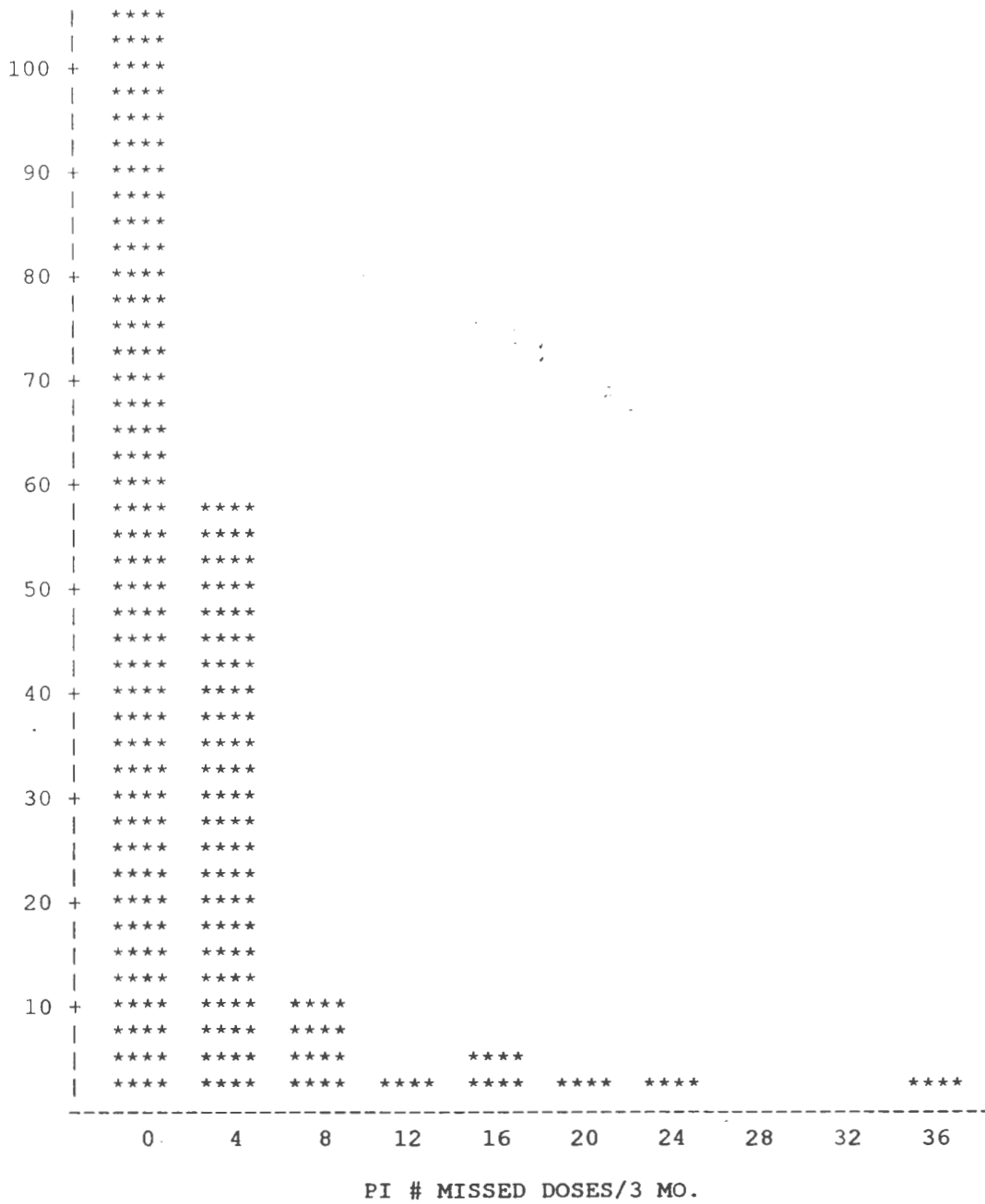




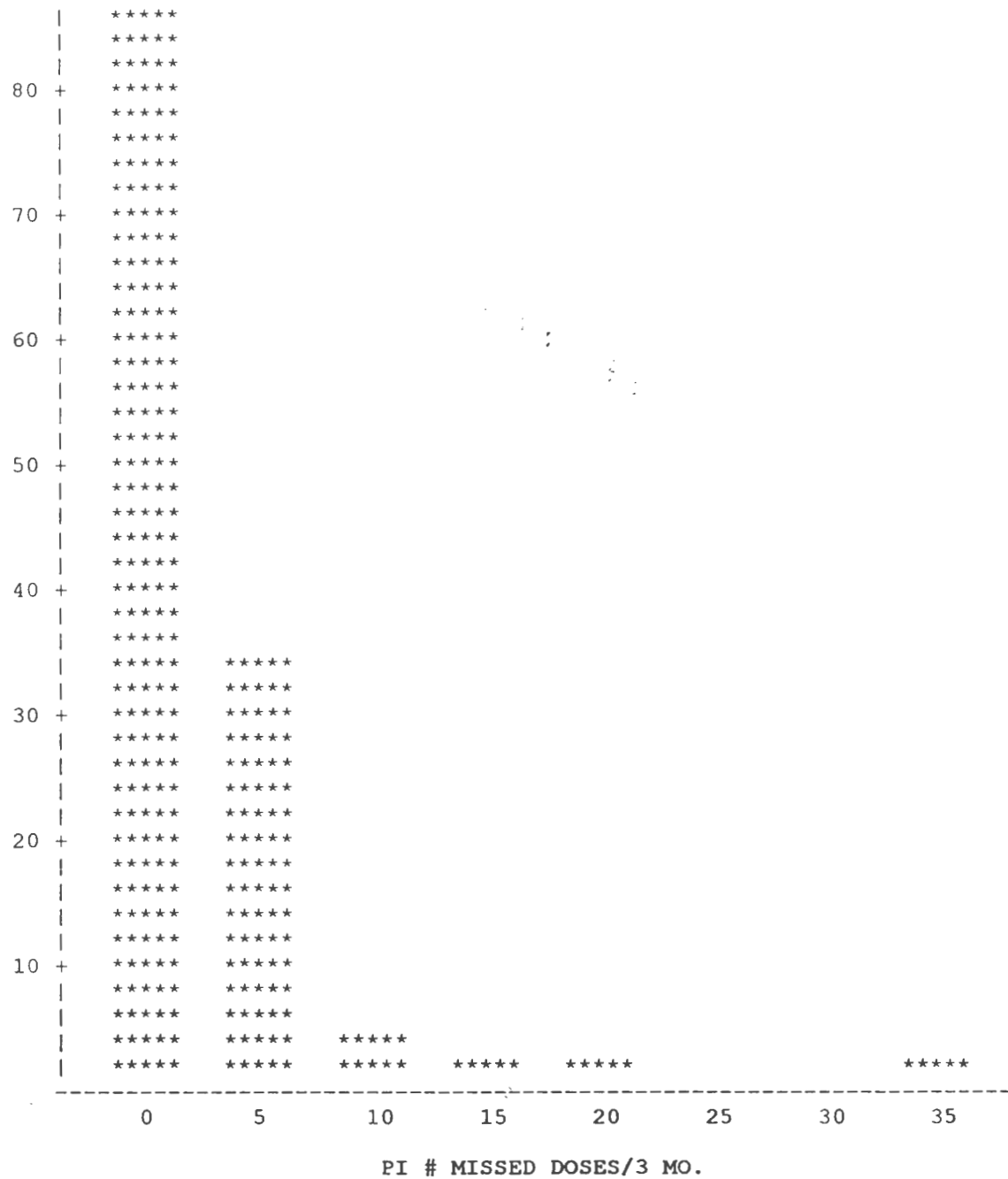
30. Age Vs # of doses missed in the past three months  
 Frequency



31. Current health Status Vs # of doses missed int he past three months  
 Frequency

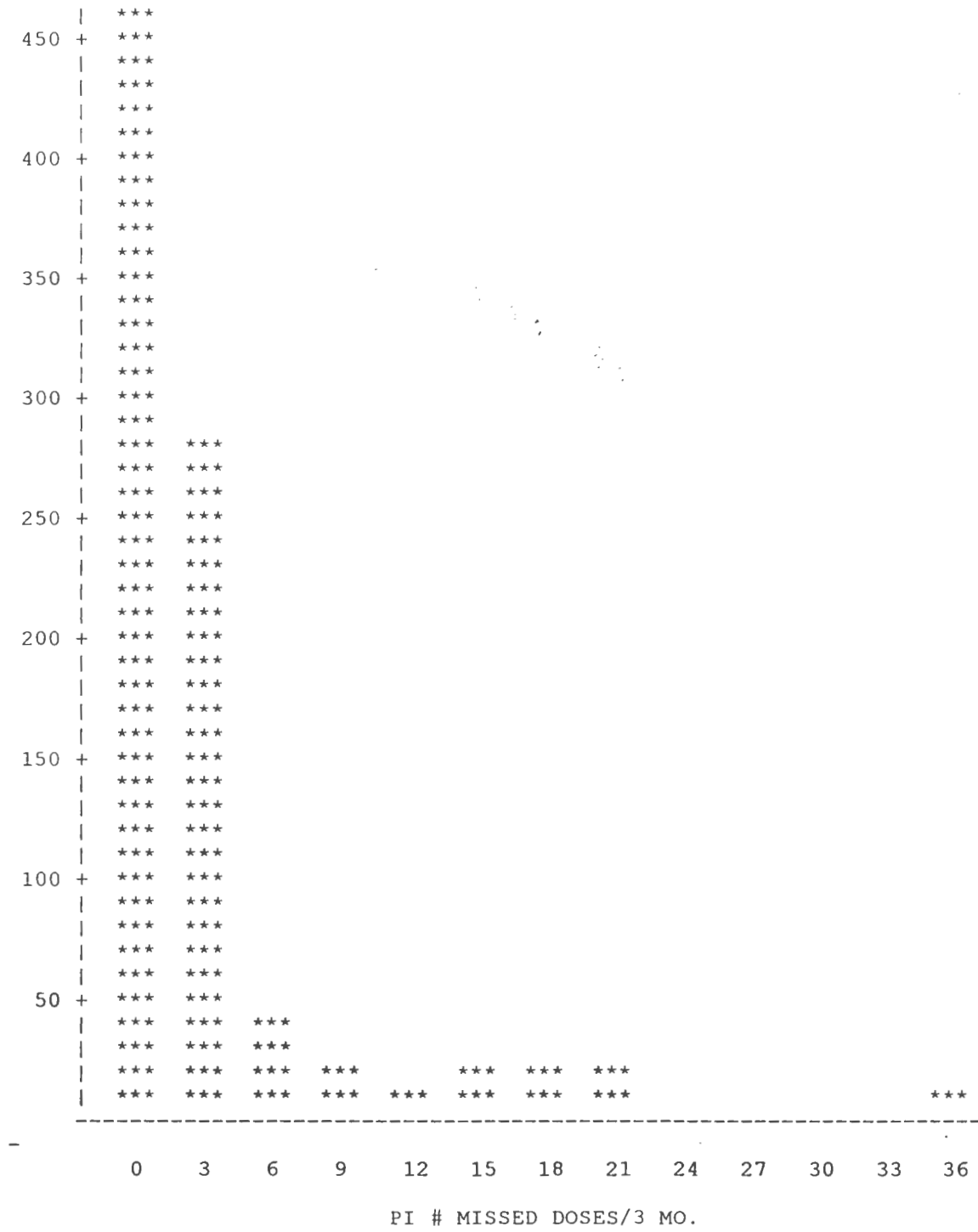


32. Race Vs # of doses missed in the past three months  
 Frequency

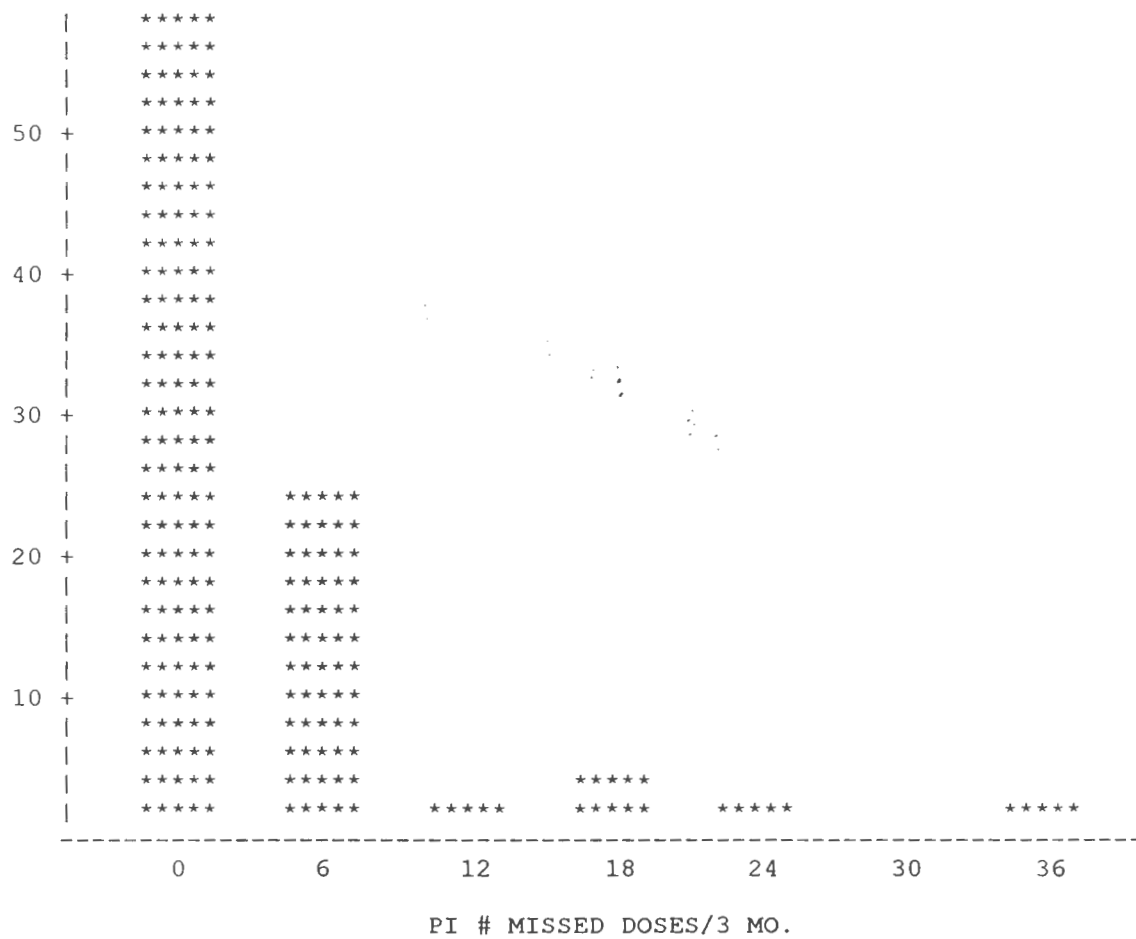


33. Years of education Vs # of doses missed in the past three months

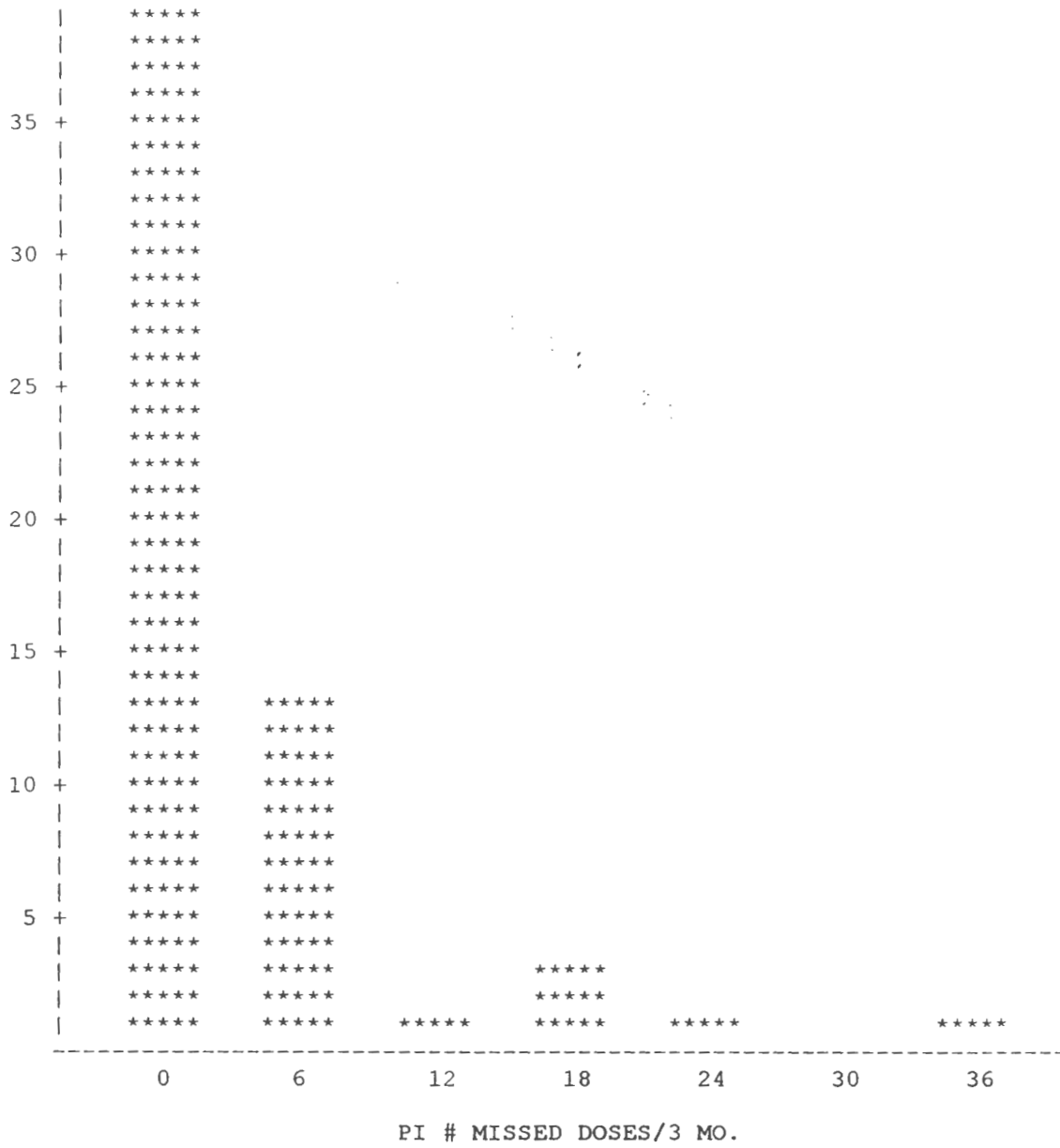
Frequency



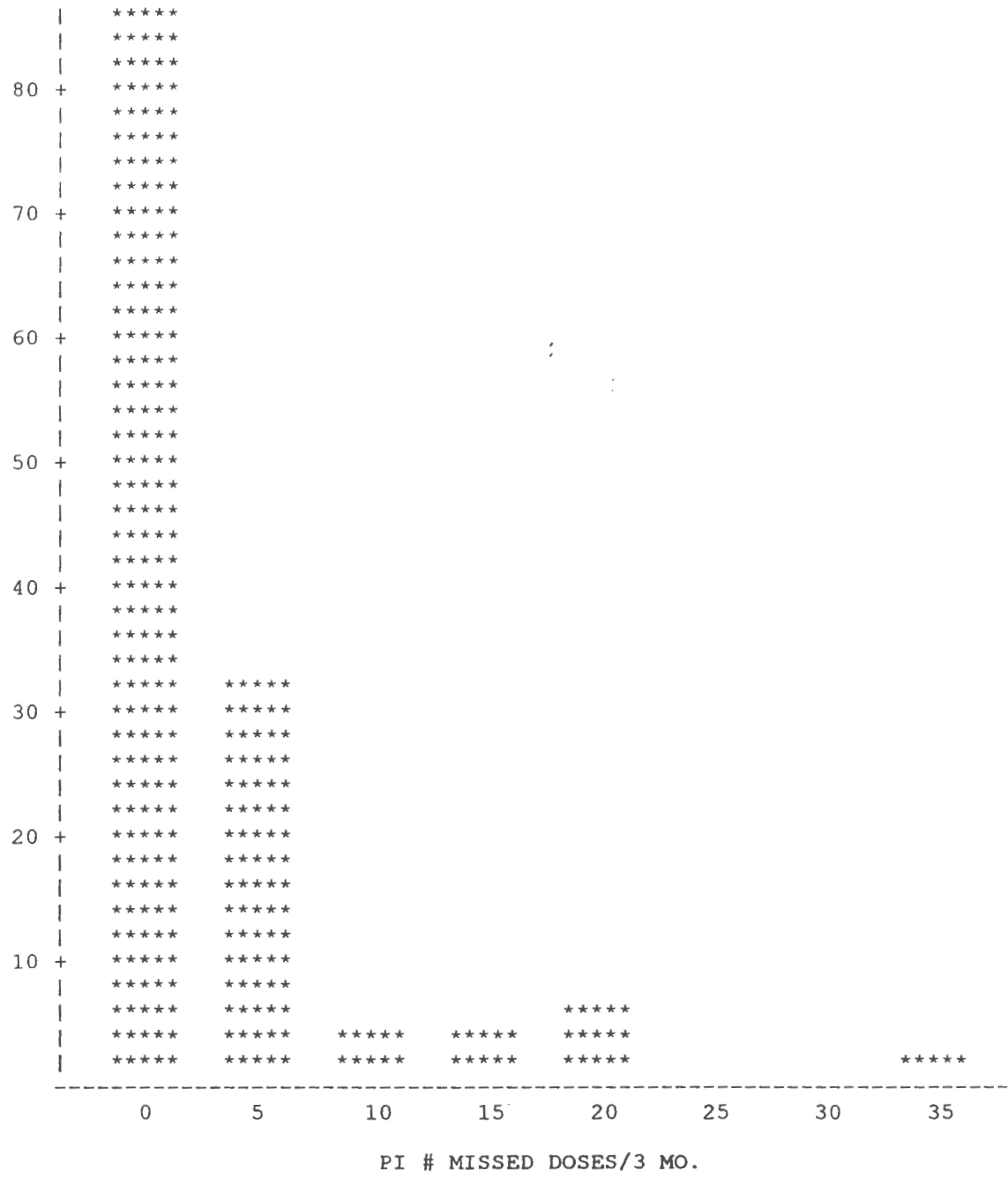
34. # of people in household Vs # of doses missed in the past three months  
 Frequency



35. Insurance Vs # of doses missed in the past three months  
 Frequency



36. Income Vs # of doses of missed in the past three months  
 Frequency



## BIBLIOGRAPHY

Baum, A., Fleming R., and Singer J., Coping with victimization by technological disaster, Journal of Social Issues, 39:117-138, 1983

Billings AG., & Moos RH., The role of coping responses and social resources in attenuating the stress of life events. Journal of Behavioral Medicine, 1:139-158, 1981

Billings AG., & Moos RH., Coping, stress, and social resources among adults with unipolar depression. Journal of Personality and Social Psychology. 46: 877-891,1984

Bayer R. and Stryker J., Ethical Challenges Posed by Clinical Progress in AIDS, American Journal of Public Health, 87: No.10, 1997.

Coons S., Martin S., . Hendricks J., Sheahan S., Robbins C., Johnson J.; Predictors of education Non compliance in a sample of older Adults, Clinical Therapeutics, 16: No.1,1994.

David L., Paul D., Stolley, Foundation of Epidemiology, 3<sup>rd</sup> Ed, 1994

Davis, MS, Variation in patients' compliance with doctors' orders: Analysis of congruence between survey responses and results of empirical observations, Journal of Medical Education 41:1037 (1966)

DeGenova M., Ways of Coping among HIV- infected Individuals, Journal of Social Psychology , 134 (5), 655-663

Dunkel-Schetter C., Feinstein L., Taylor S., Falke R., Patterns of Coping with Cancer, Health Psychology, 1992, 11 (2), 79-87

Eraker S., Kirscht J., Becker M.; Understanding and improving patient Compliance, Annals of Internal medicine,100:258-268, 1984

Evans L., Spelman M., The Problem of Non compliance with drug therapy, Drugs, Vol5 (1): 63-76, 1983

Fawzy FI., Namir S., Wolcott DL., Mitsuyasu RI., and Gottlieb MS., The relationship between medical and psychological status in newly diagnosed gay men with AIDS, Psychiatric Medicine, 7: 23-33, 1989a

Felton B., Revenson T., Coping with chronic illness: A study of illness controllability and the influence of coping strategies on psychological adjustment. Journal of Consulting and Clinical Psychology, 52:343-353, 1984



Folkman S. & Lazarus R., Gruen R., & DeLongis A., Appraisal, coping, health status, and psychological symptoms. Journal of personality and Social Psychology, 50: 571-579, 1986

Friedland G., Adherence: The Achilles Heel of Highly Active Antiretroviral Therapy, The Journal of the American Medical Association, 1997.

Frank C. Dilorio, SAS Application Programming: A gentle introduction, 1991.

Geletko S., Rana K., Improving Adherence with complicated Medication Regimens, Medicine and Health/ Rhode island, vol81, No.2, Feb 1998

German P., Compliance and Chronic disease, Hypertension; 11 (suppl II):II-56 - II-60, 1988.

Greenberg R., Overview of Patient Compliance with medication Dosing: A literature Review, Clinical Therapeutics, Vol 6, No.5, 1984

Harburg E., Blakelock E., & Reoper P., Resentful and reflective coping with arbitrary authority and blood pressure: Detroit. Psychosomatic Medicine, 41, 189-202, 1979

Haynes, RB: A critical review of the 'determinants' of patient compliance with therapeutic regimen, Sackett and Haynes (Eds) Compliance with Therapeutic Regimens, pp24-40 (John Hopkins University Press, Baltimore 1976)

Haynes, RB: Introduction, in Haynes et al. (Eds) Compliance in Health Care, pp1-7 (John Hopkins University Press, Baltimore 1976)

Heinzelman, F.: Factors in prophylaxis behavior in treating rheumatic fever, Journal on Health and Human Behavior 3:72 (1962)

Holahan CJ., & Moos RH., Personality, coping, and family resources in stress resistance: A longitudinal analysis. Journal of Personality and social Psychology, 51(2), 389-395, 1986

Holland JC., and Tross S., The psychosocial and neuropsychiatric sequele of immunodeficiency syndrome and related disorders, Annals of Internal Medicine, 103:765-767

Ian Mc Dowell and Claire Newell, Measuring Health ( a guide to rating scales and questionnaires), 1996

Insull W., The problem of Compliance to cholesterol altering therapy; Journal of Internal Medicine, 241:317-325, 1997

- Johnson, D.A.W.: A study of the use of antidepressant medication in general practice, British Journal of Psychiatry 125:186 (1974)
- Kobasa S., Commitment and coping stress resistance among lawyers. Journal of Personality and Social Psychology, 42: 707-717, 1982
- Larrat E., Risk Factors for Medication NonCompliance, 1988
- Lyman Ott, An introduction to Statistical Methods and Data Analysis, 4<sup>th</sup> Ed, 1992
- Mitchell R., Cronkite R., & Moos R., Stress, coping and depression among married couples, Journal of Abnormal Psychology, 92,433-448,1983
- Morisky DE, Green LW, Levine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. Med Care 1986; 24:67-74
- Nakan k., Coping strategies and psychological symptoms in a Japanese sample, Journal of clinical Psychology, May 1991, vol 47, No.3
- Norell S., Methods in Assessing Drug Compliance, Acta Med Scandinavia, Suppl 683: 35-40
- Nannis E., Patterson T., Semple S., Coping with HIV Disease Among Seropositive Women: Psychosocial Correlates, Women & Health, vol.25 (1) 1997
- Pearlin L., & Schooler C., The structure of coping. Journal of Health and Social Behavior, 19: 2-21, 1978
- Prien, RF and Caffey, EM Jr.: Long term maintenance drug therapy in recurrent affective illness; Current status and issues. Disease of the nervous system, 38 (12):991 (1977)
- Ross MW., & Rosser BS., Psychological issues in AIDS-related syndromes. Patient Education and Counseling, 11: 17-28, 1988
- Sherbourne C., Hays R., Ordway L., DiMatteo M., Kravitz R., Antecedents of Adherence to Medical Recommendations: Results from the Medical Outcome Study, Journal of Behavioral Medicine, Vol 15, No. 5, 1992
- Solomon GF., Psychoneuroimmunology and human immunodeficiency virus infection, Psychiatric Medicine, 7:47-57, 1985
- Tabachnick B., Using Multivariate Statistics, 3<sup>rd</sup> Ed., 1996
- Wesolowsky G., Multiple Regression and Analysis of Variance, 1976.

Zuger A., The 'Other' Drug problem: Forgetting to Take Them, New York Times,  
June 2, 1998