1. The participant sample for my study will consist entirely of Texas State University undergraduate students. It is expected that the majority of these students will be undergraduate psychology majors, or at least students enrolled in an undergraduate psychology course. The reason for this sample is that previous research has shown undergraduate college students to be an at risk population for high rates of alcohol consumption, which is the main focus of the study. Participants will range in age from 18-24. The reason for this restriction in age is that the majority of the research that this study is based upon limited sampling to this age group. It is unclear whether or not allowing nontraditional students to participate in the study would influence the validity of the results, as older more mature students may be less likely to drink alcohol due to family or other social responsibilities. Students will also be required to associate themselves with some religious organization. Therefore, students identifying as atheist or agnostics will not be included in the study.
2. Participants will be recruited from undergraduate psychology classrooms. After contacting several professors within the psychology department, I have been invited to recruit students from their classes for my study. Recruitment will consist of me entering a classroom, giving a brief overview of the purpose of my study, and then asking participants to use a sign-up sheet with designated times where they will be asked to meet me to fill out study questionnaires. Potential participants will be made aware that I am interested in how social norms, religious beliefs, and personality traits affect drinking levels in college students. Students who agree to participate in the study will be asked to sign a consent form before completing the questionnaires. They will do so at their assigned times as indicated by the sign-up sheet.
3. The purpose of the proposed study is to lend clarity to the question of which factors uniquely account for a significant proportion of the variance in regards to alcohol consumption and substance abuse. Additionally, the study seeks to lend support for the position that a redefined and standardized way of measuring normative beliefs needs to be implemented in norm related research. This section provides an overview of the methodology of the study, and lays out in a detailed fashion how the study is to be conducted and how the resulting data will be analyzed. The following sections are contained: research perspective and design, research questions and hypotheses, participants, research variables, research instruments, data collection procedures, statistical analysis, bias and error, validity and reliability, and a chapter summary.

Research Perspective and Design

The proposed study will implement a multivariate regression analysis procedure. Multivariate analysis allows the researcher to enter predictor variables into a proposed model one factor at a time to determine whether or not a significant proportion of unique variance is accounted for by each variable. Keeping in mind that this study seeks to determine which factors account for the high rates of alcohol consumption displayed by college students, it would be neither practical nor ethical to implement a between-subjects experimental design and then implement a separate predictor variable to each group. In fact, in the case of certain inherent factors such as personality or religious orientation, this would prove impossible. Therefore, in order to account for all of the variables in question, and avoid inflicting unnecessary harm on the participants, the study must rely on a regression analysis.

Data collection for this study will be a fairly simple procedure, as participants will be recording all of the data for the study themselves, as they complete a number of questionnaires. Additionally, because the study will rely solely on self-report data taken from surveys, multiple participants can be tested at once. Once all participants have completed their surveys, each participant, as well as their corresponding surveys, will be number coded and participant names will be removed from the surveys. This will help to insure confidentiality. All collected data will be analyzed by the researcher using a multivariate-regression analysis. This method of analysis is appropriate, because I am seeking to determine which of a number of different predictor variables account for a unique proportion of the variance in regards to the dependent variable in question, alcohol consumption.

Research Questions and Hypotheses

At this point, it may be helpful to review the research questions and corresponding hypotheses for the proposed study. The most prominent question that this study seeks to answer is which factors account for a unique proportion of the variance in regards to alcohol consumption in college students. A secondary question asks whether or not including a measure of personal norms will account for a unique proportion of the variance aside from that already accounted for by injunctive norms and descriptive norms.

In regards to these questions, the researcher predicts that personal norms will account for a larger percentage of unique variance in regards to alcohol consumption than will any other predictor variables. The researcher also predicts that an overall measure of religiosity will account for the second largest percentage of unique variance. Finally, the researcher predicts that a large overlap in variance accounted for will occur between the predictor variables of religious orientation, injunctive norms, and descriptive norms. Furthermore, individuals scoring high in intrinsic religious orientation will also rely heavily on injunctive norms when deciding whether or not to drink alcohol. On the other hand, individuals scoring high in extrinsic religious orientation will be found to rely more heavily on descriptive norms when deciding whether or not to drink alcohol.

Participants

For this study, participants will be recruited from a population of college students from a large southwest state college. While this would serve as a convenience sample for a majority of studies, this sample is actually particularly well suited for this study, because the population in question is actually college students.

If we were to assume that the demographics of the sample would mirror the demographics of the surrounding population, then based on the demographics of Central Texas, as reported by the United States Census Bureau (2008), we would expect approximately 49% of the participants to self-identify as being Caucasian. Hispanic and Latino individuals would comprise about 35% of the sample, African Americans 8%, Asians 5.5%, and approximately 2.5 percent of the sample would self-identify as being Native American, Pacific Islander, or biracial. Men would make up approximately 52% of the sample and women 48%. These numbers could change for any number of reasons, including the fact that women have been found to be more likely to agree to participate in research studies than men, or the fact that the demographics of the college may not actually mirror the demographics of the surrounding population.

Research Variables

Based on the research questions that the proposed study is designed to answer eight predictor variables and one dependent variable have been identified. The predictor variables are injunctive norms, descriptive norms, personal norms, general religiosity, religious orientation, religious affiliation, five factor personality traits, and gender. The dependent variable is alcohol consumption. Injunctive, descriptive and personal norms will all be measured on a single survey created by the researcher. Each norm type will be measured by five items. Each item will be rated on a five-point Likert scale. This method of norm measurement is similar to that used by Elek, Miller-Day, and Hecht (2006) in their norm study on adolescent substance abuse.

General religiosity will be measured with three items borrowed and adapted from Krause’s (1991) study on stress, religiosity and abstinence from alcohol. These three items are “In general, how important are religious or spiritual beliefs in your day to day life?”, “How often do you watch or listen to religious programs on TV or radio or listen to religious media?”, and “ When you do have problems or difficulties in your work, family, or personal life, how often do you seek spiritual comfort?”. Each of these items will be ranked on a five point Likert scale.

Religious orientation will be measured using the Allport and Ross Religious Orientation Scale (Allport & Ross, 1967). An additional item will be added to ask participants what their religious affiliation is. Gender will also be measured with a single item on an intake inventory. Finally, five-factor personality traits will be measured with the Big Five Inventory (BFI; John & Srivastava, 1999).

The only dependent variable, alcohol consumption, will be measured with the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985). The DDQ is a commonly used questionnaire for assessing drinking behavior in college students.

Research Instruments

*Daily Drinking Questionnaire (DDQ)* The DDQ is a widely used drinking questionnaire that asks participants to report their drinking behaviors over the past 30 days. For the proposed study, participants will be asked how many drinks they consume during a normal week and during a heavy week. Total scores will then be computed to account for a 30 day period. Collins, Koutsky, Morsheimer, and MacLean (2001) have reported that typical weekly drinking on the DDQ is highly correlated with the average number of drinks consumed per day on a time line followback calendar (r = .86).

*Big Five Inventory (BFI)* The BFI is a 44-item personality inventory that groups items into the five factors of neuroticism, extraversion, openness, conscientiousness, and agreeableness. Items are rated on a 5-point Likert scale with scores ranging from “disagree strongly” to “agree strongly”. The BFI’s convergent validity with longer five-factor personality inventories is acceptable with validity coefficients ranging from .85 to .99 (John & Srivasta, 1999).

*Allport and Ross Religious Orientation Scale* The Religious Orientation Scale consist of 20 items that are each rated on a 5-point scale. A score of 1 indicates the most intrinsic oriented response possible for each item, while a score of 5 indicates the most extrinsically oriented response possible. While all items can be rated on one continuous scale, Allport and Ross recommend that item scores are divided into two separate subscales, one for intrinsic religiosity and one for extrinsic religiosity. This is how the items will be scored for this particular study.

Data Collection Procedures

Data on injunctive descriptive and personal norms will be collected by having participants complete a short, 15-item, pencil and paper inventory. Participants will be asked to rate each item on a 5-point Likert scale. Data on gender and religious affiliation will be obtained by having participants complete an intake inventory that will contain one item corresponding to each variable. Due to the fact that these measures are often voluntary on many surveys, the researcher will make a special note that informs participants that this information will play a key role in the study. In regards to alcohol consumption rate, the participants will be asked to complete the DDQ, which, as has already been noted, is a paper and pencil inventory that asks respondents to report on their frequency of alcohol consumption over the past 30 days. Finally, a measure of intrinsic and extrinsic religiosity for each participant will be obtained by having the participants complete the Allport and Ross Religious Orientation Scale. The Religious Orientation Scale consist of 20 questions, with each question rated on a 5-point scale. Scores closer to 1 correspond with a more intrinsically motivated answer while a score closer to 5 is thought to indicate more extrinsically motivated tendencies.

Research Environment

All data will be collected in a university classroom on a large state university in the southwestern region of the United States. Participants will be asked to meet in a classroom at a previously agreed upon time. Once all participants are present, informed consent documents will be handed out and signed by the participants. Once informed consent documents have been collected, the intake inventory, the DDQ, BFI, and Allport and Ross Religious Orientation Scale will be handed out to participants. The participants will be asked to complete the inventories one at a time and then place all inventories into a number coded manila envelope. Codes on the envelopes will match number codes on the inventories. Once a participant completes the inventory packet, they will be asked to seal the manila envelope and bring it up to the researcher. Envelopes will remain sealed until data coding and analysis begins.

This testing environment is particularly well suited for this study, because it allows the research to obtain data from multiple participants at the same time and with minimal instruction. Furthermore, the location will also be convenient for participants, due to the fact that they are already required to be on campus during the week. This should allow the researcher to obtain data from a large sample of participants in a minimal amount of time.

Data and Statistical Analysis

As was mentioned previously, all data will actually be recorded by the participants themselves. Once all data has been collected and recorded, the researcher will then code and analyze the data in a computer lab.

The data obtained will be appropriately dummy coded when necessary, and then entered into an SPSS data sheet. Once all data has been entered, the research will then run a multivariate regression analysis to determine which of the predictor variables account for a significant proportion of unique variance in the regression model. Predictor variables will be entered in a stepwise manner, so that the unique variance accounted for by each variable can be recorded. Several stepwise models may be tested in order to determine which model has the best goodness-of-fit.

Potential Bias and Error

Due to the fact that the researcher will be running a stepwise regression analysis, certain predictor variables will be entered into the regression model before others in a sequence that corresponds to the researcher’s hypothesis that personal norms will account for the largest percentage of unique variance. By entering the variables in a certain order, the researcher is limiting the unique variance leftover from earlier entered variables that may be accounted for by later variables entered into the regression model. Additionally, although several factors related to alcohol use among college students will be entered into the regression equation, there are other factors which may contribute to alcohol use amongst college students that will not be accounted for.

Validity and Reliability

Conclusion validity is the extent to which the assertions we make about what the data in a study means are reasonable. As was mentioned earlier, this is a multiple regression study. Therefore, the study is designed in order for us to make assertions on which of our predictor variables accounts for a significant proportion of unique variance in regards to alcohol consumption among college students. Therefore, although we are not directly testing a cause and effect relationship, the researcher will be making causal assertions. This is similar to what we would see in an experimental study.

Internal validity is the extent to which assumptions made about causal relationships are true. Although this is not an experimental study, the fact that the data will be analyzed by regression analysis does allow the researcher to infer some type of linked relationship between a predictor variable and a dependent variable. Therefore, although the data may not indicate a direct cause and effect relationship between an independent and dependent variable, the data may show that one or more of the predictor variables does indeed influence the rate at which college students consume alcoholic beverages.

Construct validity refers to the extent to which an instrument measures the construct it was intended to measure. As was mentioned above, this study will rely on three widely used self-report surveys. The Daily Drinking Questionnaire (DDQ) has been shown to produce high correlations between DDQ scores and the number of drinks participants actually consumed over a 30 day period (r = .86).

The second survey, the Big Five Inventory (BFI), has been shown to measure neuroticism, extraversion, openness, conscientiousness, and agreeableness, with subscale alphas ranging from .79 to .88. Also, validity coefficients with longer measures of Big Five personality traits have ranged from .85 to .99. This has led Hampson and Goldberg (2006) to describe the BFI as “the best of the brief sets of five factor markers” (p.766).

Finally, the Allport and Ross Religious Orientation Scale was the first inventory ever designed to measure religious orientation. Despite its age, the scale is still widely used and respected, and it remains one of only two widely used scales for measuring religious orientation.

External validity refers to the extent to which findings from a study can be generalized to the general population. As was mentioned above, this study was designed for a very specific purpose, which is to help us further understand which factors contribute to the high rate of alcohol consumption among college students. Therefore, the results found by this study may not generalize to the wider population. However, considering that several of the predictor variables chosen for this study were indeed chosen because they were found to influence alcohol consumption rates in populations other than college students, it would not be surprising to find that the results of this study generalize to other populations that are at risk for alcohol abuse.

Summary

This chapter first outlined the reasons why the study was designed to employ a multivariate regression analysis. It then gave a review of the research questions for the study and their corresponding hypotheses. These questions are centered on what factors contribute to alcohol consumption in college students. The chapter also went on to describe the anticipated demographics of the sample, which is expected to reflect the general population of central Texas. Research variables and testing instruments were also discussed and an overview of the reliability and validity of the DDQ, BFI, and Allport and Ross Religious Orientation Scale were also given. The chapter also included sections discussing how data would be collected, the setting in which this would take place, and also the way in which this data would be analyzed. Finally, the potential bias and error of the results was discussed, in terms of how these are inherent in the study’s design. The remainder of the paper provides an overview of results, as well as what these results tell us we should focus on in the future.

1. There are minimal risks associated with the study. Due to the fact that students will be made aware of the studies purpose before completing the surveys, it is unlikely that people who are uncomfortable with the study’s topic will agree to participate. Additionally, since there will be no manipulation used in the study, it is unlikely that any unexpected negative effects will arise during the course of testing. However, participants will be made aware that if they are experiencing any discomfort during testing, they will be allowed to discontinue the study at any time. The researcher will relay this information to participants and it will also be mentioned on the consent forms.
2. As was mentioned above, risks for this study are minimal, so the main focus will be on protecting confidentiality. To help protect confidentiality, participants will not be asked to give their names on any of the study surveys. Their names will only appear on the consent forms, which will not be tied to the surveys in any way. Additionally, to help minimize stress that might accompany taking part in a research study, participants will receive a debriefing form following completion of their surveys, which will explain the purpose of the study in greater detail, which should limit any confusion as to how the data will be used. Finally, students will be provided with contact information for the student’s counseling center on the debriefing form, should any serious problems arise.
3. Being as it is that the majority of participants are expected to be psychology majors, the major benefit for participating will be to gain insight and experience into the data collection process, which should prove useful in the future should they decide to complete their own thesis. Additionally, this study is designed to assess the extent to which religious views, personality traits, and social norms can affect a person’s preference for drinking large amounts of alcohol. By finding out why people drink large quantities of alcohol in the first place, prevention programs can be designed that address these issues, and may lead to reduced binge drinking among college students. This is important considering that binge drinking cost the United States over $183,000,000 annually.
4. Participants will not receive any monetary compensation, nor will they receive extra-credit for participating in the study.
5. As has been stated, the expected risks are minimal. However, some participants may be upset by the idea that their personality traits, friends, and religious beliefs, may be partially responsible for their drinking habits. On the other hand, some may use this as an excuse, and actually do less to monitor their own drinking. On the other hand, results from this study should help us to better understand the role of social norms in drinking, and may lead to a reassessment of how social norms are defined. This should lead to some consensus in the field, and should help move the study of college-age alcoholism forward, after several years of stagnation. This should lead to more advanced prevention programs, which should lower rates of college binge drinking. Current rates stand at 83% over the course of a college career and 40% monthly
6. No outside sites or agencies will be used for this study.
7. I am currently a master’s student in the health psychology program, and completing a thesis is a requirement for graduation. My supervising faculty member is Dr. John Davis.
8. This project has been approved by my thesis committee.
9. This study was not submitted to another IRB.
10. Following completion of this study, results will be available to all participants and to my thesis committee regardless of whether or not the study is published. Should the study be published, results will be available to the larger academic community.