

GOD, GUNS, DRUGS, AND HAPPINESS



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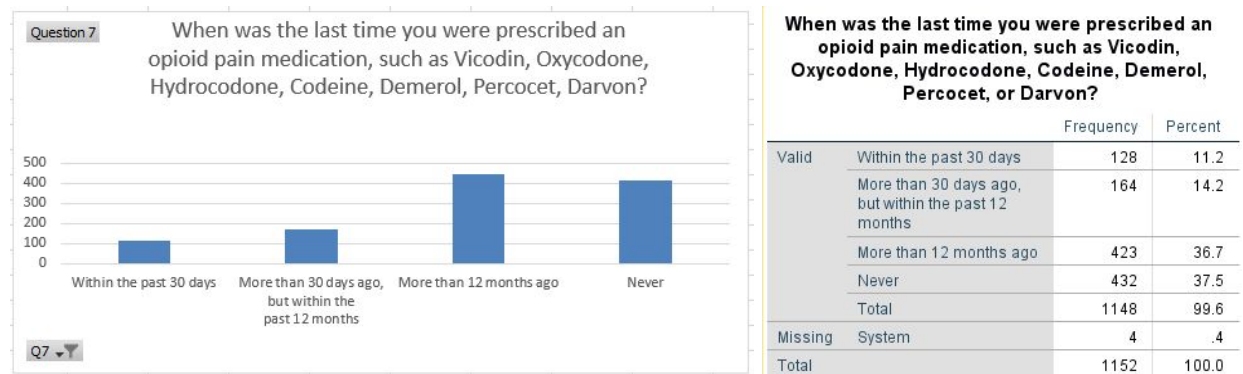
JOEL MCINTYRE

Part 1: Opioids in the Community

The first question in the survey allowed a open-ended response to the question “Think about your community. What do you think is the most serious health problem facing people in your community today?” Among the most prominent responses in the sample, “cancer” was mentioned 118 times, and “obesity” was mentioned 101 times, both of which would warrant further examination. However, “opioid” or “opiate” were collectively mentioned 44 times, and “drug” was mentioned 139 times; all together representing about 16% of the sample. Because the survey contains several opioid-related items, this is the topic we chose to focus on for Part 1.

Prescription Frequencies

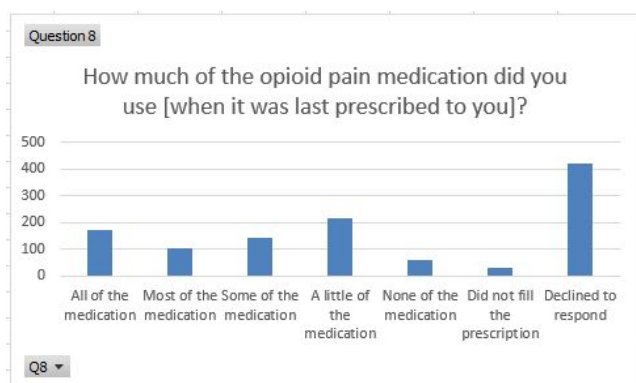
Shown below, survey-takers were asked the questions “When was the last time you were prescribed an opioid pain medication, such as Vicodin, Oxycodone, Hydrocodone, Demerol, Percocet, or Darvon?” Responses were as follows: 11.2% said “Within the past 30 days,” 14.2% said “More than 30 days ago, but within the past 12 months,” and 36.7% said “More than 12 Months Ago.” 37.5% said that they have never been prescribed opioid drugs.



People answering “Never” above were subsequently instructed not answer the following questions. Below, “declined to respond” or “missing” includes all Never respondents.

How Much do People Take?

When asked “How much of the opioid pain medication did you use [when was prescribed to you]?” Responses showed: 14.9% said “All of the medication,” 9.4% said “Some of the medication,” 12.8% said “Some of the medication,” 17.8% said “A little of the medication,” and a total of 7.1% said either “None of the medication,” or “Did not fill the prescription.”



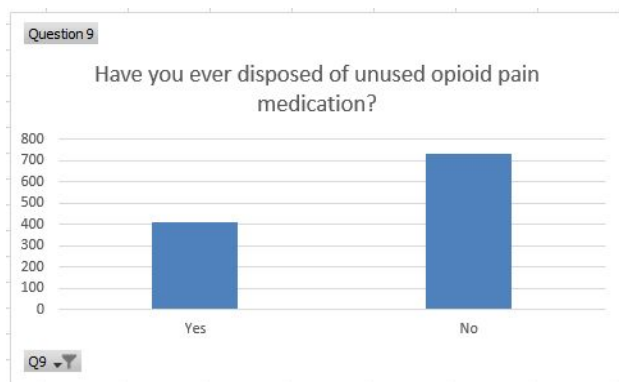
How much of the opioid pain medication did you use?

		Frequency	Percent
Valid	All of the medication	172	14.9
	Most of the medication	109	9.4
	Some of the medication	147	12.8
	A little of the medication	205	17.8
	None of the medication	54	4.7
	Did not fill the prescription	28	2.4
	Total	715	62.0
Missing	System	437	38.0
Total		1152	100.0

“A little of the medication” was the most common response, perhaps due to accurately represented behavior, and also possibly in part due to the social desirability bias.

What do I do With Leftovers?

A particularly telling survey item has results displayed below. The item asked “Have you ever disposed of unused opioid pain medication?”



Have you ever disposed of unused opioid pain medication?

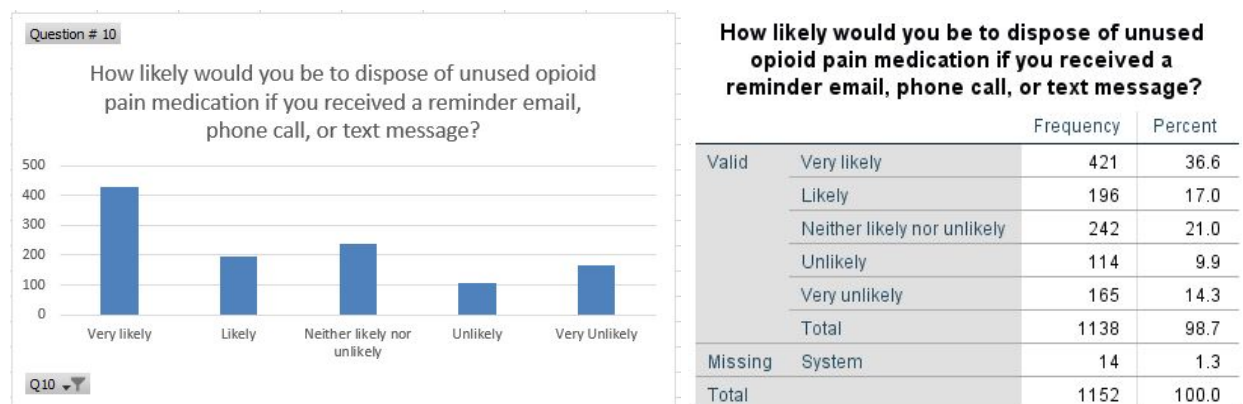
		Frequency	Percent
Valid	Yes	402	34.9
	No	737	64.0
	Total	1138	98.8
Missing	System	14	1.2
Total		1152	100.0

At first - referencing the bar chart, results seem conclusive. It looks like, according to this survey, most people don't usually throw leftover opioid pain medication away. However, this proportion is misleading because of the 737 people who said they have never thrown away opioid pain medication, more than 400 have never received a relevant prescription. This detail paints a different picture. Of the approximately 700 people who have at least one time received opioid pain medication, about 310 did not dispose of leftovers - just slightly less than half.

Furthermore, 172 people said they finished the medication, leaving approximately 138 people who may currently be in possession of legally prescribed, but unused opioid pain medication - before considering social desirability bias. Assuming the data is accurate, about 1/10 of survey takers either may have unused opioid pain medication in their home, or may have inadvertently facilitated escape of opioid pain medication into the hands of someone for whom it was not prescribed. If the survey sample is representative of the population, this observation has grim implications.

Unused opioid disposal reminders

However, it appears that this phenomenon could be remedied inexpensively in part by reminding people to dispose of unused pills, as shown below.



This item measures responses to “How likely would you be to dispose of unused opioid pain medication if you received a reminder email, phone call, or text message?” A total of 53.6% of respondents said they would be either “very likely” or “likely” to dispose of unused opioid medication if reminded by email, phone call, or text message. Neutral responses encompasses 21% of the sample, and negative responses encompassed the other 24.2%.

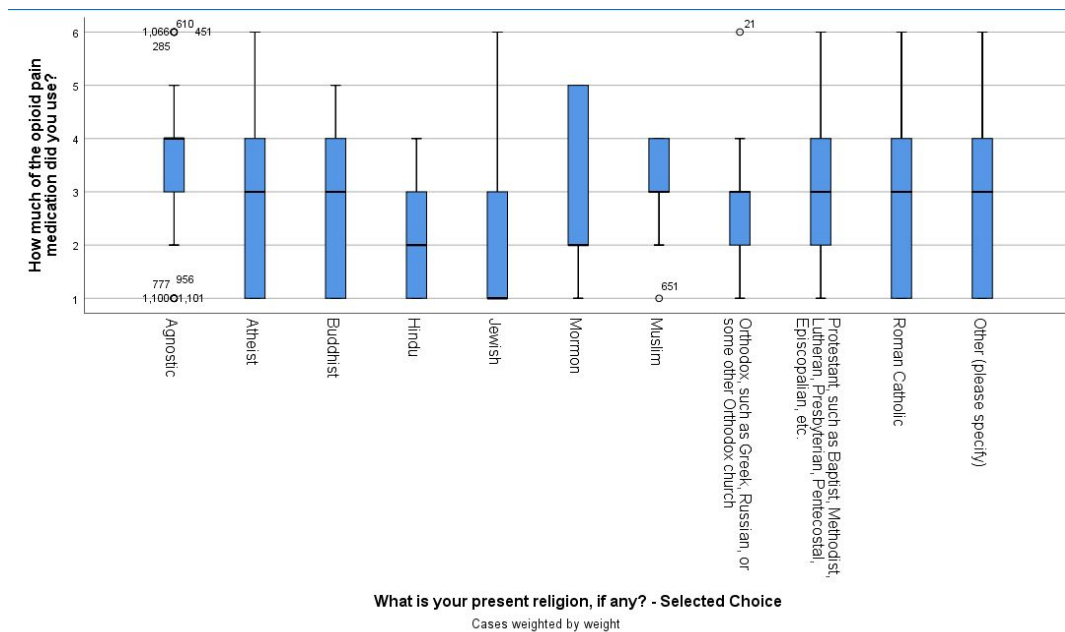
This finding warrants further analysis - How many of the people who currently might be in possession of unused opioid painkillers would also be likely to dispose of them if reminded?

If a disposal-reminder initiative is able to reduce forgotten opioid medication availability by half, or in 6% to 7% of the population, it might have an worthwhile impact in the community. The relationships expressed would justify further research into the veracity of such an initiative.

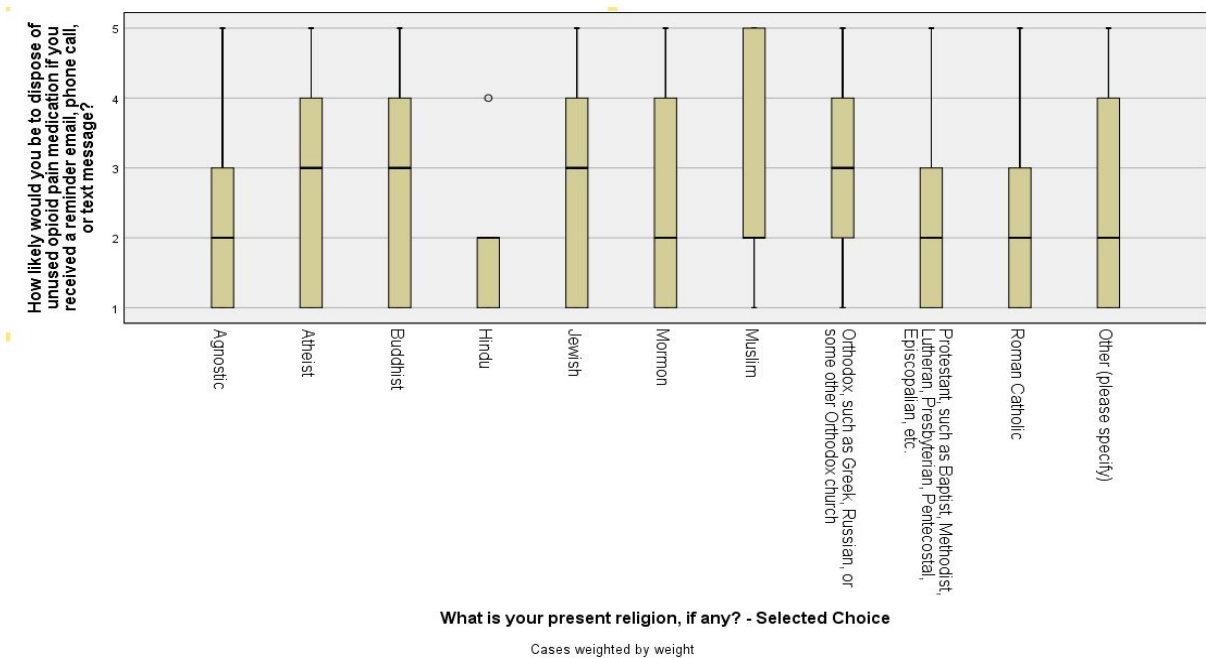


Opioid Relationships

If taxpayers are to fund an opioid-disposal reminder initiative, the designers of such a program would be wise to focus their efforts appropriately. The plot below suggests that members of some communities might be more likely to possess unused medication when compared with others. 6 at the top end of the chart represents no medication used, and 1 at the bottom represents respondents having used all of the prescribed medication. This chart does not represent a statistically significant relationship between these two survey items, so to justify use of this type of data further research would be necessary.



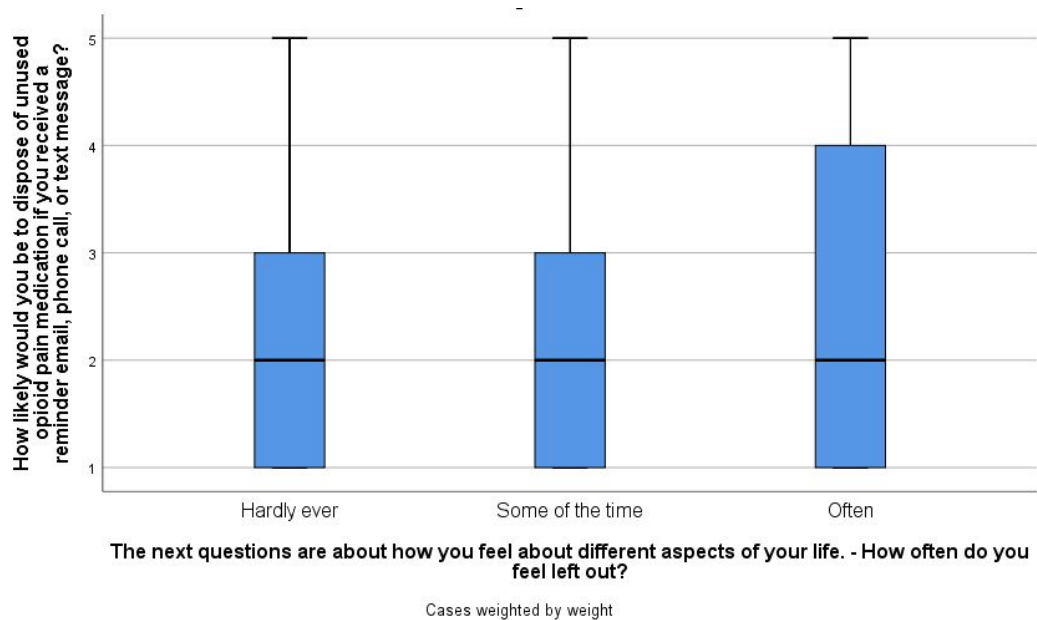
Religions and stated responsiveness to an opioid disposal reminder



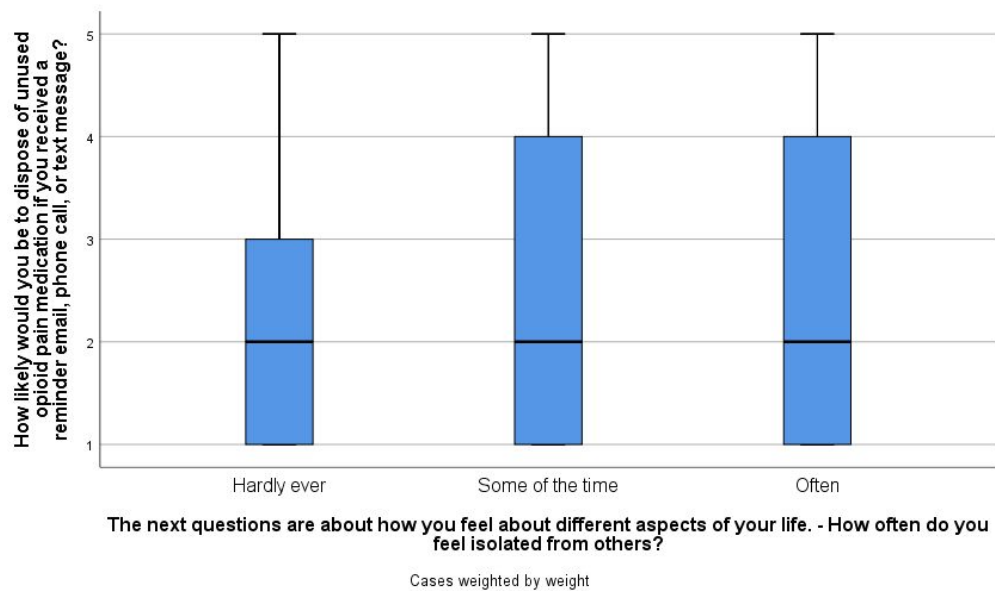
This plot shows how likely to dispose of unused opioid medication people said they would be if they were reminded via phone call, email, or text message, classifying respondents by stated religion. A higher number on the left side shows that someone is more likely to keep unused opioid medication, even when reminded to dispose of it. Members of all religion categories gave all possible responses, except Hindu, which had a very small sample size the members of which stated they would be very likely to .

As the graph shows, people who have a stated religion of Islam say that they are the least likely to dispose of the medication when reminded, and few people in the sample who have a stated religion of Hindu say that they are least likely to keep the medication. However, these results are not statistically significant, and in utilizing them a policymaker should first order further examination.

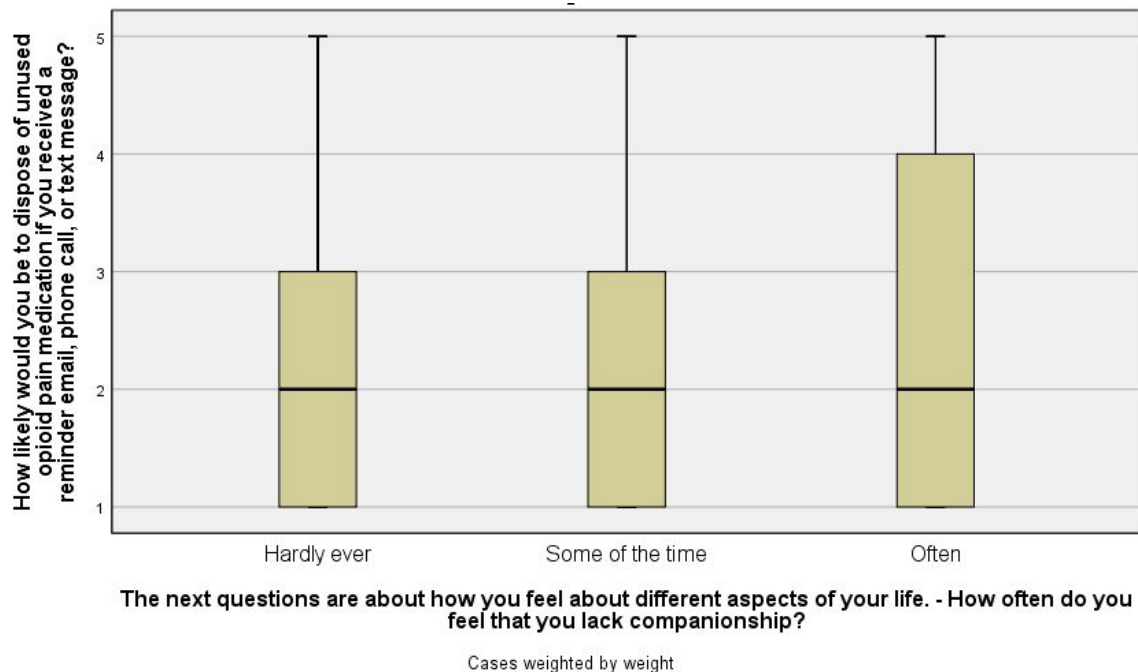
Opioids and lack of social support



This item measures responses to “How likely would you be to dispose of unused opioid pain medication if you received a reminder email, phone call, or text message?” We plotted the responses, comparing the results with responses to three response items. Two statistically non significant relationships are displayed on this page.



While the two relationships examined above are not statistically significant, a trend is observable showing that people who score higher on these negative emotion scales are more likely to be unresponsive to the opioid disposal reminder.



Of the 3 in this construct, Lack Companionship is the only one that has a statistically significant relationship with keeping unused opioids even when reminded to trash them. Survey-takers who said that they feel that they “often” lack companionship were significantly more likely to say that they would be unresponsive to an opioid disposal reminder.

Part 2: Guns and Self-Evaluation

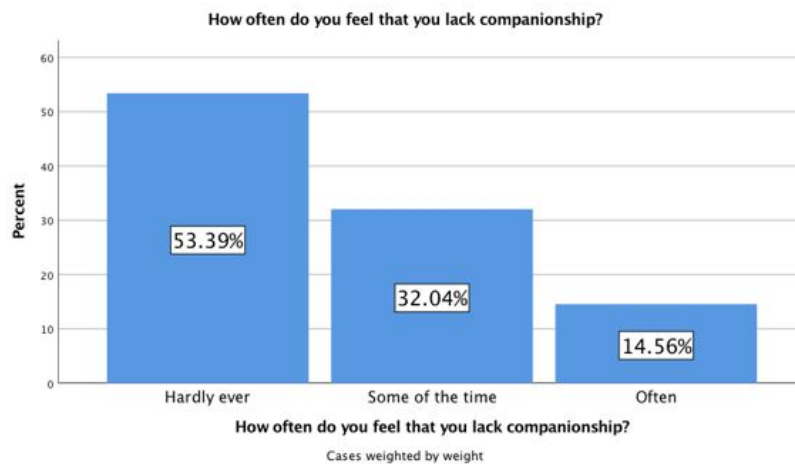
Having Fired a Gun

The survey asked subjects “In the past 12 months, have you personally fired a gun under any circumstances?”. The chart shows that 78.07% of subjects answered “No” to personally fired a gun in the past 12 months, and 21.93% of subjects answered “Yes”.

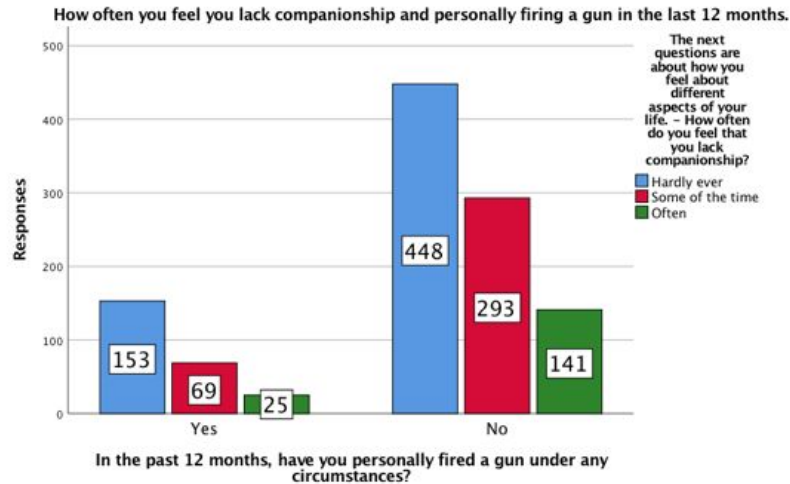


Having Fired a Gun and Lacking Companionship

The survey asked a few questions related to a subject's perception of their social being. First, the survey asked "How often do you feel you lack companionship?", with the responses being "Hardly Ever", "Some of the time", and "Often". 53.39% of subjects responded "hardly ever", 32.04% responded "some of the time", and 14.56% responded "often".

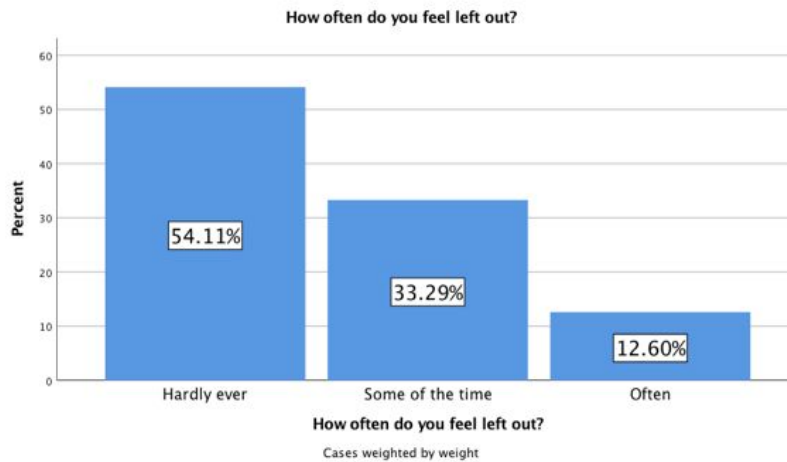


We divided the responses for the question "How often do you feel you lack companionship?", by the subjects response to the question "In the past 12 months, have you personally fired a gun under any circumstances?". From the chart below, the most common set of responses is "No" to having fired a gun in the last 12 months and "Hardly Ever" to feeling a lack of companionship. This means that people who do not lack companionship are more likely to not have also not fired a gun than any other pair of responses.

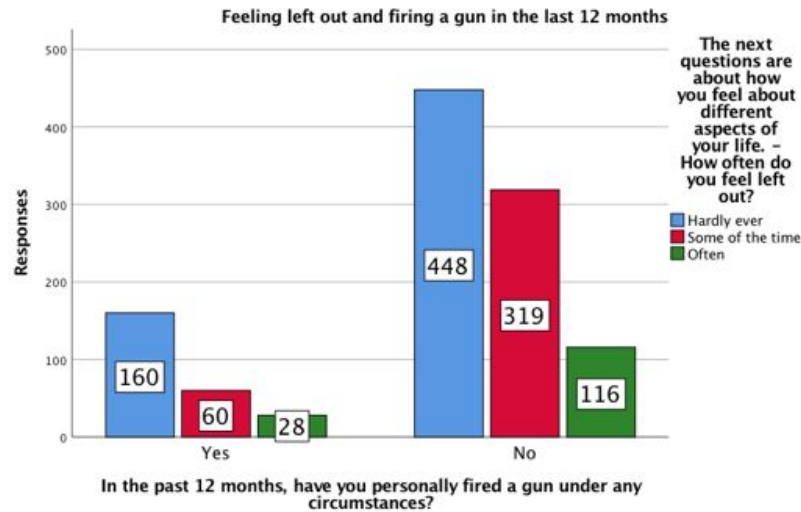


Having Fired a Gun and Feeling Left Out

Next, the survey asked “How often do you feel you feel left out?”, with the responses being “Hardly Ever”, “Some of the time”, and “Often”. 54.11% of subjects responded “hardly ever”, 33.29% responded “some of the time”, and 12.60% responded “often”.

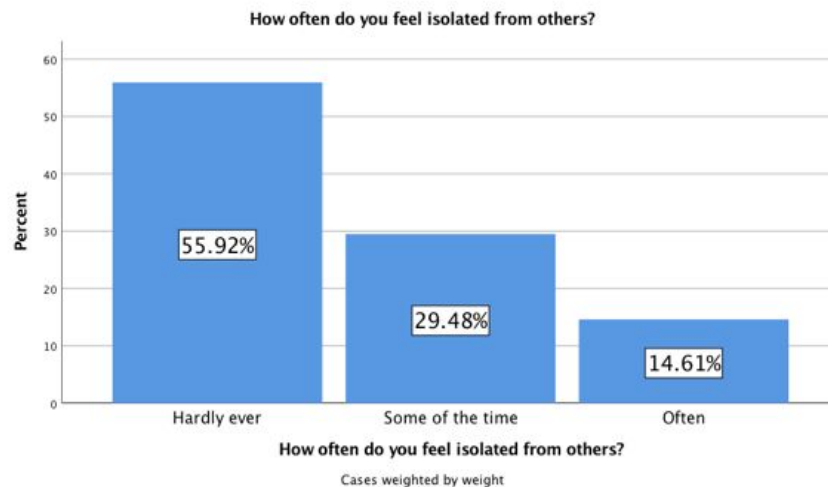


The next graph shows responses to the question “How often do you feel left out?” subdivided by response to the question “In the past 12 months, have you personally fired a gun under any circumstances?” From the chart below, the most common set of responses is “No” to having fired a gun in the last 12 months and “Hardly Ever” to feeling left out. This means that people who do not feel left out are more likely to not have also not fired a gun than any other pair of responses.

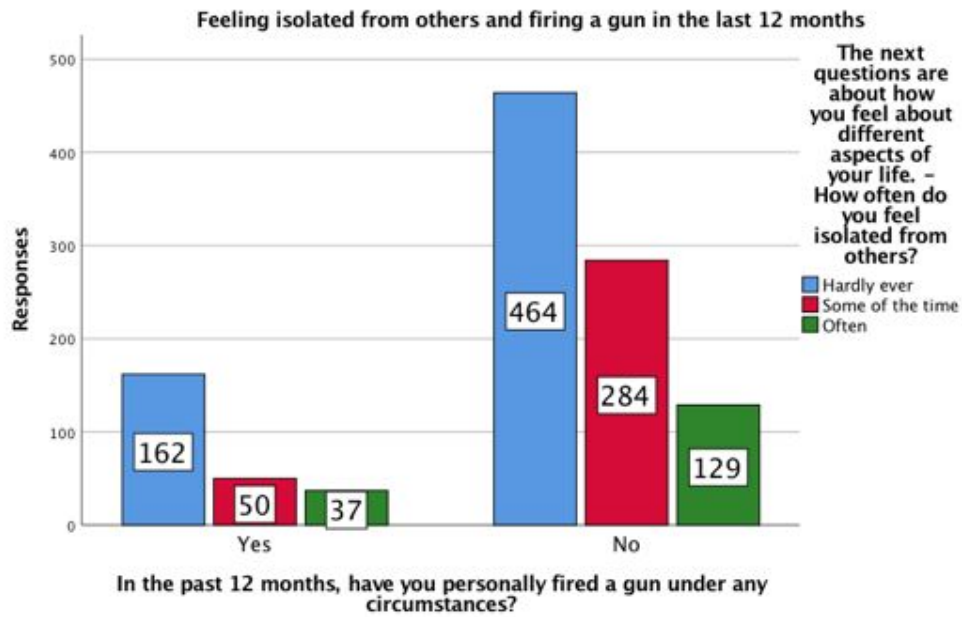


Having Fired a Gun and Feeling Isolated

Next, the survey asked “How often do you feel isolated from others?”, with the responses being “Hardly Ever”, “Some of the time”, and “Often”. 55.92% of subjects responded “hardly ever”, 29.48% responded “some of the time”, and 14.61% responded “often”.

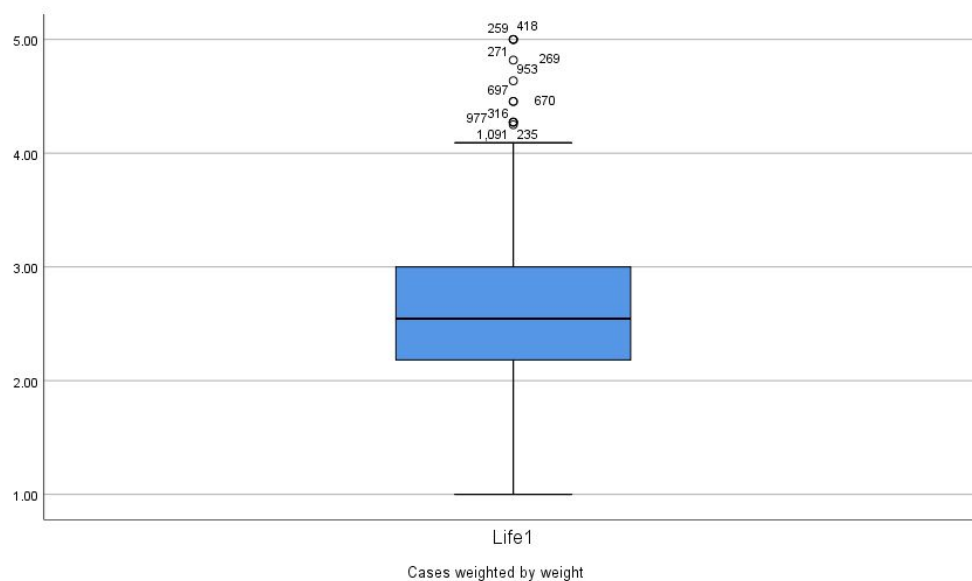


The graph below shows responses to the question “How often do you feel isolated from others?” broken up by the subject responses to the question “In the past 12 months, have you personally fired a gun under any circumstances?” The most common set of responses is “No” to having fired a gun in the last 12 months and “Hardly Ever” to feeling isolated. This means that people who do not feel isolated are more likely to not have also not fired a gun than any other pair of responses.



Part 3: Satisfaction with Life

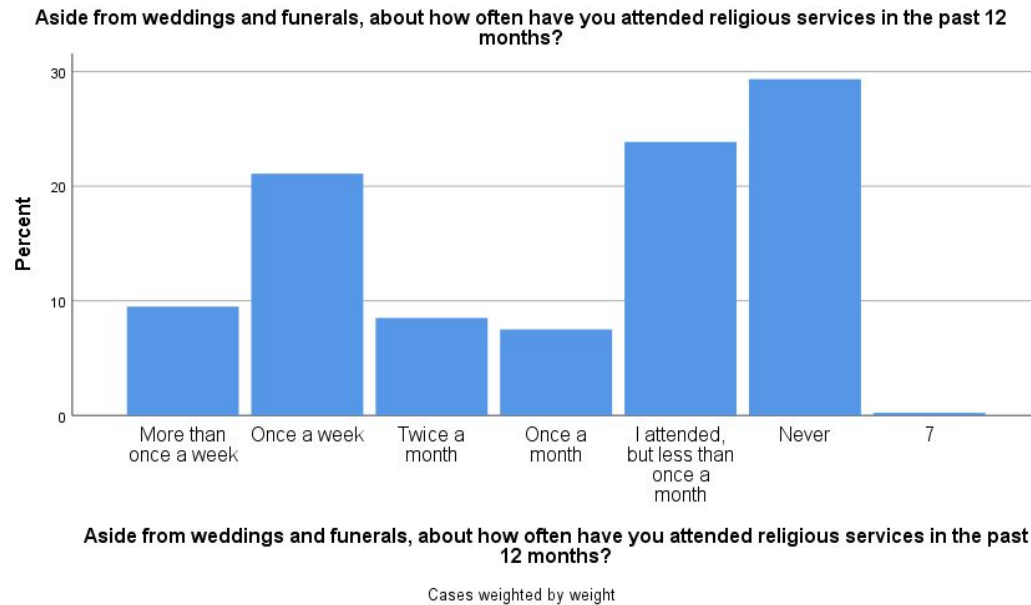
More than 1100 participants were scored on eleven items designed to measure their satisfaction with life. Each question used a five item Likert scale to score participants' responses, with a 5 item scale that ranged from 1, strongly agree, to 5, strongly disagree. On the average, participants reported being generally satisfied with life.



Church attendance

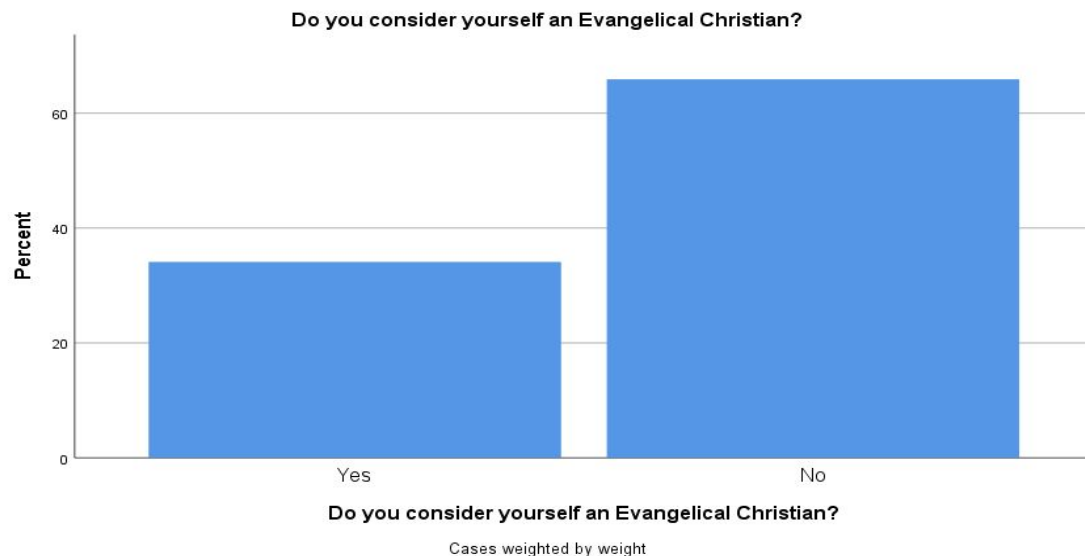
More than 1100 participants responded to a query about their attendance to religious services other than weddings or funerals. Responses ranged from 1, more than once a week, to 7, never. Results were mixed for more than 1100 participants. Statistical analysis showed the possibility of a small relationship between how often participants attended church, and their satisfaction with life, which suggested that people who attended church less frequently were less satisfied with their life.

The greatest percentages of people reported attending a religious service once a week (21.1%), less than once a month (23.9%), and never attending (29.3%). Those who attended church less frequently were less likely to be satisfied with themselves, less confident they get the success they deserve in life, less capable of coping with most of their problems, less likely to report their life was close to ideal, less likely to report excellent life conditions, less satisfied with life in general, less likely to report having gotten the things they want in life, and less likely to change nothing if they could live their lives over. Participants who reported attending church less were marginally more likely to feel depressed.



Evangelicalism

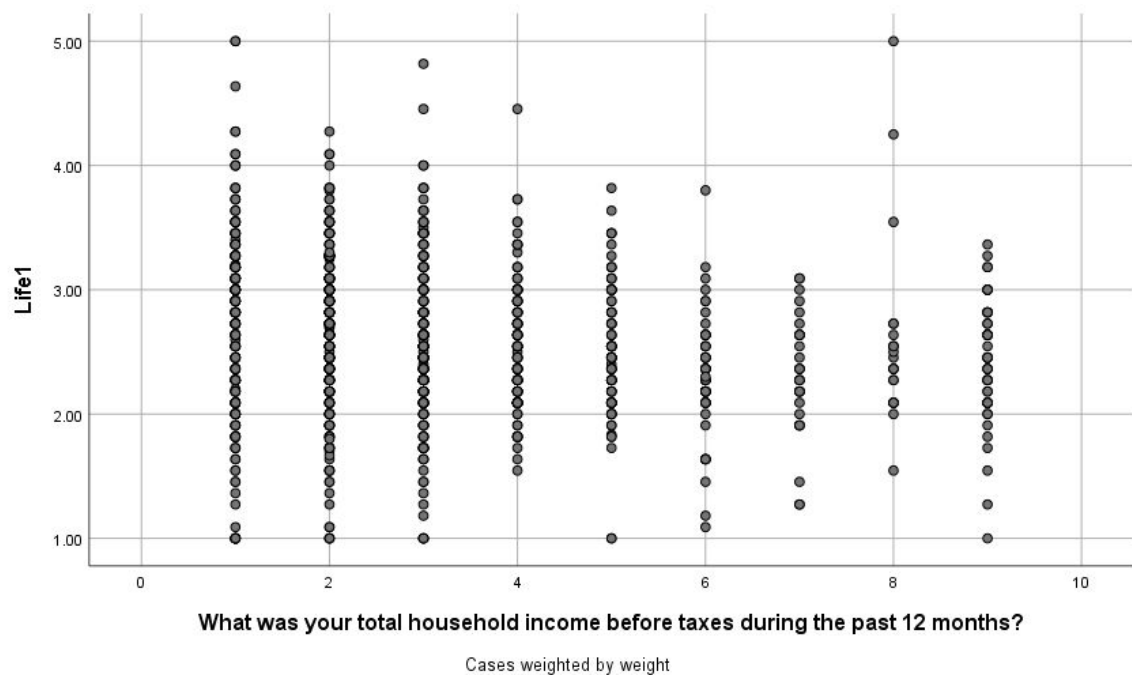
Among 1114 participants, 64.9% reported they were not Evangelical Christians compared to 33.6% who reported they were Evangelical. Statistical analysis showed a moderate relationship between people who were not evangelicals and lower life satisfaction scores.



Household income

Participants reported their average yearly pre-tax salaries. Household incomes ranged from less than \$20,000 to \$160,000 or more. Higher scores indicated higher salaries. Among

1088 participants, there was a significant association between household income and life satisfaction. On average, the greater a participants' household income, the less frequently they reported depression and feelings of hopelessness, and the more frequently they reported life happiness, feeling successful, and possessing the ability to cope with problems. The greatest association was seen with salaries that ranged from \$120,000 to \$ 159,999 per year.



Demographics

Race/Ethnicity

White 62.6%

Hispanic, Latino, or Spanish	17.6%
Black or African American	14%
Asian	6.4%
American Indian or Alaska Native	3.2%
Middle Eastern or North African	.1%

Native Hawaiian or Pacific islander	.2%
Other	1.9%

Military Household

No	80.5%
Yes	18.9%
Missing	0.6%

At Least One Loaded Gun In Home

Yes	13.6%
No	20.6%
Missing	65.8%

Current Gender Identity

Male	48.4%
Female	49.6%
Non-Binary/ Other	1.2%
Missing	0.8%