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The effect of belonging to an alcohol-proscribing religious group on the relationship between moderate alcohol consumption and mortality

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ABSTRACT

The purpose of this study was to examine whether belonging to a religious group that proscribes alcohol use moderated the relationship between moderate alcohol use and mortality. Data came from the Americans' Changing Lives study, based on a representative probability sample of adults 25 and older in the US, including 3390 participants (2135 female). Survey data were collected in 1986, and mortality tracked by death certificate through 2005. Proportional hazards modeling indicated that, consistent with previous research, moderate alcohol consumption (two drinks or fewer per day on average) was related with lower mortality compared with both total abstention from alcohol and heavy consumption (more than two drinks per day) among participants who did not belong to an alcohol-proscribing group. By contrast, moderate drinkers who belonged to alcohol-proscribing groups had higher mortality risk compared with non-drinkers. Means comparisons suggested possible group differences including health behaviors (moderate drinkers in proscribing groups drank somewhat less often but more on each occasion and were more likely to smoke) and social relationships (they had fewer close friends, felt more isolated, and had more negative social interactions). Members of religious groups that proscribe alcohol use may have health risks associated with moderate alcohol use that are not present in the general population. Practitioners should be aware of religious cultural differences when assessing individuals' risk from alcohol use.

Numerous epidemiological studies provide evidence that alcohol consumption has a curvilinear relationship with mortality, with moderate drinkers tending to live longer than both non-drinkers and heavy drinkers (Di Castelnuovo et al., 2006; Gmel, Gutjahr, & Rehm, 2003). Several major studies have also linked religious involvement with lower mortality (Hummer, Ellison, Rogers, Moulton, & Romero, 2004; Musick, House, & Williams, 2004), and a number of researchers have suggested that some of the effects of religion on health may be explained by discouraging heavy alcohol consumption (McCullough, Friedman, Enders, & Martin, 2009). However, religious teachings regarding alcohol vary considerably (Michalak, Trocki, & Bond, 2007), and members of groups that proscribe its use may miss the potential benefits of moderate consumption. Furthermore, deviating from group norms can negatively affect the extent of social support and positive sense of self that people derive from belonging to a religious group (Hayward & Elliott, 2009), and so members of alcohol-proscribing groups who do drink may face other barriers that diminish the impact of moderate consumption on longevity. In this study we use survey data from the Americans' Changing Lives study, with follow-up data on timing of death over a period of 19 years, to examine whether affiliation with a religious group that proscribes alcohol consumption changes the relationship between moderate drinking and mortality.

Alcohol and mortality

The health effects of alcohol use are complex. Although alcohol consumption increases risk for serious health problems including certain types of cancer, liver disease, and accidental injury, it is also related to decreased risk of diabetes and cardiovascular diseases (Room, Babor, & Rehm, 2005). Experimental studies have shown that regular consumption of moderate amounts of alcohol causes changes in lipids and hemostatic factors that are in turn related to cardiovascular risk, suggesting a potential physiological pathway for these effects (Rimm, Williams, Fosher, Criqui, & Stampfer, 1999).

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Correspondingly, numerous studies in a variety of populations have found that moderate alcohol consumption is related to lower mortality, compared with both abstinence from alcohol and heavy consumption, especially from death due to cardiovascular and cerebrovascular causes (Thun et al., 1997). Two recent meta-analyses each estimated an average protective effect of approximately 20% for moderate drinking on all-cause mortality (Di Castelnuovo et al., 2006; Gmel et al., 2003). Previous research using alcohol use and mortality data the Americans' Changing Lives study also supports this pattern (Lantz, Golberstein, House, & Morenoff, 2010).

Although most researchers have focused on the physiological causes of the health effects of alcohol (e.g., Rimm et al., 1999), others have suggested that psychosocial factors also play a role in this relationship (Heath, 2007; Skog, 1996). For example, in one study of alcohol and mortality in older adults, moderate drinkers were found to have more close friends, receive higher quality social support, and practice healthier stress coping strategies in comparison to both non-drinkers and heavy drinkers (Holahan et al., 2010). Cultural differences have also been found to moderate the relationship between alcohol use and mortality, with protective effects persisting at higher levels of consumption in countries with higher average rates of alcohol use, perhaps due to social norms encouraging moderate regular consumption rather than infrequent binge drinking (Gmel et al., 2003). There has been relatively little research examining group differences in the health effects of alcohol use, but the results described above suggest that social and behavioral factors may have important implications for this relationship; moderate drinking may be related to social integration and coping, and moreover its impact may depend on social norms and expectations that differ between communities.

Religion and alcohol

Numerous studies have linked religious involvement with a greater likelihood of abstaining from alcohol completely (Michalak, Trocki, & Bond, 2007), and with lower consumption among those who drink (Lambert, Fincham, Marks, & Stillman, 2010). This relationship may have multiple causes. Most straightforwardly, religious involvement may expose people to explicit messages discouraging alcohol consumption, for example in religious literature and in sermons (Ayers et al., 2009). Religious involvement may also enhance individuals' self-control, which may in turn reduce their alcohol consumption (Desmond, Ulmer, & Bader, 2013; McCullough & Willoughby, 2009). Drinking behavior may also be affected by the informal social norms of religious groups, as those who are more involved are more likely to use other members of the religious organization as a reference group against which to judge their own drinking behavior (Beeghley, Bock, & Cochran, 1990; Chawla, Neighbors, Lewis, Lee, & Larimer, 2007; Glassner & Berg, 1980). Likewise, drinking norms may be reinforced by the tendency of individuals to marry spouses with similar religious views, creating a domestic environment that supports adherence to religious teachings with respect to alcohol (or undermines them, in religiously heterogamous unions) (Ellison, Barrett, & Moulton, 2008).

The role of religious groups' teachings regarding alcohol in shaping adherents' individual drinking behavior has received somewhat less attention. Religious traditions espouse a wide range of official positions on alcohol use. At one end of the spectrum – such as among Muslims, the Latter Day Saints, and many evangelical Protestants – alcohol use is flatly proscribed, whereas at the other – such among Catholics and Orthodox Christians – it is not discouraged and even forms a symbolic element of worship. A number of studies indicate that these differences are reflected in different attitudes toward alcohol between members of different religious denominations (Chawla et al., 2007; Francis, 1997; Mills & Caetano, 2010). However, as Michalak et al. (2007) have argued, it is difficult to assess the impact of religious proscription because many groups have changing or inconsistent teachings regarding alcohol, and because individuals do not always have accurate information regarding those teachings. Nevertheless, research indicates that members of alcohol-proscribing groups assign more importance to religion when making decisions about drinking, which helps to explain their lower levels of alcohol consumption (Ellison, Bradshaw, Rote, Storch, & Trevino, 2008).

There has been little empirical research into how religious proscriptions on alcohol use are related to health outcomes. Although a number of researchers have suggested that reduced drinking may help to explain some of the salutary relationship between religious involvement and health (Koenig, King, & Carson, 2012; McCullough et al., 2009), this conclusion is at least partially at odds with the body of research linking moderate drinking with better health (Di Castelnuovo et al., 2006; Rimm et al., 1999). To the extent that members of these groups adhere to those proscriptions, they may not only avoid the risks associated with heavy alcohol consumption, but also be denied the protective effects of moderate consumption.

Theoretical linkages between religious norms and health

There are at least four reasons why members of groups that prohibit alcohol may not derive benefits from moderate alcohol consumption. First, members of alcohol-proscribing groups may have fewer models for healthy alcohol consumption (Beeghley et al., 1990; Chawla et al., 2007; Glassner & Berg, 1980), and thus may be more likely to engage in unhealthy patterns of consumption, such as binge drinking (Gmel et al., 2003), which could also reinforce and encourage poor health behavior in other domains such as smoking and eating. Second, individuals who perceive themselves as deviating from the group prototype, or ideal qualities that make a good member, can experience reduced ability to derive health and well-being benefits from the group (Hayward & Elliott, 2011). Since alcohol consumption is a violation of some groups' religious teachings (Ayers et al., 2009), drinkers in alcohol-proscribing groups may perceive themselves as deviant in this way, contributing to a negative self-image with damaging implications for mental health. The religious nature of the violation may compound these problems by contributing to negative religious coping, for example by making drinkers fear that God will punish them for violating the rules (Exline, Yali, & Sanderson, 2000).

Third, proscription may make people who drink become more socially isolated because of real or anticipated approbation from other group members. They may be less likely to seek and receive social support, and may face more negative social interaction, both of which can have negative implications for health (Ellison et al., 2009; Krause, 2002; Krause & Hayward, 2013). Finally, there may be certain psychological characteristics that are more likely to be associated with drinking in groups in which it is proscribed. For example, those who choose to drink even when it is proscribed may tend to be fatalistic and to have a generally poor sense of control over their actions or may have other personality traits predisposing them to risk-taking behavior generally (Miller & Hoffmann, 1995), which may contribute to risky behavior in other domains and thus create a spurious relationship with mortality.

Hypotheses

Consistent with previous findings in the general population, we expect that among those who do not belong to alcohol-proscribing