Published in final edited form as:

Alcohol Clin Exp Res. 2012 October ; 36(10): 1787–1793. doi:10.1111/j.1530-0277.2012.01796.x.

The Drunken Self: The Five-Factor Model as an Organizational Framework for Characterizing Perceptions of One's Own Drunkenness

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Abstract

Background—Existing literature supports the use of the five-factor model (FFM) personality dimensions (i.e., Neuroticism, Extraversion, Agreeableness, Intellect, and Conscientiousness) as a comprehensive representation of mood, affect, and behavior. This study evaluated the use of the FFM as an organizational framework for understanding self-reported perceptions of drunkenness (i.e., mood, affect, and behavior associated with alcohol intoxication).

Methods—Cross-sectional data were obtained through an online survey of college student drinkers ($N = 988$; 50% male, 85% white, mean age = 18.2) in an Introductory Psychology course at a large, mid-western university. Participants reported on their perceptions of their sober and drunk “personalities” by rating items from Goldberg’s International Personality Item Pool.

Results—Confirmatory factor analysis showed that sober and drunk personality structures fit the data equally well. On average, differences between perceived drunken and sober personality were pervasive; each of the 5 factors differed as a function of drunk versus sober state with perceived drunken personality associated with (in order of effect size) less conscientiousness, less intellect, less agreeableness, more extraversion, and less neuroticism. These general patterns varied by sex and drinking pattern.

Conclusions—Findings support the use of the FFM as a framework for organizing self-reported perceptions of global changes in “personality” that occur under intoxication.

Keywords

Alcohol Involvement; Five-Factor Personality; Drunken Comportment

There is an abundance of empirical research investigating the acute effects of alcohol on cognition, affect, and behavior. One of the most commonly referenced effects of alcohol is an increase in impulsivity and disinhibition, and empirical research with tests of behavioral control supports this notion (e.g., Fillmore, 2007; Fillmore et al., 1999). Alcohol produces acute effects of elation, happiness, and sociability (e.g., Abe, 1968; Martin et al., 1993; Sher and Grekin, 2007) and is thus often referred to as a social lubricant. Additionally, alcohol appears to increase aggression, especially following provocation (e.g., Bushman and Cooper, 1990; Giancola, 2002) and most notably among men (Giancola et al., 2009). Although the relationship can be moderated by certain variables (e.g., drinking context; Steele and Josephs, 1990), several lines of research support the anxiolytic properties of

alcohol (for review, see Sayette, 1999). Also, many individuals hold the belief that creativity and abstract thought is enhanced by intoxication (Grant, 1981), although there is little empirical evidence supporting the notion that alcohol impacts levels of creativity, and research suggests that creativity and higher-order thought capabilities may decrease as a result of alcohol intoxication (Lang et al., 1984).

In addition to work that has focused on one or a narrow set of effects of alcohol, there has been some research aimed at assessing the range of psychosocial effects of alcohol. Despite the fact that projective assessments have fallen into disfavor in recent decades (Lilienfeld et al., 2000), it is worth noting that Kalin and McClelland used the Thematic Apperception Test to measure alcohol-induced psychological changes in male college students and found that thoughts of physical aggression and physical sex increased with alcohol consumption, whereas thoughts of aggression restraint, fear-anxiety, and time concern decreased (Kalin and McClelland, 1965). Interestingly, in a parallel study, women showed a different pattern of alcohol-related changes, with thoughts of greater warmth and increasing femininity (Wilsnack, 1974). Additionally, MacAndrew and Edgerton (1969) described specific alcohol-induced changes as part of the broader notion that people, in general, behave differently when under the influence of alcohol. Moreover, drunkenness is conceptualized as a “time out” from normal, sober behavior, suggesting that being drunk can serve as an excuse for behavior which would have been inexcusable if the actor were sober (MacAndrew and Edgerton, 1969; Room, 2001). The authors used the term “drunken comportment” to describe an ensemble of intoxication-related changes in behavior.

Although there are numerous studies of the specific effects of alcohol and scholars have discussed the broader notion of drunken comportment, researchers lack an organizational framework to integrate the many and varied findings. Given that alcohol’s effects consist of shifts in mood, affect, and behavior, perhaps these changes could be examined within the existing structure of personality. The purpose of this study is to explore and evaluate the five-factor model (FFM) as an organizational framework for understanding self-perceptions of drunkenness (i.e., individual differences in mood, affect, and behavior associated with intoxication). It is intended to serve as the initial study in a program of research designed to better understand and organize the diverse literature on drunken comportment by generalizing the concept of situational aspects of personality to drunken states. This is potentially important for at least 2 reasons. First, we can develop a framework for assessing the degree of alcohol intoxication across a broad range of psychological functions, enabling us to gauge how severely a person’s psychological structure is affected by intoxication. Secondly, it is possible (and suggested by some anecdotal evidence) that individuals that are grossly changed by alcohol are most likely to have serious problems with it. Thus, drunken personality change could have important prognostic, clinical significance.

It should be noted that the previously discussed experimental studies of aggression, mood regulation, and other relevant behaviors and psychological states do inform the notion of “drunken personality” and may be viewed as providing behavioral assessments of personality constructs. What these studies fail to do is to characterize one’s typical drunken disposition due to the fact that they are usually based upon a single laboratory session, outside of one’s typical drinking context (i.e., setting, individuals, and doses), and to focus on single aspects of personality constructs (e.g., retaliatory aggression, risk-taking) and not the broad ensemble of behaviors that fall under the rubric of personality. We note that reports of self-perceived sober-to-drunk differences in personality may, in part, reflect alcohol outcome expectancies (i.e., what people expect or think will happen as a result of alcohol consumption). However, the distinction between expectancies and personality is less than precise and, arguably the two constructs serve as alternative and partially overlapping explanations for the same phenomena (Christiansen et al., 1982; Mischel, 1973).

It should also be noted that, although many researchers have posited personality as a stable and enduring construct (Conley, 1984; Costa & McCrae, 1992), others have argued that it is often dependent on situational features such as environment, companions, social role, and time of day (Fleeson, 2001; Mischel and Peake, 1983), and can thus maintain qualities of both flexibility and stability. For example, individuals have been found to display similar personality profiles across functionally equivalent situations, whereas profiles differed greatly between situations that were not equivalent (e.g., different group size, different time of day; Fleeson, 2001; Greene, 2000). Specifically, Fleeson (2001) proposes that personality and behavior be conceived in terms of the mean and variability of density distributions, and implements retrospective reports of personality for varied situations and contexts. Given that an individual's measurable personality holds across comparable situations (Graham, 2000), intoxicated displays of mood, affect, and behavior may be consistent within a given person (provided that an individual favors specific venues and situations when drinking that would elicit consistent behaviors; see Steele and Josephs, 1990). Further, individuals may perceive consistent displays of mood, affect, and behavior while intoxicated as their "drunken personality."

The Five-Factor Model as a Framework for Understanding Drunkenness

One potential framework for investigating perceptions of "drunken personality" is the FFM of personality (Costa and McCrae, 1992). The FFM proposes that all personality descriptors can be grouped into 1 of 5 factors: Neuroticism, Extraversion, Agreeableness, Intellect (often referred to as Openness to Experience), and Conscientiousness (for a full discussion see, Costa and McCrae, 1992). Although commonly used to assess mean levels of personality traits transsituationally (i.e., how one tends to be), the FFM could also be used empirically as a framework through which to view *differences* in peoples' moods and behaviors (i.e., comportment) between their sober and drunken states. Further, existing studies about alcohol effects (e.g., aggression) inform predictions regarding the direction of drunken factor differences. For example, because increased aggression is linked to low agreeableness (Costa and McCrae, 1992), high aggression from alcohol could be construed as decreased agreeableness, or perhaps more accurately, increased disagreeableness.

The Current Study

As a first step toward evaluating the utility of the FFM as a framework for understanding self-perceived typical mood, affect, and behavior while intoxicated, this study adopts the lexical approach of the FFM (Norman, 1967). The lexical approach of the FFM posits that every adjective that can be used to describe personality correlates with 1 of the 5 factors. The objectives of this article are to evaluate: (i) fit statistics of confirmatory factor analyses (CFA) to determine whether the FFM is an adequate framework for assessing perceived drunken personality and (ii) whether the factor structure of FFM personality adequately fits the data, to determine whether drinkers tend to report mean differences between self-perceived sober and drunken personality on each of the 5 factors. Sex and binge-drinking status as potential moderators of differences in drunken comportment will also be examined.

MATERIALS AND METHODS

Participants and Procedure

Participants were undergraduates ($N = 1,066$) at a large mid-western university who completed an online survey for course credit for their Introductory Psychology class during either the Fall ($n = 644$) or Spring semesters ($n = 422$). The Fall sample was used as a derivation sample to initially test and refine the personality factor structure, and the Spring sample was used as an independent sample to evaluate the factor structure derived on the

Fall sample. The combined sample was 50% female, 85% white/non-Hispanic, and had a mean age of 18.2 years (range = 18 to 24). Given that we were assessing and comparing both sober and drunk personality, only individuals who reported having ever been drunk were included in the study ($n = 592$ for Fall, $n = 396$ for Spring).

Individual Difference Variables

Binge-drinking status and sex were explored as potential moderators of drunken change owing to the unique physiological moderating effects of both gender and drinking pattern on alcohol effects. A series of questions assessed alcohol consumption. Binge-drinking status was determined by trichotomizing a 9-point response scale to a question regarding frequency of binge drinking (in which binge-drinking is defined as drinking 4 [women] or 5 [men] drinks within a 2-hour period). Drinkers were classified as “nonbingers” (i.e., no binges in the last year), “bingers” (i.e., in the last year, have binged between once and 3 times per month), and “frequent bingers” (i.e., binge at least once a week). Across both semesters of data collection, 22% ($n = 237$) of the samples were nonbinge drinkers, 41% ($n = 437$) were binge drinkers, and 37% ($n = 393$) were frequent-binge drinkers.

Sober and Drunken Comportment

Participants’ self-reported personality when sober was assessed using a subset of 45 items from Goldberg (1990). The items were selected from a pool of facets and terms representing each facet¹ (i.e., items belong to specific facets and facets belong to specific factors). A particular item from a facet was selected based on the average interitem correlation of that facet (facets with > 0.60 were retained), and the commonness of the word (e.g., “extroverted” was selected instead of “gregarious”). The 45 terms were selected because of their extensive coverage of multiple facets of each factor in an effort to achieve adequate breadth of the FFM with our measure (see Goldberg, 1990). Subjects rated themselves (i.e., “How would you describe yourself in general?”) on these items from “Extremely Inaccurate” (0 points) to “Extremely Accurate” (9 points) and items were reverse-scored as necessary. Drunken personality (or self-reported personality when intoxicated) was assessed in a parallel fashion (i.e., “How would you describe yourself when drunk?”) using the same items and response options.

Although superficially, the FFM items would appear to require straight retrospection, we believe it is likely that individuals base these reports both on their own recollections of their behavior at the time it was displayed as well as other sources of information (e.g., later feedback from drinking buddies and others present during drinking occasions). That is, these reports are likely syntheses of multiple sources of information, not solely retrospection of specific occasions.

Data Analysis

Factor Analysis—The fit of the FFM to data for both self-reported typical (i.e., sober) and drunk personality was assessed by CFA using maximum-likelihood estimation. In our derivation sample ($n = 592$), all 45 items were assigned to specific factors based on an a priori five-factor structure, and each of the factors was free to covary with each of the other factors. Through an iterative process of respecification, multiple factor structures were tested with minor changes made between tests to improve the fit of the model. The changes were

¹Facets represented were the following: Insecurity, Fear, Emotionality, Instability (for Neuroticism); Spirit, Gregariousness, Expressiveness, Energy Level, Talkativeness, Assertion, Courage, Self-esteem, Candor, Optimism, Silence, and Shyness (for Extraversion); Cooperation, Amiability, Empathy, Generosity, Warmth, Belligerence, Rudeness, Thoughtlessness, and Callousness (for Agreeableness); Intellectuality, Depth, Insight, Intelligence, and Creativity (for Intellect); Efficiency, Dependability, Predictability, and Conventionality (for Conscientiousness).

based on Lagrange multiplier tests (LMT; Aitchison and Silvey, 1958), initially eliminating items from the model with modification indices above 100, and ultimately (over multiple iterations) eliminating items with LMT values >70 at the last iteration.² Additionally, errors between certain items within a factor were correlated (e.g., “energetic” and “enthusiastic” on Extraversion³), so as to maintain the simple structure of the model without compromising conceptual interpretation. Through this iterative process of item elimination and respecification, a final five-factor structure was achieved.

To cross-validate the solution a CFA with the final model specifications was estimated on an independent sample (i.e., second-semester data; $n = 396$). To test whether the factor structure was equivalent for self-reported sober and drunken personality, respective factor loadings (of the sober model and the drunk model) were constrained to be equal across drunk and sober instructional sets. This constrained model was compared to an unconstrained model using a chi-square difference test (the Sattora-Bentler Scaled Chi Square Test; Sattora and Bentler, 2001). The factor structure obtained through these analyses was used as a guide to compute trait scores for subsequent analyses (i.e., the factor scores of the items were not used but rather the average of the items on a particular factor to estimate an individual’s “trait level” (owing to the erroneous conclusions that can be drawn from performing regression with factors scores; Skrondal and Laake, 2001).

Standardization—Before comparing mean-level differences in self-reported sober and drunk personality traits, each sober trait was standardized ($M = 0$; $SD = 1$) and each drunk trait was standardized on the basis of the mean and standard deviation of the corresponding sober traits in the entire sample. This standardization procedure allowed us to account for between-state differences on each of the 5 traits.

Sober– Drunk Differences in Personality—The extent to which trait (i.e., each “trait level” of the FFM) scores varied by sex, binge-drinking status, and state (i.e., sober or drunk) was analyzed with 1 doubly multivariate analysis of variance (MANOVA) for repeated measures. Tests of interaction between state (i.e., self-reported personality scores for both sober and drunk personality) and trait (Neuroticism, Extraversion, Agreeableness, Intellect, and Conscientiousness) determined whether certain traits differed significantly from other traits in the magnitude of perceived differences between self-reported sober and drunken personality. The MANOVA also tested for interactions involving binge-drinking status and sex to determine whether these between-subject variables moderated specific trait differences between self-reported sober and drunken personality. In the presence of a significant effect of interactions in the MANOVA, follow-up univariate repeated-measures analysis of variance (ANOVA) was conducted to determine which traits displayed differences, as well as the extent to which these differences were moderated by binge-drinking status and sex.

RESULTS

The final CFA of participants’ perceptions of their sober personality (based on an a priori five-factor structure and Goldberg’s [1992] scale) was obtained using Mplus version 6.0 (Muthén and Muthén, 1998–2010). The number of items for the final CFA was reduced to 19 on the derivation sample. The structure of the sober items had an adequate fit ($n = 592$,

²Items eliminated through the factor analysis procedure, based on high modification indices: (®Indicates a reverse-scored item) Fearful, Loud; Irritable, Understanding; Self-Critical, Cold®, Calm®, Affectionate; Fearless®, Friendly; Quiet®, Generous; Blunt®, Tough®, Extroverted, Peaceful; Withdrawn®, Complex; Ambitious, Perceptive; Cheerful, Reasonable; Confident, Guilty; Strong, Trustful.

³Correlated Errors: Distressed with Depressed; Enthusiastic with Energetic; Social with Outgoing; Sad with Depressed; Scared with Depressed; Scared with Nervous.

CFI = 0.94, RMSEA = 0.05). The identical factor structure was specified with the drunk items; this model provided adequate fit to the data ($n = 592$, CFI = 0.95, RMSEA = 0.05) (see Table 1 for items and loadings). More critically, this factor structure was also replicated in the second sample ($n = 396$, Sober CFI = 0.95, RMSEA = 0.05; Drunk CFI = 0.96, RMSEA = 0.04). The correlations among all 10 traits (5 sober, 5 drunk) and the moderating variables of sex and binge-drinking status are shown in Table 2. Most correlations were significant and modest in magnitude.

Assessing the Direction and Magnitude of Personality Differences Between Sober and Drunk

We found significant differences between sober and drunk ratings of personality on all 5 FFM traits. Conscientiousness displayed the most dramatic difference with significantly lower self-reported drunken personality compared to sober personality (1.08 Sober Conscientiousness SDs), followed by decreased scores in Intellect (0.72 SDs), decreased scores in Agreeableness (0.35 SDs), and increases in Extraversion (0.21 SDs) and decreases in Neuroticism (0.13 SDs) (see Fig. 1).

Multivariate analyses revealed multiple significant interactions. Condition (drunk or sober) was moderated by binge-drinking status, $F(2, 879) = 10.34$, $p < 0.001$, and sex, $F(1, 879) = 3.84$, $p = 0.05$. Trait differences were also moderated by binge-drinking status, $F(8, 3,516) = 8.10$, $p < 0.0001$, and “Sex,” $F(4, 3,516) = 18.32$, $p < 0.0001$. Additionally, 3-way interactions were found both for state by trait by binge-drinking status, $F(4, 3,516) = 8.21$, $p < 0.0001$, and for condition by trait by sex, $F(4, 3,516) = 8.11$, $p < 0.0001$.

Follow-up univariate analyses revealed that all 5 traits displayed significant differences between self-reported sober and drunk personality characteristics (Agreeableness: $F(1, 903) = 99.73$; Intellect: $F(1, 895) = 359.95$; Conscientiousness: $F(1, 884) = 636.37$; and Neuroticism: $F(1, 985) = 84.56$, $p < 0.0001$, as well as Extraversion: $F(1, 900) = 4.64$, $p = 0.03$. Compared to self-reported sober personality scores, participants reported higher self-reported drunken Extraversion scores and lower self-reported drunken scores on Conscientiousness, Intellect, Agreeableness, and Neuroticism (see Fig. 1). Perceived differences in these 4 traits were significantly moderated by sex (Neuroticism: $F(1, 985) = 5.19$, $p = 0.02$; Intellect: $F(1, 895) = 3.82$, $p = 0.05$; Agreeableness: $F(1, 903) = 6.85$, $p = 0.01$; Conscientiousness: $F(1, 884) = 8.98$, $p < 0.01$), with women reporting larger decreases between self-reported sober and drunken personality scores for all traits except Agreeableness, in which men reported larger decreases. Binge-drinking status moderated differences in Neuroticism, Extraversion, and Intellect (Neuroticism: $F(2, 985) = 66.61$, $p < 0.0001$; Extraversion: $F(2, 900) = 29.80$, $p < 0.0001$; Intellect: $F(2, 895) = 3.89$, $p = 0.02$). Nonbinge drinkers reported larger decreases in Neuroticism and Intellect, and binge drinkers and frequent-binge drinkers reported larger increases in Extraversion.

It should be noted that, although the final model contained fewer than half of the items originally assessed (19 of 45), parallel MANOVA and univariate ANOVA analyses conducted with the a priori trait scales replicated 20 of the 21 effects obtained with the refined scale (with the exception of a moderating effect of sex on sober-to-drunk change in Agreeableness). Thus, although the original model demonstrated poor fit to the data (Sober: $\chi^2 = 8,129.05$, $p < 0.0001$, CFI = 0.585, TLI = 0.561, RMSEA = 0.09; Drunk: $\chi^2 = 157,847.53$, $p < 0.0001$, CFI = 0.511, TLI = 0.503, RMSEA = 0.10), analyses using these larger factors resulted in almost identical findings to those determined by the smaller, well-fitting factor model. Furthermore, the refined model attained with the derivation sample was replicated on the second sample, demonstrating reliability of this factor structure.

DISCUSSION

There were 2 major goals of the current article: (i) to test whether self-perceived drunken personality characteristics could be characterized through the framework of the FFM and (ii) to test the direction and magnitude of differences between self-reported sober and drunken personality. Additionally, individual differences in perceived drunken change based on subjects' sex, and the frequency with which they binge drink was also examined.

The adequate fit of the CFA for the drunken items and the nonsignificant results of the Santorra–Bentler difference test between the sober and drunk structure suggest that alcohol researchers can investigate self-perceived drunken personality changes within the organizational framework of the FFM. Although independent studies of specific alcohol effects are interesting and valuable, they lack a standardized, comprehensive point of comparison through which to view the broad phenomenon of perceived drunken changes in mood, affect, and behavior. This study demonstrated that the FFM can be used as such point of comparison.

We found significant differences between sober and drunk ratings of personality on all 5 FFM traits, and these differences appear to be consistent with prior scientific findings regarding alcohol's influence on affect, mood, and behaviors. For example, the higher scores for self-reported drunken Extraversion are consistent with the notion that characteristics such as “energetic,” “enthusiastic,” “social,” and “outgoing” are more pronounced when intoxicated (Abe, 1968; Monahan and Lannutti, 2000). Lower scores for self-reported drunken Intellect, Conscientiousness, Agreeableness, and Neuroticism are consistent with the existing literature, suggesting alcohol decreases cognitive functioning, increases impulsivity and aggression, and, at least in certain situations, has anxiolytic properties.

Sex and binge-drinking status moderated these sober-to-drunk personality differences across multiple traits. Women reported larger drunken decreases in Intellect and Conscientiousness than men, and nonbinge drinkers also reported larger decreases in Conscientiousness than their heavier drinking counterparts. These findings may reflect women and nonbinge drinkers experience a greater sense of cultural and social norm violations by the act of getting drunk. Regarding Extraversion, the effect of alcohol appears to be similar in magnitude across nonbingers and bingers, but opposite in direction (nonbinge drinkers report decreasing in Extraversion when drunk, while binge drinkers and frequent-binge drinkers report increasing). This finding may be influenced by beliefs and expectancies. If drinkers think of themselves as more enthusiastic, energetic, outgoing, etc., when they drink, they would be more likely to drink than would a person who does not hold those beliefs. Men reported a larger perceived decrease than women in Agreeableness (or, more accurately, an increase in Disagreeableness)—a finding consistent with the notion that men are more aggressive when drunk than women (Hoaken and Pihl, 2000; Wilsnack, 1974). Similarly, binge drinkers reported a trend of a greater alcohol-induced decrease in Agreeableness (i.e., increases in Disagreeableness) than their lighter-drinking peers. Women reported significantly larger decreases in Neuroticism than men, in line with the notion of baseline gender differences in this trait and related constructs (e.g., self-esteem) and the power of these differences to predict alcohol misuse (Blane, 1968; Walitzer and Sher, 1996). Additionally, nonbinge drinkers reported smaller decreases in Neuroticism (if any at all—nonbinging men reported *increases*) than binge drinkers and frequent-binge drinkers. This finding could be due to the fact that higher doses of alcohol are needed to produce anxiolytic effects (Sher and Walitzer, 1986), and thus, binge drinkers may be more likely than lighter drinkers to reach a blood alcohol content capable of decreasing stress and anxiety.

LIMITATIONS AND FUTURE DIRECTIONS

There are several limitations in the current study that warrant comment. Foremost among these is the nature of our assessments. We only used a subset of items (and, after respecifying the model, only a subset of facets) and not a standardized personality assessment. Despite the theory of the FFM suggesting that *any* personality descriptors should load onto 1 of the 5 factors, there have been few studies testing this assertion (in fact, several researchers have had difficulty evaluating the replicability of the five-factor structure using standardized assessments through CFA procedures (Borkenau and Ostendorf, 1990; McCrae et al., 1996).

Related to the composition of the factor model is the limitation associated with comprising the Agreeableness factor of solely negative reverse-scored items. Essentially, this factor actually represents *disagreeableness*, and some might caution against interpreting it as the direct opposite of agreeableness through the simple addition of negative signs, or contend that the construct validity of the factor is undermined (Clark and Watson, 1995). However, Costa and McCrae (1987) have stated that “The essential nature of agreeableness is perhaps best seen by examining the disagreeable pole” (p. 88), and thus, for the exploratory goals and interests of this study (which were more to determine whether people become more disagreeable rather than less agreeable), we believe that operationalizing this particular factor with negative items alone is acceptable. Similarly, the other traits were assessed with all positively keyed items, and in future work, we will need to assess the effects of the method factor of item pole independent of the trait being measured.

Additionally, our usage of the FFM was not only to assess participants’ sober personality, but also their perception of their *drunken* personality. To do this, we are implicitly assuming that: (i) participants can readily recall their drunken moods and behaviors and (ii) those recollections are as valid as those of their sober assessments. If either of these 2 assumptions does not hold, the validity of our results may be compromised. Another limitation is that our questions regarding “being drunk” are not sensitive to dosage or situation; we simply ask subjects to report on “how they are *typically* when drunk.” The dose–response and context literature suggest that people can perceive and experience variable effects from alcohol depending on dose, drinking context (Sher et al., 2005; Steele and Josephs, 1990), and limb of blood alcohol curve (Martin et al., 1993). However, because the purpose of this study was to test an organizational framework for one’s “typical” drunken comportment, minimal importance was placed on instances of rare doses or contexts.

We note that participants’ reports of drunken “personality” are likely informed by multiple factors, including reports from others about one’s own drunken behavior, explicit alcohol outcome expectancies relevant to big 5 dimensions, state-dependent recall, and demand characteristics, among likely others. Like the assessment of “typical” personality, the self-report, lexical approach employed here should be bolstered by both informant reports (e.g., Whitford et al., 2009) and behavioral measures (e.g., Gilman et al., 2011) because of the strengths and weaknesses of each mode of assessment. Additionally, investigations into personality “changes” found in recovering alcoholics may benefit from adopting the organizational framework of the FFM, as well as the concept of “drunken personality.” Specifically, researchers have claimed that alcoholics who abstain from drinking often undergo positive personality shifts as a result of their sobriety (e.g., Mellor et al., 1986). Perhaps, as this study may suggest, drinkers were simply reporting their drunken personality on the initial measures because they were intoxicated for a significant portion of their time, and at the later assessment, when abstinent from alcohol, they are actually reporting on their “typical (sober) personality” for the first time. This possibility presents further evidence of

the importance of establishing a common framework through which researchers can study individuals' perceptions of both their sober and drunk personalities simultaneously.

Finally, it is important to recognize that, although this study focused on a comprehensive model of normative drunkenness, there is also a need to focus specifically on individual differences in drunken personality characteristics as well as the possible reasons for those differences. By documenting the relationship between baseline personality factors and the patterns of differences that are reported to occur under the influence of alcohol, we could accordingly identify individuals who become markedly reckless, dangerous, and violent when intoxicated. Our findings suggest that we can construct a factor structure that is roughly equally applicable to peoples' ratings of sober and drunken personality. Using this framework, we have established, at a broad level, a foundational method for studying individual differences in self-perceived effects of alcohol and, perhaps, a method for identifying those who are vulnerable to showing morbid personality changes when drinking.

Acknowledgments

This research was supported by the Psychology of Alcohol Abuse and Dependence Training Grant 5T32AA013526 and the University of Missouri-Columbia.

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Fig. 1.
Effect sizes of perceived sober-to-drunk differences for men and women. N, Neuroticism; E, Extraversion; A, Agreeableness; I, Intellect; C, Conscientiousness.

Table 1Standardized Factor Loadings for “Sober” and “Drunk” Self-Ratings of Personality ($N = 988$)

Factors	Item	Sober loading	Drunk loading
Neuroticism	Depressed	0.81	0.79
	Distressed	0.63	0.71
	Nervous	0.58	0.72
	Scared	0.72	0.81
Extraversion	Energetic	0.76	0.83
	Enthusiastic	0.80	0.84
	Outgoing	0.69	0.84
	Social	0.69	0.72
Intellect	Intelligent	0.85	0.80
	Insightful	0.61	0.68
	Creative	0.49	0.58
Agreeableness	Aggressive [@]	0.65	0.76
	Hostile [@]	0.79	0.83
	Insensitive [@]	0.62	0.65
	Violent [@]	0.74	0.81
	Angry [@]	0.75	0.85
Conscientiousness	Self-disciplined	0.65	0.63
	Rational	0.75	0.84
	Responsible	0.87	0.72

[@] Indicates a reverse-scored item.

Table 2

Correlations Among Big 5 Traits, Binge-Drinking Status, and Sex

	Binge	Sex	S-N	S-E	S-A	S-I	S-C	D-N	D-E	D-A	D-I
Sex	-0.13**	1									
S-N	0.05	0.00	1								
S-E	0.02	0.15**	-0.31**	1							
S-A	-0.12*	0.20**	-0.51**	0.24**	1						
S-I	-0.12*	0.03	-0.06**	0.37**	0.09*	1					
S-C	-0.19**	0.05	-0.08**	0.27**	0.17**	0.55**	1				
D-N	0.01	-0.10*	0.32**	-0.11**	-0.26**	0.01	0.00	1			
D-E	0.17**	0.13**	-0.20**	0.45**	0.28**	0.25**	0.28**	-0.32**	1		
D-A	-0.12	0.23**	-0.40**	0.14**	0.63**	0.05	0.11*	-0.63**	0.22**	1	
D-I	0.00	-0.07	0.00	0.27**	0.01	0.42**	0.29**	0.03	0.43**	-0.07	1
D-C	-0.06	-0.12*	-0.05	0.21**	0.02	0.25**	0.39**	0.06	0.26**	-0.01	0.58**

S-N, Sober Neuroticism; S-E, Sober Extraversion; S-A, Sober Agreeableness; S-I, Sober Intellect; S-C, Sober Conscientiousness; D-N, Drunk Neuroticism; D-E, Drunk Extraversion; D-A, Drunk Agreeableness; D-I, Drunk Intellect; D-C, Drunk Conscientiousness; Binge, Binge-drinking status.

* $p < 0.01$,

** $p < 0.001$.

For binge-drinking status, nonbingers were coded as "0," bingers were coded as "1," and frequent bingers were coded as "2." For sex, men were coded as "1" and women as "2."