Moderated Mediation of the Relationships Between Masculinity Ideology, Outcome Expectations, and Energy Drink Use

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Objective: The consumption of energy drinks is a growing health-risk behavior for young men in the United States. The present study investigated the relationship between masculinity ideology, outcome expectations, energy drink use, and sleep disturbances. Method: The authors recruited 467 adult males from universities and the Internet who provided data on their endorsement of traditional masculinity ideology, outcome expectations for use of energy drinks, use of energy drinks, and sleep disturbances. A theoretical model positing moderated mediation was tested using structural equation modeling and conditional process modeling. Results: The results supported the hypothesized model in which endorsement of traditional masculinity ideology was linked with increased outcome expectations for benefits of energy drinks, which in turn was linked with increased energy drink consumption, and which finally was linked with greater sleep disturbance symptoms. The relationship between masculinity ideology and energy drink outcome expectations was moderated by age (significant for younger men but not for older men), and the relationship between energy drink outcome expectations and energy drink use was moderated by race (significant for White men but not for racial minority men). Conclusion: The present study adds to the literature on potential negative health implications of the endorsement of traditional masculinity ideology by offering a link between predictors of energy drink use (masculinity ideology, outcome expectations) and health outcomes of energy drink use (e.g., sleep disturbance).

Keywords: age, energy drinks, masculinity ideology, outcome expectations, sleep disturbance, race

The present study investigated a theoretical moderated mediation model that posited links between the endorsement of traditional masculinity ideology and the consumption of energy drinks, mediated by participants’ expectations of the outcome of consuming energy drinks, and moderated by age, race, sexual orientation, and whether or not participants engaged in extreme sports. The consumption of energy drinks such as Red Bull, Monster, and Full Throttle is a growing health-risk behavior that particularly affects young men in the United States (Miller, 2008; West et al., 2006). Energy drinks are beverages purported to boost mental or physical energy and that contain large amounts of caffeine. Many also contain sugar or other sweeteners, herbal extracts, and amino acids, and they may or may not be carbonated. The drinks are particularly problematic in the United States because of lax regulatory requirements in comparison to many other countries (Reissig, Strain, & Griffiths, 2009). For example, the U.S. Food and Drug Administration does not require the actual caffeine content in an energy drink to be displayed on the label whereas many other countries do. The energy drink market is approximately $2.3 billion in sales per year and growing (Rath, 2012). The aggressive marketing (Roberson, 2005) and increased use of energy drinks along with a lack of regulations in the United States has led to an increased incidence of caffeine toxicity and poisoning (Babu, Church, & Lewander, 2008; Seifert, Schaechter, Hershonin, & Lipshultz, 2011), the symptoms for which include anxiety, restlessness, insomnia, tachycardia (accelerated heart rate), tremors, psychomotor agitation, and potential death (Reissig et al., 2009). Energy drinks are dangerous when consumed before or during excessive physical exertion because of the diuretic nature of caffeine, which can exacerbate dehydration (Fogger & McGuinness, 2011). This danger is worsened by the misunderstandings surrounding this issue, as energy drink marketing campaigns tend to focus on extreme sports such as snowboarding and rock climbing even though it is not advisable to consume such drinks before or during these physical activities (Miller, 2008). Such marketing campaigns lead many people to misunderstand the difference between dehydrating energy drinks and rehydrating sports drinks such as Gatorade (Fogger & McGuinness, 2011). As well, marketing for energy drinks tends to emphasize a “jock” identity.
Energy drink consumption has been linked to the endorsement of traditional masculinity ideology and to conformity to traditional masculine norms (Miller, 2008; Wimer & Levant, 2013). Traditional masculinity ideology and norms are defined as “beliefs about the importance of men adhering to traditional norms for male behavior” (Levant & Richmond, in press, p. 6). Indeed, endorsement of masculinity and conformity to masculinity norms has generally been associated with negative health consequences, including alcohol abuse, reluctance to be tested for HIV, and other health risk behaviors among diverse samples of men (Levant & Richmond, 2007; Levant, Wimer, & Williams, 2011; Parent, Torrey, & Michaels, 2012; Wells et al., 2014), though some aspects of masculinity can also be beneficial to men’s health (Gough, 2013; Levant & Wimer, 2014; Levant et al., 2011). The psychological constructs of traditional masculinity ideology and conformity to masculine norms are closely related to the sociological construct of hegemonic masculinity, which identified practices that promote the dominant social position of men and the subordinate position of women (Connell & Messerschmidt, 2005). Hegemonic masculinity represented the culturally idealized form of manhood that was concerned with bread-winning, was tough, brutal, violent, and emotionally inexpressive; in short, the ideal of manhood described by psychologists using the term traditional masculinity ideology.

Returning to jock identity, Miller (2008, 2009a, 2009b) regarded jock identity as more extreme than athlete identity. Of the two, jock identity was found to be more closely associated with energy drink consumption among undergraduates (Miller, 2009b). Jock identity appears to tap a form of hypermasculinity (i.e., strong endorsement and conformity to traditional masculinity ideology) as it relates to sport and was positively correlated with a modified identity appears to tap a form of hypermasculinity (i.e., strong drink consumption among undergraduates (Miller, 2009b). Jock identity was more closely associated with energy drink consumption. Finally, Chiou, Wu, and Lee (2013) found that undergraduate men used energy drinks to regulate their personal sense of masculinity, such that threatened masculinity induced increased energy drink consumption, whereas affirmed masculinity induced decreased energy drink consumption.

The relationship between masculinity ideology and energy drink consumption was theorized to be mediated by participants’ expectations of the outcome of consuming energy drinks. Outcome expectations have not yet been studied in regard to the relationship between masculinity ideology and energy drink consumption, although they are a fundamental aspect of social–cognitive theory (Bandura, 1997) and have been found to mediate the relationship between drive for masculinity and steroid use intentions (Parent & Moradi, 2011). The mediated relationships in the present study are posited to be moderated by age, race, sexual orientation, and whether or not participants engaged in extreme sports. Age has been linked to energy drink consumption (Wimer & Levant, 2013), but race, sexual orientation, and extreme sports have not yet been studied and were selected as potential moderators because ads for energy drinks typically feature young White men engaged in extreme sports, and portrayed as attractive to and attracted by women, and thus presumably heterosexual. Finally we tested one health outcome of energy drinks not yet tested—sleep disturbance—as caffeine is known to interfere with sleep (Seifert et al., 2011). We tested the following hypotheses:

**H1:** The endorsement of traditional masculinity ideology will have positive direct and indirect (via expectations of the outcome of consuming energy drinks) relationships with the consumption of energy drinks.

**H2:** Greater consumption of energy drinks will be associated with greater sleep disturbance.

**H3:** These mediated relationships will be moderated by age, race, sexual orientation, and whether or not participants engaged in extreme sports. We expect that the relationships between masculinity ideology and energy drink use to be stronger for young men as compared to older men, White men as compared to racial minority men, heterosexual men as compared to gay and bisexual men, and men who participate in extreme sports as compared to men who do not.

**Method**

**Participants**

Participants were 467 men. Ages ranged from 18 to 62 years (M = 23.27, SD = 8.65, median = 20). Most participants identified as White/European American (60%), 12% as Latino/Hispanic, 11.8% as Black/African American, 4.9% as Asian/Asian American, 7.3% as multiracial, and 4.0% as other races or ethnicities (American Indian, Pacific Islander/Inuit, Middle Eastern, Other) or did not respond. In terms of self-identified sexual orientation, 4.1% identified as gay, 2.1% as bisexual, 93.1% as straight/heterosexual, and 0.6% as other or did not respond. Most participants reported that the highest degree that they completed was high school/GED (79.7%); 7.1% reported Associates degree, 8.4% reported bachelor’s degree, and 2% reported a Master’s degree or higher. The median family/household income range was $60,001 to $80,000. Finally, 30.8% indicated that they participated in extreme sports.

**Procedure**

The study was approved by The University of Akron and The Texas Tech University institutional review boards. Participants were recruited through two methods. Undergraduate student participants were solicited from psychology courses at the two universities, and offered extra credit for their participation in the study, which was posted at an online survey site. Community participants were solicited from the website craigslist.org, where posts were made to the ‘volunteers’ sections of various cities. The
first page of the survey provided the informed consent information, and participants who consented clicked “yes” and were taken to the survey. Upon completion of the survey, participants were provided with an educational briefing on the study. Once they clicked “done,” they were directed to the incentive fulfillment page. This page directed those recruited from a university to the extra credit page and those recruited from the Internet to a raffle page for one of four $50 gift cards. The extra credit and raffle pages were not linked to their answers on the survey, thus keeping responses to the survey anonymous.

Measures

Demographic and Extreme Sports Questionnaire. This questionnaire inquired about gender, age, race/ethnicity, sexual orientation, highest degree completed, family/household income, and participation in “extreme sports (e.g., motocross, mountain biking, skateboarding, BMX, skiing, snowboarding, snowmobile racing).”

Male Role Norms Inventory-Short Form. The Male Role Norms Inventory-Short Form (MRNI-SF; Levant, Hall & Rankin, 2013) is a 21-item measure of traditional masculinity ideology with items rated on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating higher levels of endorsement of traditional masculinity ideology. Confirmatory factor analysis found that the best fitting model was a bifactor structure, in which each observed indicator was modeled as being caused by a general traditional masculinity ideology latent factor (which causes all 21 indicators), and seven specific latent factors reflecting specific masculine norms (each of which causes 3 indicators). These specific norms, sample items, and alpha coefficients of raw scores are as reported by the scale developers: Restrictive Emotionality (e.g., “Men should not be too quick to tell others that they care about them,” α = .83); Self-Reliance Through Mechanical Skills (e.g., “Men should be able to fix most things around the house,” α = .86); Negativity Toward Sexual Minorities (e.g., “Homosexuals should never marry,” α = .88); Avoidance of Femininity (e.g., “A man should prefer watching action movies to reading romantic novels,” α = .90); Importance of Sex (e.g., “A man should always be ready for sex,” α = .83); Dominance (e.g., “A man should always be the boss,” α = .87); and Toughness (e.g., “I think a young man should try to be physically tough, even if he’s not,” α = .79). For the general traditional masculinity ideology latent factor, the α coefficient of the raw score was .92. For the present study, response to items on the total MRNI-SF had an alpha of .94. Evidence for construct validity for its predecessor, the MRNI-R, was provided in Levant, Rankin, Williams, Hasan and Smalley (2010).

Energy Drink Use Outcome Expectations Scale. Because of the lack of appropriate existing measures, the Energy Drink Use Outcome Expectations Scale (EDUOES) was developed for this study based on a prior study on masculinity and energy drinks that used masculine related concepts as primes in an experimental task (Chiou et al., 2013). The EDUOES thus consists of 10 statements, each expressing an expectation of an outcome that evokes masculinity from consuming energy drinks (e.g., “If I consume energy drinks I will be more willing to take risks”). Items were rated on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating greater expectations of positive outcomes. In the present study, responses to items on the EDUOES had an alpha of .97.

Index of Energy Drink Consumption. The Index of Energy Drink Consumption included one item from Miller’s (2008) energy drink questionnaire on the number of days an energy drink was consumed over the past 30 days. Participants selected a number between 0 and 30. Responses to this variable were non-normal, though grouping responses improved normality; responses were categorized into 0, 1–5, 6–10, 11–15, 16–20, 21–25, and 26–30.

Sleep Symptoms Index. The Sleep Symptoms Index (SSI) borrowed (with permission) nine items that focus on sleep disturbances from the Pittsburgh Sleep Quality Index (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989). The nine items began with a question (“during the past month, how often have you had trouble sleeping because you . . .”) and offered various reasons for having trouble sleeping (e.g., “Have to get up to use the bathroom”), which were each rated on a 4-point scale ranging from 0 (not during the past month) to 3 (three or more times a week). Responses to the items were meant to create an average scale score. Scale developers reported coefficient α = .83 for the Pittsburgh Sleep Quality Index, and evidence that the sleep disturbance scale differentiated good from poor sleepers. In the present study, responses to items on the SSI had an alpha of .76.

Statistical Analysis

Structural Equation Modeling. Structural Equation Modeling (SEM) was used to test the relationships between masculinity ideology, outcome expectations of energy drink use, actual energy drink use, and sleep disturbance symptoms. Latent variables were constructed using parcels built in concordance with recommendations by Little, Cunningham, Shahar, and Widaman (2002). Specifically, for MRNI-SF items, parcels were constructed using the MRNI-SF subscales as manifest indicators of the latent construct. For EDUOES and SSI items, item responses were entered into principle axis factoring factor analyses using varimax rotation. Items were assigned to parcels based on distributing items across three parcels in countervailing order. For actual energy drink use, as this was a single-item behavioral manifest variable, the manifest variable was used in the model.

The measurement model was constructed first, consistent with recommendations on best practices in SEM (Quintana & Maxwell, 1999; Weston & Gore, 2006). The model was analyzed in Mplus v.6 (Muthén & Muthén, 1998–2012) using maximum likelihood estimation. We used the following indices to assess fit: (a) comparative fit index (CFI), values of >.90 indicate adequate fit, whereas values of >.95 indicate good fit; (b) root mean square error of approximation (RMSEA), good model fit is suggested by values of .05 or lower and values between .05 and .08 suggest reasonable fit; and (c) standardized root mean square residual (SRMR), values of less than .10 are considered good. As Kline (2011, p. 205) noted, these criteria are rules of thumb, and the indices should be regarded as providing descriptive information about model fit, the value of which “increases when you report values of indices that as a set assess model fit from different perspectives.” According to MacCallum, Browne, and Sugawara (1996), the model with approximately 70 df and between 400 and 500 participants would have a power of approximately 99.
Conditional Process Modeling

To further explore the relationship between masculinity and energy drink use, we used conditional process modeling to test for moderated mediation as outlined by Hayes (2013) using the PROCESS macro. Specifically, we tested to see whether age, race/ethnicity, sexual orientation, and whether or not participants engaged in extreme sports moderated the relationships among masculinity ideology, energy drink outcome expectations, and energy drink use (this model corresponds to Model 59 in Hayes, 2013). Moderated mediation occurs when either path a (from masculinity ideology to outcome expectations) or path b (from outcome expectations to energy drink use), or both are moderated (Edwards & Lambert, 2007). Mean values were calculated using available item responses for masculinity ideology and energy drink outcome expectations. One-tailed tests were used for all moderation tests because they were directional. Power analyses are not defined for complex conditional process models.

Data Cleaning and Missing Data Procedures

The data were thoroughly screened before conducting statistical analyses to ensure the accuracy of the data file. A total of 627 participants began the survey. After eliminating those who did not complete least one scale (n = 98), those who were under 18 (n = 6), those who identified their gender as female (n = 47), transgender (n = 2), or who did not indicate their gender (n = 7), the final sample included 467 men. There were missing data as some participants did not respond to every item. On the MRNI-SF, 30 of 9807 data points were missing (0.3% missingness), on the EDOUES 10 of 4670 data points were missing (0.2% missingness), and on the EDU 20 of 4203 data points were missing (0.5% missingness, and on the EDOUES 10 of 4670 data points were missing (0.2% missingness). There were no missing data points for the EDU scale. No discernable patterns were found by visually inspecting the missing data, which suggested that they were missing at random. With a small percentage of data points missing in a random pattern from a large data set, missing data is not a major concern, according to Tabachnick and Fidell (2007) and Parent (2013). For the SEM analyses, the missing data were handled using available item responses to construct item parcels. For the conditional process modeling analyses, available items were used to construct mean scores for the MRNI and EDOUES; missing data on the single-item moderator variables were handled with listwise deletion.

Descriptive Statistics

Descriptive statistics (means and standard deviations), alpha coefficients (obtained using available item analysis alpha; Parent, 2013), and bivariate correlations of study variables are presented in Table 1.

Structural Equation Modeling

The measurement model (see Figure 1) was assessed first. Overall fit was good, $\chi^2(72) = 313.33, p < .001$, CFI = 0.94, RMSEA = 0.09 (90% confidence interval [CI] [0.08, 0.10]), SRMR = 0.05. All paths from item parcels to intended latent variables were significant at $p < .001$. Factor loadings and correlations between latent constructs are presented in Figure 1.

Because the measurement model was a good fit to the data, analysis proceeded to the structure model (depicted in Figure 2) using 5,000 bootstrapped samples to test indirect effects. This model remained a good fit to the data, $\chi^2(74) = 327.85, p < .001$, CFI = 0.94, RMSEA = 0.09 (90% CI [0.08, 0.100]), SRMR = 0.06. Three of the four direct paths were significant at $p < .001$: from masculinity ideology to energy drink outcome expectations, energy drink outcome expectations to energy drink use, and energy drink use to sleep symptoms. The direct effect (path c) between masculinity ideology and energy drink use was not significant, indicating that complete mediation had occurred. The indirect effect from masculinity ideology, through outcome expectations, to sleep symptoms was $\hat{\beta}_{\text{STANDARDIZED}} = 0.016, SE = 0.006, p < .05; \hat{B}_{\text{BOOTSTRAP}} = 0.005, SE = 0.002, 95% Bootstrap CI [0.002, 0.010]$. For energy drink outcome expectations, $R^2 = 0.03$; for energy drink use, $R^2 = 0.13$, and for sleep symptoms, $R^2 = 0.06$ (which correspond to small, medium, and small effect sizes, respectively; Cohen, 1992).

The results supported the hypothesized model in which endorsement of masculinity ideology was associated with increased outcome expectations for benefits of energy drinks, which was in turn associated with increased energy drink consumption, which finally was associated with greater sleep disturbance symptoms.

Conditional Process Modeling

To further explore the relationship between masculinity ideology and energy drink use, we used conditional process modeling to test for moderated mediation as outlined by Hayes (2013) using the PROCESS macro. Specifically, we tested to see whether age, race/ethnicity, sexual orientation, and participation in extreme sports moderated the relationships among masculinity ideology, energy drink outcome expectations, and energy drink use. Missing data on the moderator variables were handled with listwise deletion.

Using the entire sample, age moderated the relationship between masculinity ideology and energy drink outcome expectations (path $a$), $\beta = -0.01, SE = 0.01, p < .05$, but did not moderate the relationship between energy drink outcome expectations and en-
energy drink use (path b). Analysis of the moderation effect indicated that the relationship between masculinity ideology and energy drink use was not significant for older participants (plus 1 SD above the mean), $\beta = .04, SE = .03, 95\% CI [-.005, .11]$; the relationship was significant for younger participants (the minimum age because $-1 SD$ was outside the range of the data), $\beta = .11, SE = .03, 95\% CI [.05, .18]$.

For race, the race variable was grouped into persons who identified as White and persons who identified as African American/Black, Hispanic/Latino, Asian, and multiracial—those racial/ethnic groups that are traditionally considered “racial minorities” in the United States. Results indicated significant moderation of the relationship between energy drink outcome expectations and energy drink use (path b) by race, $\beta = .19, SE = .09, p < .05$. However, race did not moderate the relationship between masculinity ideology and energy drink outcome expectations (path a). Analysis of the moderation effect indicated that the relationship between energy drink outcome expectations and use was not significant for the racial/ethnic minority participants, $\beta = .04, SE = .03, 95\% CI [-.01, .11]$; the relationship was significant for White participants, $\beta = .09, SE = .04, 95\% CI [0.02, .17]$. The Index of Moderated Mediation, a test of equality of the conditional indirect effect for dichotomous moderators, was not significant ($\beta = 0.05, SE = 0.05, 95\% CI [-0.05, 0.15]$), indicating that the indirect effects were different for the two racial groups, and thus that moderated mediation had occurred.

Contrary to expectations, no significant effects emerged for sexual orientation and self-reported extreme sport participation as moderators of the relationships among variables. Thus, moderation was observed for age and race.

**Discussion**

**Summary and Discussion of Results**

Results of the present study support the hypotheses that the endorsement of traditional masculinity ideology would be associated with increased outcome expectations for energy drink consumption, outcome expectations for energy drink consumption would be associated with actual energy drink use, energy drink use would be associated with sleep disturbance, and that these relationships would be moderated by age and race. The link between masculinity ideology and energy drink use suggests that energy drink use may be a means of performing masculinity (i.e., demonstrating that one is consuming products that are associated with the engagement in extreme sports or an otherwise active and competitive lifestyle), as a way to raise masculine capital (de Visser & McDonnell, 2013; Gough, 2013).

The present study adds to the literature on potential negative health implications of the endorsement of traditional masculinity ideology. As noted in the introduction, the endorsement of and conformity to traditional masculinity norms have been associated in prior literature with negative health consequences, including alcohol abuse, reluctance to be tested for HIV, and other health risk behaviors among diverse samples of men (Levant & Richmond, 2007; Levant et al., 2011; Parent et al., 2012; Wells et al., 2014). Further, prior literature has tended to focus on either precursors to energy drink use (e.g., masculinity ideology, jock identity) or health implications of energy drink use (e.g., dehydration and its sequelae). The present study offers a bridge between these two lines of work.

The finding that the relationships between the endorsement of traditional masculinity ideology, outcome expectations for energy drink consumption, energy drink use, and sleep disturbance were moderated by age and race raises several interesting points. First, the moderation by age may be a product of both the negative relationships between age and the endorsement of traditional masculinity ideology (Levant & Richmond, 2007) and between age and energy drink consumption (Wimer & Levant, 2013). As men get older, they are less likely to endorse masculine norms and less likely to consume energy drinks. One possible explanation for this is that men tend to accumulate masculine capital as they age, and thus older men have less need to raise further capital. Second, the moderation by race is perhaps best discussed in terms of the intersectionality perspective. The intersectionality perspective draws attention to the “mutually constitutive relationships among social identities,” particularly those of race and gender (Shields, 2008, p. 301), and offers a route for a critical examination of the ways in which masculinity operates differently in the lives of men of different races. In the United States, men of color construct distinctive masculinities because of historical and structural inequalities, which inform the construction, embodiment, and enactment of masculinity (Levant & Wong, 2013). In the present study, the relationship between masculinity ideology and energy drink outcome expectations was significant for both White and racial/ethnic minority men, whereas the relationship between energy drink outcome expectations and use was significant for the White, but not for the racial/ethnic minority participants. This suggests that both White and racial/ethnic masculinities are associated with expectations that energy drink use will raise masculine capital;
However only with the White participants was this associated with actual consumption. The present data do not allow the further examination of why this occurred, and thus this is a task for future research.

We expected sexual orientation to affect energy drink use because energy drinks are marketed to appeal to heterosexual men but did not find support for this hypothesis in the present study. The lack of finding was either due to low power, as only 6.2% of participants who identified as gay or bisexual, or a result of combining gay and bisexual participants for the purposes of gaining power. Future research should attempt to recruit a larger number of gay and bisexual men to further explore this topic. We expected participation in extreme sports to affect energy drink use due to prior research (e.g., Miller, 2008) but did not find support for this hypothesis in the present study. One possible explanation is that we assessed for self-reported participation in extreme sports, rather than jock identity as Miller (2008) did. It is possible that identity as a jock may not be strongly related to actually engaging in sport activities, and that personal identity affects energy drink use more than actual sport participation. Future work might extend this research by sampling from actual extreme sport clubs (which are very common at universities and in communities) to assess actual, rather than self-reported, extreme sport participation.

Limitations and Future Directions for Research

There are several limitations to the current study. First, given the correlational nature of the data, inferences cannot be made about causal relationships between predictors, moderators, and participants’ consumption of energy drinks. As well, as temporal causality cannot be inferred, it is possible that the relationship between sleep disturbance and energy drink use is recursive, with energy drink use causing sleep disturbance and then energy drinks being used to self-medicate to stay awake during the day due to poor sleep. Second, the majority of respondents in the investigation were young, White, college heterosexual men, raising concerns about the generalizability of the findings, although energy drink consumption is likely higher on college campuses. Future research should attempt to replicate the present findings with a more diverse population in terms of age, race/ethnicity, or sexual orientation. In particular, socioeconomic status might also play a role in energy drink use, if use increases with disposable income. The self-report nature of the surveys introduces the possibility of bias due to socially desirable responding. A future study using a multimethod design (including the interviewing method) would strengthen evidence for these relationships. Further, given that we drew participants from two populations, comparing these two populations on the study variables might have been instructive. Unfortunately, we were unable to conduct this analysis because although participants were asked to indicate how they were recruited for the study, almost half (46.7%) of the sample did not respond to this question, making any analysis based on these data questionable at best. In addition, our measure of education was not adequate, given that a large proportion of the sample are currently in tertiary education and therefore most will imminently gain higher qualification; we should have had a response option that indicated some college enroute to a bachelor’s degree. Finally, the present study did not investigate the influence of exposure to energy drink marketing on outcome expectations and energy drink consumption, to gain insight into how men “buy in” to the marketing of energy drink as a masculine product. Future research might include questions tapping exposure to advertisements for energy drinks.

Implications for Health Care Practice and Policy

Readers who provide health care to men should be aware of the growing dangers of energy drink consumption due to aggressive marketing and lax regulation. In particular, among sleep disordered patients providers may inquire about energy drink use (because, as mentioned, energy drinks are not required to report caffeine content on labels, patients may be unaware of how much caffeine they are ingesting) when asking about substances and supplement use at intake. Many persons who ingest large amounts of energy drinks, however, may never present at the offices of physicians or mental health care providers. Thus, this work and further research in this area may point toward the need to advocate for primary prevention interventions, such as advocating for legislation to require reporting the dose of caffeine in energy drinks, because food labels have been found to be often-read and used by consumers (Campos, Doxey, & Hammond, 2011).

References


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