Evaluating the College Sophomore Problem: The Case of Personality and Politics

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ABSTRACT. College sophomores feature prominently in social scientific research but are frequently criticized for providing unrepresentative, invalid, and unreliable data. Using the case of personality and politics, the present authors evaluated those critiques, concluding that college sophomores are not representative of the general adult population on all factors of personality. Despite this limitation, analyses show that the relationship between personality and political opinions is virtually identical for college students and a comparison group of adults. Further, a range of reliability statistics suggests that college students provide reliable data on personality. College students are not a panacea for the problem of participant recruiting, but they should not be discounted as unreliable and invalid, either. In many cases, the so-called “college-sophomore problem” is not a problem.

Keywords: college sophomore problem, five-factor model, personality, politics

IN 1946, THE STATISTICIAN AND METHODOLOGIST QUINN McNEMAR famously noted that “the existing science of human behavior is largely the science of sophomores” (p. 333). The broad criticism that McNemar implied and that many others have echoed over the ensuing decades is that college students differ from the general adult population, limiting the usefulness of college student samples in studies concerned with making generalizations about adults, the subject population should resemble the adult population on key personal, intellectual, emotional, attitudinal, demographic, and other characteristics (Brunswik, 1955; Campbell, 1963). Indeed, Cecil Reynolds (2010) recently made this point in his editorial view in Psychological Assessment, noting that the result of the use of college sophomores is “much chaos for the accurate derivation and interpretation of mar
measurement statistics” and concluding that data from college students “need to be replicated with samples of other populations, unless the work is intended to be applied to the college student population only” (p. 2).

According to these critics, student data may differ from nonstudent data for three reasons. First, students may differ systematically from nonstudents in meaningful ways, constraining the external validity of research using students as subjects. Second, students may differ from nonstudents with regard to the strength and direction of the relationship between variables, possibly resulting from developmental issues. Last, perhaps because of incentive and situational factors associated with the university human subject pool, students may have little motivation to produce internally reliable data. In the present article, we examine all of these hypotheses, using a large sample of both students and nonstudents in the same study. Critiques of college sophomore samples can be found throughout the literature, but in this article, we focus on the case of personality and politics.

Overview of the College Sophomore Problem

In perhaps the most cited paper in this literature, Sears (1986) documented the increasing reliance on college student subjects in laboratory settings, particularly in the field of social psychology. According to Sears, college students have “less-crystallized attitudes, less-formulated senses of self, stronger cognitive skills, stronger tendencies to comply with authority, and more unstable peer group relationships” (p. 515). Sears argued that relying on this “narrow data base” (p. 333) has seriously biased the conclusions of psychological research.

One of the earliest reviews to include substantial empirical evidence examined 32 studies in which both student and nonstudent subjects participated, primarily from the fields of consumer research, industrial or organizational psychology, and organizational behavior (Gordon, Slade, & Schmitt, 1986). Based on data from both quantitative and qualitative studies, Gordon et al. strongly sided with those critical of the use of college students as research subjects, recommending that journal editors require that student samples only be used when there is theoretical or empirical justification or when the findings are to be applied specifically to a student population.

Peterson (2001) conducted a second-order meta-analysis of the literature on the college sophomore problem, spanning 34 meta-analyses that together employed more than 1,000,000 participants. His analysis added to the chorus of studies critical of college-student participants, suggesting that college students are generally a more homogeneous group than nonstudents. Perhaps it is more important that Peterson concluded that these differences produce different effect sizes and even directionality for a number of key relationships. Taken together, these three studies clearly indicate that the lack of external validity from student samples is a problem for researchers in psychology.
Of course, such researchers vary in the degree of their conviction that lack of external validity is a problem. In one prominent example, Mook (1983) argues that experimental researchers are often less concerned with potential problems of “artificiality” than they are with demonstrating relationships that are possible in any environment—even artificial ones. Although Mook implies that external validity and generalizability may be a problem for studies in some areas, he is less convinced of the deleterious effects of external invalidity in the lab.

In another spirited defense of traditional experimental methods and student samples, Berkowitz and Donnerstein (1982, p. 255) conclude that “external validity does not necessarily require ecological validity.” Greenberg (1987) agrees, noting that student samples can provide useful data that aid in both theory building and application development. Despite arguments that lack of external validity may not be a problem, many scholars seeking external validity—particularly outside the experimental realm—argue that lack of external validity remains a problem and that college student samples are one important source of the problem (Sears, 1986).

Personality Research and Student Samples

One important domain on which college students are expected to differ from nonstudents is personality. Indeed, the “unfinished personalities” (Carlson, 1971) and “less crystallized attitudes” (Sears, 1986) of college students have been central to debates over proper sampling in personality research for many decades. For example, McCray, Bailly, and King (2005) cite the extensive reliance on undergraduate psychology majors as a problem, and frequent focus of critique, in personality research. Although they do not examine the efficacy of student samples more generally, they do conclude that psychology student samples are not significantly different than student samples from other majors.

One historic impediment to research in personality has been the extraordinary lack of consensus within psychology on personality theory. That is, there has been no widely accepted general model or theory of human personality. Over the past 15–20 years, the emergence of the Five Factor Theory (FFT; McCrae & Costa, 1996, 1999) can justifiably be described as a paradigm shift. This theory, which posits five core traits as endogenous basic tendencies, provides a framework for unifying research on personality. For example, instead of describing college student personalities as “unfinished” or “less formed,” we may systematically compare college students with other adult, nonstudent subjects on a specific set of traits reflecting a comprehensive view of human personality.

McCrae et al. (2000) reviewed substantial research examining the relationship between age and basic personality traits. The data they report include many studies conducted in the United States, with strong cross-cultural support from studies conducted with German, British, Spanish, Czech, and Turkish samples. Effect sizes are small, but college-age people, compared to older adults, consistently
show higher scores on Extraversion, Neuroticism, and Openness to Experience and lower scores on Agreeableness and Conscientiousness.

Personality and Politics

These differences in personality between college-aged students and older adults could potentially be important in almost any application in personality psychology, but one in particular is research on the growing area of personality and politics. Although some recent studies include data on nonstudent adults (Barbarinelli, Caprara, Vecchione, & Fraley, 2007; Mondak & Halperin, 2008), many scholars assessing the relationship between personality and politics rely on student samples. For example, all of the personal living spaces studied by Carney, Jost, Gosling, and Potter (2008) were college dorm rooms. Carney et al. include some nonstudent data in other parts of their study but make no attempt to determine whether the student data differ from nonstudent adult data. Indeed, we can find no extant study comparing the efficacy of student and nonstudent samples in this important research tradition. As a result, we do not know whether student samples are viable alternatives in the emerging field of personality and politics.

The purpose of the present study is to compare students and nonstudents to determine (a) whether students are representative of adults living in the same region on personality traits, (b) whether students and adults have the same relationship between personality and attitudes, and (c) whether students and adults produce data with similar reliability. Extant literature leads us to expect that students and adults will have different distributions of personality, but that the relationships between these core personality traits and political attitudes will be similar for students and staff, and that students and our adult comparison group will produce personality data that are equally as reliable and valid.

In other words, we anticipate that the students will be higher in Extraversion, Neuroticism, and Openness and lower in Agreeableness and Conscientiousness. We predict, however, that the relationships between these core personality traits and expressed political attitudes will be identical for students and nonstudents (e.g., the relationship between any personality factor and a political attitude will be similar for students and nonstudents). From the research on personality and ideology (Carney et al., 2008), we predict that Openness and Conscientiousness will be associated with opinions on both abortion policy and the war in Iraq for both students and the comparison adult sample. Last, we anticipate that college students and nonstudent adults will produce data with comparable reliability and construct validity.

Method

Participants

To learn more about the relationship between personality and politics in both student and nonstudent samples, we emailed a questionnaire created in the
Internet-based application Ultimate Survey to the population of faculty and staff at a midsized public university in the Southeast. We obtained the list of faculty, staff, and students from the Office of Institutional Planning and Effectiveness at our university. After reading a brief appeal for participation, respondents clicked on a hyperlink that took them directly to the instrument. We tracked all respondents to ensure that no one responded more than once. Completed responses were split into two groups. The first was a group that consisted solely of 451 students (13% freshmen, 15% sophomore, 22% junior, 26% senior, and 24% graduate). Following Kam, Wilking, and Zechmeister (2007), we also included a sample of 164 university staff members—a readily available group of average adults—to represent our comparison group. These staff members, like members of the general population, range from blue-collar workers like housekeepers to white collar workers like university administrators. They also include people from across many age ranges and include both men and women. Both the student and nonstudent samples overrepresented women (73% in the student sample and 65% in the nonstudent sample) and whites (93% in the nonstudent sample and 88% in the student sample). We did not collect data on whether the participants were born in the United States, but population data from the Office of Institutional Planning and Effectiveness at the university suggest that there are very few international students (1% of the student population) and no international staff; therefore our results are unlikely to be a result of country of origin.

Materials

The questionnaire included three sections. The first consisted of the M5-50, a personality scale derived from the IPIP item set (Goldberg et al., 2006). The M5-50 consists of 50 items with a 5-point Likert-type scale ranging from Inaccurate to Accurate with a neutral midpoint (10 items for each of the FFT factors). The Cronbach’s alphas on each factor indicate that the scale is reliable (Cronbach’s alphas were .863, .759, .849, .864, and .778 for E, A, C, N, and O, respectively), and confirmatory factor analysis of the M5-50 as reported in Socha, Cooper, and McCord (2010) indicate that the scale is a valid measure of the five factors of personality. Approximately half of these items are worded negatively and reverse-scored to minimize the potential distortion of a directional response set. Question wording for each of the 50 items is included in the present article’s Appendix. The second section of the questionnaire included a series of political questions on partisanship, ideology, efficacy, and participation, all of which are based on established questions from the American National Election Studies (n.d.). The final section of the questionnaire consisted of standard demographic questions.

Results

Are Staff and Student Samples Different?

We begin our investigation by determining whether student samples differ from staff samples on each of the five factors of personality. Recall our
expectation that students will score higher in Extraversion, Neuroticism, and Openness and lower in Agreeableness and Conscientiousness. To investigate these hypotheses, we estimated five Ordinary Least Squares regression (OLS) models predicting variation in each of the five factors. Of primary interest in each model is a dichotomous variable indicating whether the subject is a student member or a staff member (1 = student; 0 = staff). To control for other potentially confounding variables, we also included the race (1 = white; 0 = all other races) and gender of the subject (1 = female; 0 = male) as independent variables. Results from these models are presented in Table 1.

Consistent with our expectations, Table 1 indicates that students score lower on Agreeableness and Conscientiousness than their staff counterparts ($p < .01$), even while we control for gender and race. On our 50-point scale, students are almost 2 points lower on Agreeableness than staff. Conversely, on average, students have higher scores on Extraversion, Openness, and Neuroticism than staff ($p < .01$). The size of the effect is just less than 2 points for Neuroticism and Openness and almost 3 points for Conscientiousness and Extraversion.

**Does Personality Have the Same Influence on Staff and Student Opinions?**

Thus far we have demonstrated that student samples are different in one important way. Consistent with theoretical expectations about the effects of age on personality, we found that students are significantly distinct on all of the Big Five factors. From this, we can infer that for studies where the distribution of personality in the sample must mirror the distribution in the larger adult population, student samples are a poor option.

For most studies, however, researchers are more concerned with the effect of $x$ on $y$ than they are with the representativeness of individual variables. In other words, for a researcher interested in how personality influences an outcome variable, student samples may still provide valid and reliable data. To test this possibility, we estimated a series of models predicting opinions on two major political issues—support for troops in Iraq and support for allowing gay marriage.

The response options for both questions range from 1 to 7 and are not normally distributed. Therefore we estimated our models using ordinal logistic regression, which allows us to account for the ordinal nature of the dependent variable while allowing us to control for other possible confounding factors. Estimating the models with the more familiar OLS model would violate the BLUE assumptions of OLS and produce biased estimates (Long & Freese, 2005; O'Connell, 2006). For those less familiar with the ordinal logistic estimator, we should note that it is similar to an OLS regression model, but the coefficients are not as easily interpretable. For that reason, we also computed predicted probabilities as recommended by King, Tomz, and Wittenberg (2000). In addition to including variables for all five factors, we also include variables for race (1 = white; 0 = all other races), gender (1 = female; 0 = male), and ideology (for which higher numbers on this 7-point scale represent a more liberal ideology).
### TABLE 1. Students Are Different on All Five Factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Agreeableness</th>
<th>Conscientiousness</th>
<th>Extraversion</th>
<th>Neuroticism</th>
<th>Openness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>-1.81** (.52)</td>
<td>-2.87** (.66)</td>
<td>2.68** (.72)</td>
<td>1.74* (.72)</td>
<td>1.70** (.64)</td>
</tr>
<tr>
<td>White</td>
<td>.86 (.70)</td>
<td>1.16 (.90)</td>
<td>.58 (.97)</td>
<td>.06 (.98)</td>
<td>.86 (.88)</td>
</tr>
<tr>
<td>Female</td>
<td>2.16** (.45)</td>
<td>2.43** (.58)</td>
<td>2.20** (.63)</td>
<td>1.33* (.64)</td>
<td>.67 (.57)</td>
</tr>
<tr>
<td>Education</td>
<td>.23 (.17)</td>
<td>.71** (.21)</td>
<td>.401 (.23)</td>
<td>-.44 (.23)</td>
<td>.68* (.21)</td>
</tr>
<tr>
<td>Constant</td>
<td>34.70** (1.40)</td>
<td>32.60** (1.79)</td>
<td>25.68** (1.94)</td>
<td>23.42** (1.97)</td>
<td>33.07** (1.75)</td>
</tr>
<tr>
<td>$F(4, 609)$</td>
<td>11.07**</td>
<td>17.19**</td>
<td>7.26**</td>
<td>5.40**</td>
<td>3.73**</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.06</td>
<td>.10</td>
<td>.04</td>
<td>.03</td>
<td>.02</td>
</tr>
<tr>
<td>$N$</td>
<td>614</td>
<td>614</td>
<td>614</td>
<td>614</td>
<td>614</td>
</tr>
</tbody>
</table>

*Note.* Entries are unstandardized regression coefficients. Numbers in parentheses are standard errors. For ease of interpretation, variables are named by the highest value. For example, the variable for female is coded where females are coded as 1 and males are coded as 0.

$^{*}p < .10; ^{*}p < .05; ^{**}p < .01; ^{***}p < .001$; two-tailed tests.
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TABLE 2. Student and Staff Samples Are Similar Across Two Policy Issues

<table>
<thead>
<tr>
<th>Variable</th>
<th>Support for troops in Iraq</th>
<th>Support for gay marriage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students only</td>
<td>Staff only</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.02 (.02)</td>
<td>-.02 (.04)</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.02 (.01)</td>
<td>.04 (.03)</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>-.02 (.17)</td>
<td>-.04 (.03)</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.00 (.02)</td>
<td>-.04 (.03)</td>
</tr>
<tr>
<td>Openness</td>
<td>-.09*** (.02)</td>
<td>-.11** (.04)</td>
</tr>
<tr>
<td>White</td>
<td>.28 (.32)</td>
<td>.52 (.79)</td>
</tr>
<tr>
<td>Female</td>
<td>.17 (.23)</td>
<td>-.41 (.37)</td>
</tr>
<tr>
<td>Liberal ideology</td>
<td>-.62** (.09)</td>
<td>-.82** (.17)</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>162.81**</td>
<td>78.38**</td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>.12</td>
<td>.18</td>
</tr>
<tr>
<td>$N$</td>
<td>381</td>
<td>131</td>
</tr>
</tbody>
</table>

*Note.* Entries are ordinal logistic regression coefficients. Numbers in parentheses are standard errors. We do not report the intercepts for the different levels of the dependent variable. For ease of interpretation, variables are named by the highest value. For example, the variable for female is coded where females are coded as 1 and males are coded as 0.

**p < .10. *p < .05. **p < .01. ***p < .001; two-tailed tests.

The results of these models, displayed in Table 2, indicate that the influence of personality on political opinions is similar across staff and student samples. Consistent with our expectations, Openness has a robust and statistically significant influence on both dependent variables. People who score higher on Openness (whether staff or student) are less likely to support leaving troops in Iraq. We should note that this effect holds even while we control for potential causes of foreign policy opinions, like political ideology. Respondents who scored higher on Openness are also more likely to support gay marriage—regardless of whether the respondent is a student. It is interesting that Conscientiousness, a factor that is related to the more general concept of political ideology (Carney et al., 2008), is not related to either of our policy opinions for either group. We also ran models combining student and staff samples together, including a variable indicating whether the respondent is a student or staff member and an interaction term that represents the Openness scores multiplied by whether the respondent is a staff or student. This supplemental model also demonstrates that there is no statistically distinguishable difference between the influence of openness on political opinions for students and for staff. These supplemental analyses will be placed on the corresponding author’s Web site (http://paws.wcu.edu/ccopper/Chris_Copper/Welcome.html), along with data and replication files.
Thus far, we have some indication that the relationship between personality and political opinions is similar for staff and students, providing some support for the quality and usability of student samples. Of course, statistical significance does not necessarily equate to substantive significance (King et al., 2000). In other words, it is possible that although Openness influences political opinions for both groups, the magnitude of the influence could be different for each group. Consequently, we next estimate the probability of supporting military force in Iraq and that of opposing gay marriage across each level of Openness, holding all other variables at their sample means (for interval-level variables) or modes (for nominal-level variables). We estimated these quantities of interest using Clarify for Stata (Tomz, Wittenberg, & King, 2001).

Figure 1 presents a graphical representation of the simulations generated from the models in Table 2. The x axis represents scores on Openness, and the four lines represent staff- and student-sample responses for each of the two policy issues. Beginning with the top two lines, we see that Openness affects staff and student opinions on gay marriage almost identically. For both groups, an Openness score of 20 (the minimum in the sample) produces almost a certain probability of opposing
gay marriage. A respondent with a high Openness score of 50 (the maximum) has a 60 percent chance of opposing gay marriage.

The bottom two lines represent the probability of supporting the use of military force in Iraq for student and staff samples. Although not as close together as they are for gay marriage, these lines are similar and suggest that Openness has virtually the same influence on the use of military force in Iraq for both staff and student samples. In all, the fact that these predicted probabilities combined with the models in Table 2 suggest that both statistically and substantively, personality affects opinions on policy issues in similar ways for student and staff samples.

Do Students Give Responses That Are as Reliable as Staff Responses?

A third critique of college student samples is that they do not provide reliable and valid data. These critics argue that because college students often participate in psychological research for mandatory course credit, college students do not have an incentive to take their work as subject seriously and thus may provide unreliable data. To determine whether this is the case, we analyzed the reliability of the MS-50 separately for each group in our sample.

We began by estimating a Cronbach's alpha for each factor. As Table 3 suggests, the alphas are similar for each group, indicating that students give as reliable self-reports on personality as staff members. Further, the alphas are similar to those of previous studies (e.g., Donnellan, Oswald, Baird, & Lucas, 2006, Lim & Ployhart, 2006) and indicate good reliability for both groups in our sample.

Next, we examined construct validity through confirmatory factor analyses (CFAs). There is no uniformly accepted goodness-of-fit measure for CFAs, but Hu and Bentler (1999) suggest that a combination of indexes is best for minimizing the probability of rejecting a model when it is true (Type I error) and for minimizing the probability of accepting a model when it is false (Type II error). Based on this analysis, we used the $\chi^2$ significance test, Comparative Fit Index (CFI), Root-Mean-Square Error of Approximation (RMSEA), and Standardized Root Mean Squared Residual (SRMR) to compare the goodness of fit of each group in our

<table>
<thead>
<tr>
<th>TABLE 3. College Student Samples Provide Reliable Indicators of Personality</th>
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</thead>
<tbody>
<tr>
<td><strong>Factor</strong></td>
</tr>
<tr>
<td><strong>Group</strong></td>
</tr>
<tr>
<td>Students</td>
</tr>
<tr>
<td>Staff</td>
</tr>
</tbody>
</table>

*Note. Entries are Cronbach’s alphas.*
Table 4 contains the values and clearly shows that our student group gives as valid, in some cases more valid, responses as our staff group.

**Discussion**

College sophomores feature prominently in personality research, and without them, our knowledge of personality would be much different. Despite their advantages, many prominent scholars have questioned the quality and usefulness of college student samples (Peterson, 1981; Reynolds, 2010; Sears, 1986). Using the example of personality and politics, we examined the efficacy of the three primary objections to college student samples: College students have different personalities than noncollege students, personality may influence outcome variables differently for college students, and college students do not provide reliable data.

Our data provide evidence supporting the first critique. College students are different than older adults on all of the Big Five factors of personality. These differences are statistically significant and hold even with control for other factors. For studies where the distribution of personality must mirror the adult population, the college sophomore problem is indeed a problem.

For most studies, however, the relationships between the independent and dependent variables are much more important. On these criteria, we find that college student data perform quite well. Our data suggest that personality has the same influence on political opinions for students as it does for nonstudents. This should be reassuring for researchers who wish to use student samples as well as for researchers attempting to make sense of previous studies, many of which may use college student samples.

In the third part of our analysis, we found no evidence that student data are unreliable. Instead, we found convincing evidence that college students provide consistent and reliable data. In fact, we found some evidence that student data are even more reliable than samples from our adult comparison group. Taken together, our data suggest that college students may be appropriate participants in studies.
that are not concerned with the distribution of personality, but rather in gathering
table and valid data that can make implications about the connection between
personality and outcomes.

Of course our study is not without its limitations. For example, although
we expect that our findings apply to other issue areas, we only have data on the
relationship between personality and politics. It is possible that this issue area
is simply different than others. Future studies should expand on our work and
examine whether these findings apply to other issues both within and outside
personality studies. One particularly meaningful example of this might be to
employ a similar strategy to the one we use here, but include more models with
different dependent variables. Such a design would allow researchers to compare
across models and include the topics where student samples provide the best data,
as well as topics where they perform less well.

Some critics may also take issue with using college staff as an example of so-
called “regular people.” Kam et al. (2007) make a convincing case that college staff
resemble the population at large on a number of criteria, but any single sampling
frame can certainly be criticized and will be less defensible than a sample derived
from the population at large. We hope that future work will continue to explore
the efficacy of other readily available groups such as college staff to find times
when they may and may not be used to mirror the population at large.

In conclusion, we want to emphasize that college students are not a panacea
for the problems of recruiting research participants. As our study demonstrates,
college students are different—both demographically and in terms of personality.
Despite these limitations, we join a growing chorus of scholars who argue that, in
some circumstances, college students can provide appropriate research participants
who provide reliable and valid data when the researcher is concerned with causal,
rather than descriptive, mechanisms (see also Greenberg 1987; Mook 1983). In
many cases, the college-sophomore problem is not a problem.

AUTHOR NOTES

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His current research interests are learning and study strategies, teaching effectiveness, and
personality.

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## APPENDIX. Components of the M5-50

<table>
<thead>
<tr>
<th>Agreeableness</th>
<th>Extraversion</th>
<th>Openness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have a sharp tongue</td>
<td>Make friends easily</td>
<td>Have a vivid imagination</td>
</tr>
<tr>
<td>Suspect hidden motives in others</td>
<td>Keep in the background</td>
<td>Believe in the importance of art</td>
</tr>
<tr>
<td>Believe that others have good intentions</td>
<td>Have little to say</td>
<td>Am not interested in abstract ideas</td>
</tr>
<tr>
<td>Insult people</td>
<td>Feel comfortable around other people</td>
<td>Tend to vote for liberal political candidates</td>
</tr>
<tr>
<td>Have a good word for everyone</td>
<td>Don’t like to draw attention to myself</td>
<td>Do not like art</td>
</tr>
<tr>
<td>Get back at others</td>
<td>Would describe my experiences as somewhat dull</td>
<td>Tend to vote for conservative political candidates</td>
</tr>
<tr>
<td>Respect others</td>
<td>Am skilled in handling social situations</td>
<td>Avoid philosophical discussions</td>
</tr>
<tr>
<td>Accept people as they are</td>
<td>Am the life of the party</td>
<td>Do not enjoy going to art museums</td>
</tr>
<tr>
<td>Cut others to pieces</td>
<td>Don’t talk a lot</td>
<td>Carry the conversation to a higher level</td>
</tr>
<tr>
<td>Make people feel at ease</td>
<td>Know how to captivate people</td>
<td>Enjoy hearing new ideas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conscientiousness</th>
<th>Neuroticism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find it difficult to get down to work</td>
<td>Seldom feel blue</td>
</tr>
<tr>
<td>Get chores done right away</td>
<td>Panic easily</td>
</tr>
<tr>
<td>Do just enough work to get by</td>
<td>Am not easily bothered by things</td>
</tr>
<tr>
<td>Am always prepared</td>
<td>Often feel blue</td>
</tr>
<tr>
<td>Waste my time</td>
<td>Rarely get irritated</td>
</tr>
<tr>
<td>Carry out my plans</td>
<td>Dislike myself</td>
</tr>
<tr>
<td>Don’t see things through</td>
<td>Feel comfortable with myself</td>
</tr>
<tr>
<td>Pay attention to details</td>
<td>Am very pleased with myself</td>
</tr>
<tr>
<td>Make plans and stick to them</td>
<td>Am often down in the dumps</td>
</tr>
<tr>
<td>Shirk my duties</td>
<td>Have frequent mood swings</td>
</tr>
<tr>
<td></td>
<td>Seldom feel blue</td>
</tr>
</tbody>
</table>