

# Data coding and measurement analysis in criminal justice



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If the methodological part of the research process gives holistic view of the systematic conduct of the research, the data coding and analysis parts should illuminate the accuracy of the instrumentation (King and Wincup, 2008). The coding part largely depends on the type of data, the type of analysis, and the statistical treatments (LeBlanc, n. d. ). For quantitative research, this part involves assigning numerical values to descriptive data in order to suit for statistical treatment that in turn yield numerical values with associated descriptive meanings.

Thus, the reliability and validity constructs of the instruments must be taken into consideration. Alcohol Problems and Violence Against Women Interviews were done with 447 women in the Midwestern state (Downs, 2001). Among these women, 225 were under substance abuse treatment while 222 from the safe home programs were victims of partner abuse. In addition, 39 members of staff of the treatment programs and 20 staff of the safe homes were also interviewed. As showed by Downs and Miller, men interview with battered women results to less precise data collection due to the nature of the case and questions (Downs, 2001).

Thus, all interviews were conducted by trained women. The interview questionnaire has three parts that were utilized for about a three-hour session with break time for each part (Downs, 2001). The first part delved on the childhood and adolescent experiences of the respondent while the second part tackled partner abuse and substance use. Also, the third part is a series of questionnaire indices that were self-administered (Downs, 2001).

Research Instruments Partner Abuse Scale-Non-Physical

The extent of the perceived non-physical abuse the respondents experienced either from homosexual or heterosexual dating partner and live-in partner was measured by the Partner Abuse Scale-Non-Physical, PAS-NP (Downs, 2001). This instrument has 25 items that were rated based on “None of the time” to “All of the time” seven-point scale. The PAS-NP instrument has zero to one hundred scoring points to indicate the absence and magnitude of non-physical abuse problems respectively. Nonetheless, the instrument having internal consistency coefficient, Cronbach’s alpha of 0.90 or higher, and 0.60 or higher validity coefficient is both valid and reliable (Downs, 2001).

**Partner Abuse Scale-Physical** The extent of the perceived physical abuse the respondents experienced either from homosexual or heterosexual dating partner and live-in partner was measured by the Partner Abuse Scale-Physical, PAS-PH (Downs, 2001). This instrument has 25 items that were rated based on “None of the time” to “All of the time” seven-point scale. The PAS-PH instrument has zero to one hundred scoring points to indicate the absence and magnitude of physical abuse problems respectively.

Also, the instrument having internal consistency coefficient, Cronbach’s alpha of 0.90 or higher, and 0.60 or higher validity coefficient is both valid and reliable (Downs, 2001). **Physical Abuse of Partner** The extent of the perceived physical abuse the respondents inflicted either to homosexual or heterosexual dating partner and live-in partner was measured by the Partner Abuse Scale-Physical, PAS-PH (Downs, 2001). This instrument has 25 items that were rated based on “None of the time” to “All of the time” seven-point scale.

The PAPS instrument has zero to one hundred scoring points to indicate the absence and magnitude of physical abuse problems respectively. Also, the instrument having internal consistency coefficient, Cronbach's alpha of 0.90 or higher, and 0.60 or higher validity coefficient is both valid and reliable (Downs, 2001). Abusive Behavior Inventory The frequency of abusive behaviors for the past six months was assessed using the Abusive Behavior Inventory, ABI (Downs, 2001). This instrument has 30 items that were rated based on a five-point Likert scale.

The ten items in ABI instrument were intended for physical assault measurement while the remaining items were designed for psychological assessment (Downs, 2001). However, unlike the Conflict Tactics Scale, CTS, the violence as a means of resolving conflicts was not taken into consideration in ABI instrument. Nevertheless, ABI instrument has high alpha coefficients for both internal consistency reliability and validity (Downs, 2001). Index of Marital Satisfaction The severity of the problems that the respondent has experienced with a partner was evaluated by the Index of Marital Satisfaction, IMS (Downs, 2001).

This instrument has 25 items that were rated based on "None of the time" to "All of the time" seven-point scale. The IMS instrument has zero to one hundred scoring points to indicate the absence and magnitude of the problems respectively. Also, the instrument having internal consistency coefficient, Cronbach's alpha of 0.90 or higher, and 0.60 or higher validity coefficient is both valid and reliable (Downs, 2001). Parent-Child Conflict Tactics Scales The assessment of parental behavior in terms of children's

committed mistakes was done through the Parent-Child Conflict Tactics Scales, CTSPC (Downs, 2001).

This instrument has 22 items under five subscales. Four items were designed each for Non-violent discipline, severe physical assault and very severe physical assault subscales while the minor physical assault and psychological aggression have five items each. Moreover, the CTSPC is a very efficient psychometric instrument in determining maltreatment in children (Downs, 2001). Beck Anxiety Inventory The magnitude of self-reported anxiety was assessed by means of Beck Anxiety Inventory, BAI (Downs, 2001).

This instrument, developed through adult psychiatric outpatients, has 21 items that were rated based on four-point scale ranging from zero to three values with respective descriptions. The BAI instruments also have above 0.90 internal consistency reliability coefficients and acceptable construct validity (Downs, 2001). Beck Depression Inventory The determination of the possible psychiatric disorder was done through the revised Beck Depression Inventory, BDI (Downs, 2001). This instrument has 21 items that were rated based on a four-point scale.

The BDI has high mean internal reliability coefficients for psychiatric (0.86), non-psychiatric (0.81) and alcoholic (0.90) respondents (Downs, 2001). As such, the internal consistency reliability and discriminant validity of the instruments were excellent. Trauma Symptom Checklist-40 The possible behavioral traits resulted from traumatic experiences were evaluated using the Trauma Symptom Checklist-40, TSC-40 (Downs, 2001). 40 items of the instruments were rated from zero to three based on sexual abuse trauma

index, anxiety, sleep disturbance, dissociation, sexual problems and depression subscales.

The TSC-40 instrument has good Cronbach's alpha value indicating its predictive validity with respect to traumatic experiences (Downs, 2001).

**Index of Self Esteem** The possible decline in the respondents' self-esteem was assessed by means of the Index of Self Esteem, ISE (Downs, 2001). This instrument has 25 items that were rated based on "None of the time" to "All of the time" seven-point scale. The ISE instrument has zero to one hundred scoring points to indicate the absence and magnitude of self-esteem related problems respectively.

While below and above the score of 30 indicates the absence and presence of self-esteem problems respectively, the above 70 score is an indication of severe problem (Downs, 2001). **Index of Alcohol Involvement** The severity of alcohol abuse was evaluated by means of the Index of Alcohol Involvement, IAI (Downs, 2001). The instrument has twenty five items that were rated based on "None of the time" to "All of the time" seven-point scale. The IAI instrument has zero to one hundred scoring points to indicate the absence and magnitude of self-esteem related problems respectively.

Also, the instrument has a high Cronbach's alpha and greater than or equal to 0.60 validity coefficients (Downs, 2001). **Index of Drug Involvement** The extent of substance abuse of the respondents was determined through the Index of Drug Involvement, IDI (Downs, 2001). This instrument has 25 items that were rated based on "None of the time" to "All of the time" seven-point scale. The IDI instrument has zero to one hundred scoring points to

indicate the absence and magnitude of self-esteem related problems respectively.

Also, the instrument has a high Cronbach's alpha and greater than or equal to 0.60 validity coefficients (Downs, 2001). Research Instruments' Reliability and Validity Constructs In the first part of the interview, the Parent-Child Conflict Tactics Scales or CTSPC, were utilized in the assessment of the experienced childhood violence. The CTSPC is a flexible instrument for it has Non-Violent Discipline, Minor Physical Assault, Severe Physical Assault, Very Severe Physical Assault, and Psychological Aggression subscales that intended to measure the extent of violence (Downs, 2001).

Separate subscales for mother's and father's abuses were provided that through dichotomized response one and zero for the occurrence and non-occurrence of the item, the prevalence subscales can be prepared. By adding the midpoints of the selected response for each item in a category, the chronicity subscales can be determined (Downs, 2001). In addition, the summation of dichotomized items can be done for every item in the subscale that singly occurred resulting to breadth subscale. Sexual abuse experiences were also determined by the instrument through the Sexual Abuse subscale (Downs, 2001).

The instrument-determined violent experiences in the list were asked to the respondents. Based on their choices prevalence, chronicity, and breadth subscales were made for both mother and father-caused violence. The response " 7" which has the description " not in the typical year, but it happened before" was equated with " once in the typical year" or as " never happened" (Downs, 2001). In addition, dichotomized responses, one for <https://assignbuster.com/data-coding-and-measurement-analysis-in-criminal-justice/>

occurrence and zero for non-occurrence, were made for Sexual Abuse Subscale (Downs, 2001).

The internal reliability consistency for each subscale was calculated and compared with the coefficients recommended by others research studies. Moreover, the coefficients for the internal consistency of chronicity subscales based on father or mother-caused violence for respondents from drug abuse treatment program and safe home program, separately and entirely, were computed.

In line with these, three of the five computed coefficients based on mother-caused violence from substance treatment group were all greater than 0. 50 levels while the coefficients for safe home respondents range from 0. 60 to 0. 87 levels (Downs, 2001). Only a single coefficient for father-caused violence from safe home group was lower than 0. 60 levels while a very low coefficient, 0. 29, for severe physical abuse was observed with the group under substance treatment (Downs, 2001). On the other hand, the breadth scales internal consistency reliability coefficients were computed through Kuder-Richardson-20 formula. One coefficient lower than 0. 60 level was both observed for substance treatment and safe home groups (Downs, 2001).

Meanwhile, the chronicity Pearson-correlation coefficients computed for both father and mother-caused violence related factors showed above diagonal coefficients for safe home group and below diagonal coefficients for the group receiving substance abuse treatment. The computed Pearson-correlation coefficients for breadth subscales have similar results for both groups (Downs, 2001). The second part of the interview was mostly <https://assignbuster.com/data-coding-and-measurement-analysis-in-criminal-justice/>



consisted of open-ended questions intended to survey the adulthood experiences of the respondents.

There were four sets of questions; the first three sets delved on the most recent experience of violence including verbal conflict, conflict-provoked violence, and the most severe violence for the respondent while the last set focused on the past partner-related violence (Downs, 2001). The Comprehensive International Diagnostic Interview, CIDI, was utilized to diagnose alcohol use and lifetime violence experiences (Downs, 2001). In this instrument, the respondent's demographic attributes, substance abuse and lifetime victimization, and alcohol and drug use of their partners were evaluated.

For the third part, self-administered questionnaires on partner abuse, alcohol and drug use, and mental health were given to the respondents (Downs, 2001). Having no partner for the past six months, they were classified as having no partner abuse. Women were given independence to respond based on they considered partner-relationship. They were instructed to categorize their responses based on: on their present partner; partner within six months if separated; and no response for those singly living for the past six months (Downs, 2001).

The Abusive Behavior Inventory, ABI-Physical, ABI, and Abusive Behavior Inventory-Psychological were chosen to evaluate partner abuse (Downs, 2001). While the ABI scales are limited for the past six months, the other scales including Partner Abuse Scale, PAS-Physical and Partner Abuse Scale, PAS-Nonphysical were intended for the partner-abuse within the past six months and for the whole duration of their relationship (Downs, 2001).

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The Index of Marital Satisfaction, IMS, was utilized in the evaluation of respondent's' satisfaction with their respective partners while the Index of Alcohol Involvement, IAI, and the Index of Drug Involvement, IDI, were used in the assessment of the respondents' self-reported substance use (Downs, 2001). In this part, the substance treatment group was advised to fill out both IAI and IDI based on their experiences before receiving the treatment. In the evaluation of the mental health status the Beck Anxiety Inventory, Beck Depression Inventory, Index of Self-Esteem, and Trauma Symptom Checklist, TSC-40 were utilized.

The TSC-40 instrument has six subscales that assess anxiety, sleep disturbance, sexual abuse trauma, depression, sexual dysfunction, and dissociation (Downs, 2001). The computed internal reliability coefficients for all partner abuse scales and IMS were all above 0.90 levels except for PAS coefficient of the substance treatment group (Downs, 2001). Also, the IAI, IDI, and mental health scales computed internal reliability coefficients were all above 0.90 with the exception of the substance treatment group Beck Depression Inventory (Downs, 2001).

As compared with the other scales, the Trauma Symptom Checklist has fewer items and lower coefficient values ranged from 0.75 to 0.85 only (Downs, 2001). Analysis and Conclusion In the Alcohol Problems and Violence Against Women Final Report, all utilized instruments have been reported with an excellent internal consistency reliability and validity construct. In addition, the foreseen limitation of one instrument was remedied and supplemented through the use of similar instrument.

For instance, since the violence in context with the resolution of conflict was not accounted by the ABI, this limitation was resolved by means of Parent-Child Conflict Tactics Scales. Hence, we may conclude that the tested hypotheses and the results of this study were logically accurate. However, in terms of data presentation, only tabular approach was utilized. It could be more facilitative to the readers if graphical presentation of data on demographic attributes, different psycho-sociological measures, and correlations were also presented graphically.