

# Access to Information and Attitudes towards Intimate Partner Violence

In this exercise, we examine cross-national differences in attitudes towards domestic violence and access to information. We explore the hypothesis that there is an association at an aggregate level between the extent to which individuals in a country have access to knowledge and new information, both through formal schooling and through the mass media, and their likelihood of condemning acts of intimate partner violence. This exercise is in part based on:

Pierotti, Rachel. (2013). "Increasing Rejection of Intimate Partner Violence: Evidence of Global Cultural Diffusion." *American Sociological Review*, 78: 240-265.

We use data from the Demographic and Health Surveys, which are a set of over 300 nationally, regionally and residually representative surveys that have been fielded in developing countries around the world, beginning in 1992. The surveys employ a stratified two-stage cluster design. In the first stage enumeration areas (EA) are drawn from Census files. In the second stage within each EA a sample of households is drawn from an updated list of households. In addition, the surveys have identical questionnaires and trainings for interviewers, enabling the data from one country to be directly compared with data collected in other countries. It is important to note that different groups of countries are surveyed every year.

In the study, the author used these data to show that "women with greater access to global cultural scripts through urban living, secondary education, or access to media were more likely to reject intimate partner violence." The data set is in the csv file `dhs_ipv.csv`. The names and descriptions of variables are:

Name	Description
<code>beat_goesout</code>	Percentage of women in each country that think a husband is justified to beat his wife if she goes out without telling him.
<code>beat_burnfood</code>	Percentage of women in each country that think a husband is justified to beat his wife if she burns his food.
<code>no_media</code>	Percentage of women in each country that rarely encounter a newspaper, radio, or television.
<code>sec_school</code>	Percentage of women in each country with secondary or higher education.
<code>year</code>	Year of the survey
<code>region</code>	Region of the world
<code>country</code>	Country

Note that there are two indicators of *attitudes towards domestic violence*: `beat_goesout` and `beat_burnfood`. There are also two indicators of *access to information*: `sec_school` and `no_media`.

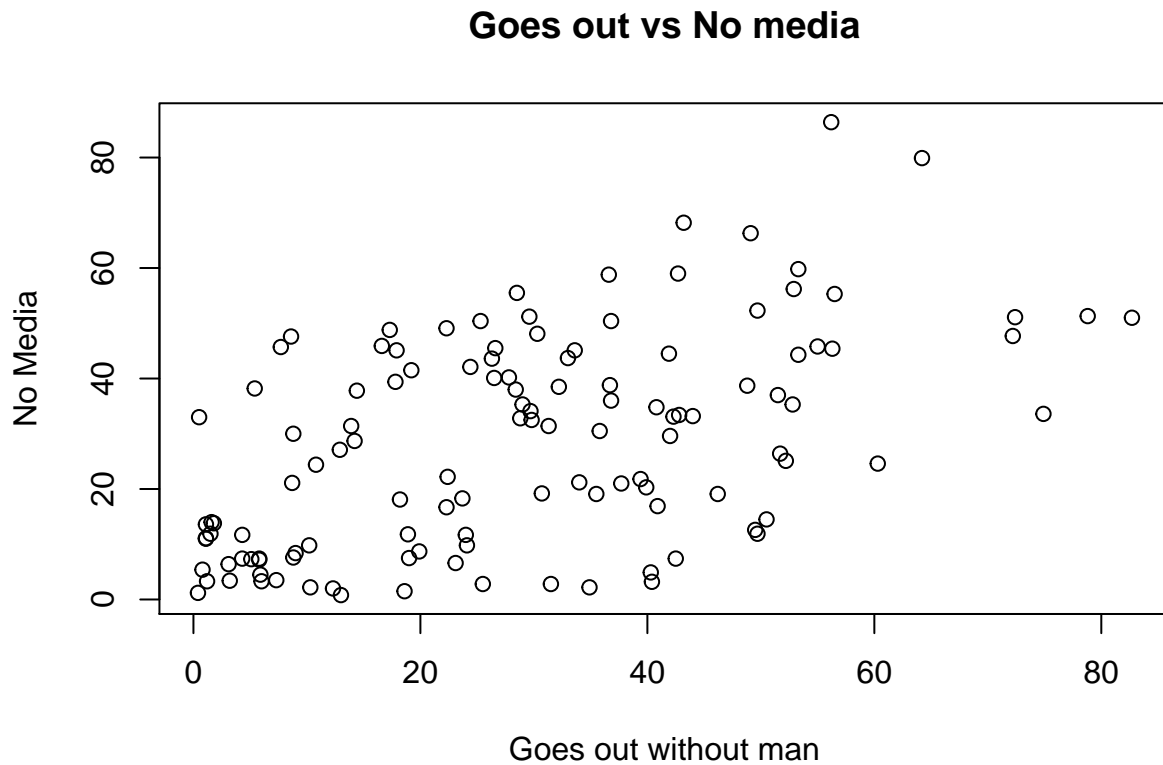
## Question 1

Let's begin by examining the association between attitudes towards intimate partner violence and the two exposure to information variables in our data. Load the `dhs_ipv.csv` data set. Use scatterplots to examine the bivariate relationship between `beat_goesout` and `no_media` as well as between `beat_goesout` and `sec_school`. Repeat these bivariate graphs between `beat_burnfood` and `no_media`, as well as

beat\_burnfood and sec\_school. Be sure to add informative axis labels. Briefly interpret these graphs in light of the hypothesis of the study.

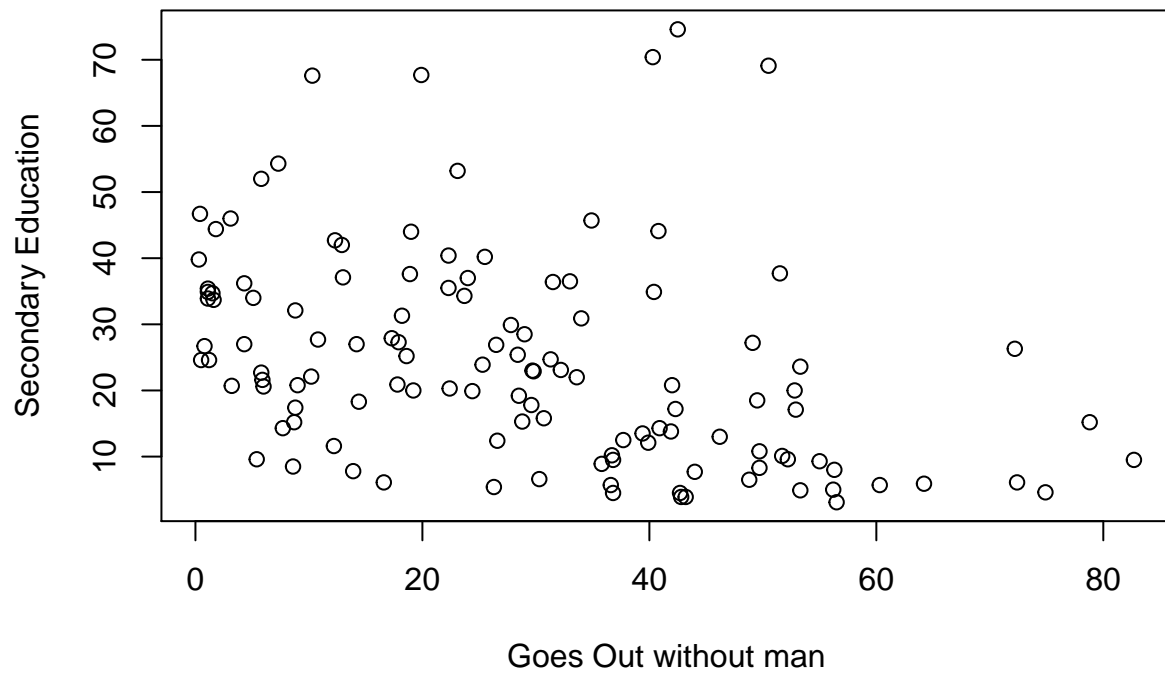
## Answer 1

```
dhs <- read.csv("dhs_ipv.csv")  
  
plot(dhs$beat_goesout, dhs$no_media,  
      xlab = "Goes out without man", ylab = "No Media", main = "Goes out vs No media")
```



```
plot(dhs$beat_goesout, dhs$sec_school,  
      xlab = "Goes Out without man", ylab = "Secondary Education", main= "Secondary education vs. Beating")
```

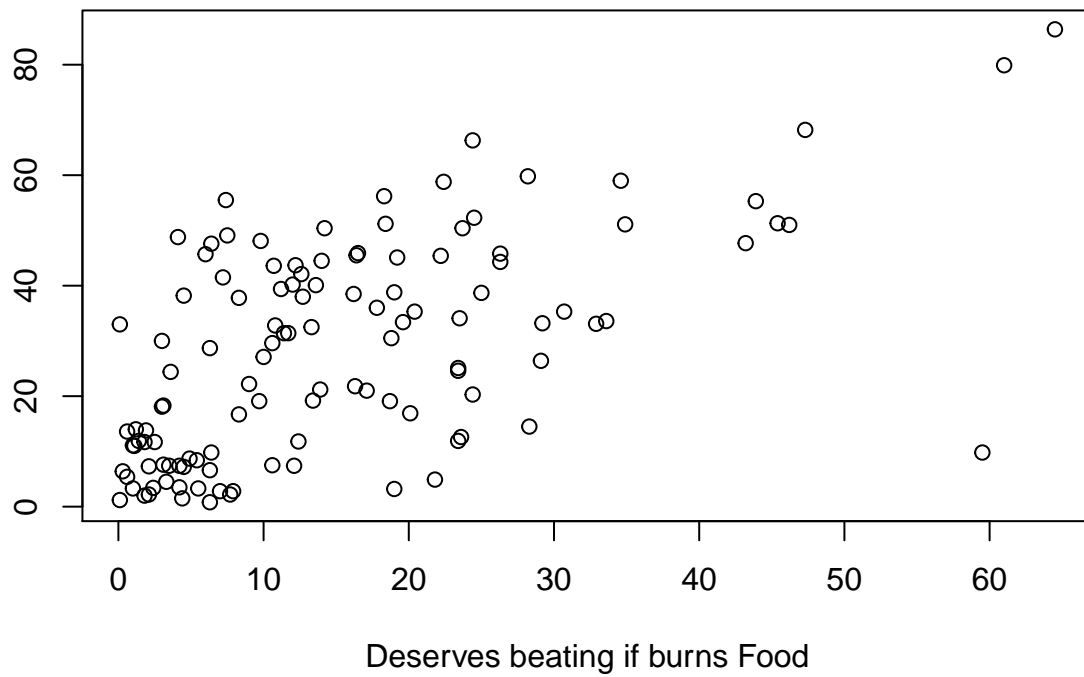
## Secondary education vs. Beating in case of going out



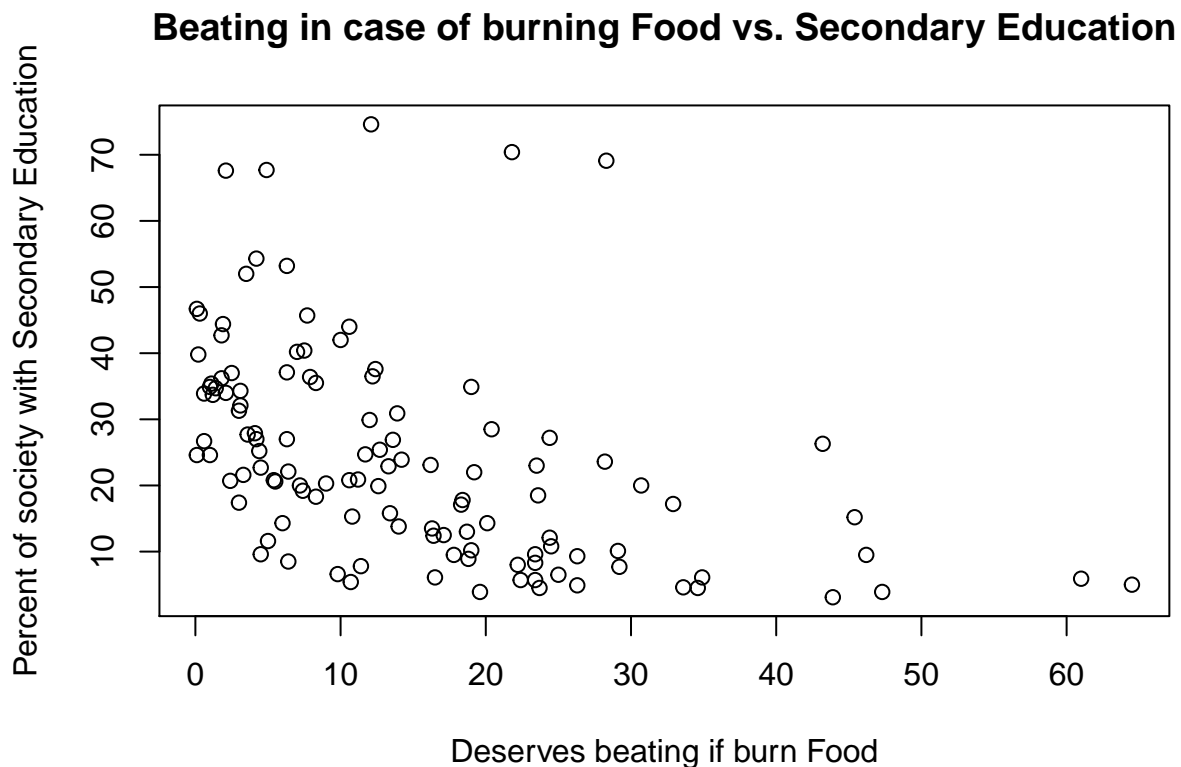
```
plot(dhs$beat_burnfood, dhs$no_media,  
      xlab = "Deserves beating if burns Food", ylab = "Percent of society that encounters little or no m
```

Percent of society that encounters little or no media No Medi

## Beating in case of burning feed vs Media Presence



```
plot(dhs$beat_burnfood, dhs$sec_school,  
      xlab = "Deserves beating if burn Food", ylab = "Percent of society with Secondary Education", main=
```



We can see in these tables that there are correlations between a societies secondary education numbers and presence of media with support for domestic violence. In countries with higher educations and media presence, people are less likely to support domestic violence.

## Question 2

Compute the correlation coefficient between `beat_burnfood` and media exposure, as well as between `beat_burnfood` and education. Remember to use complete observations. What do these measures tell us about the association between education and media exposure with attitudes towards intimate partner violence?

## Answer 2

```
(cor(dhs$beat_burnfood, dhs$no_media,
     use = "pairwise"))
```

```
## [1] 0.5967618
```

```
(cor(dhs$beat_burnfood, dhs$sec_school,
     use = "pairwise"))
```

```
## [1] -0.4760835
```

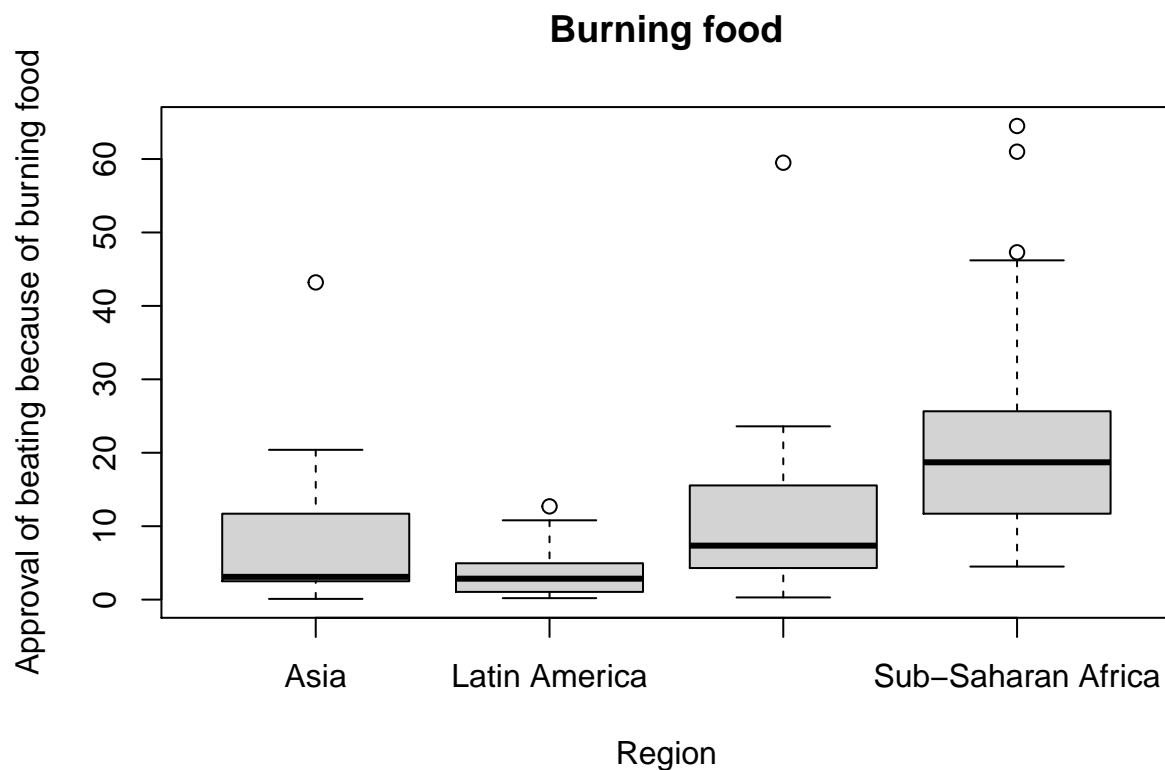
This shows us that there is a higher correlation between the presence of media reducing intimate partner violence than there is for secondary education.

### Question 3

We proceed to explore the national-level differences in attitudes towards domestic violence. First, use boxplots to compare the variation in the percentage of `beat_burnfood` between different regions of the world using `region`. What are the main differences across regions in terms of the median and dispersion of the distribution? Second, using boxplots examine the distribution of `no_media` and `sec_school` by region of the world. Comment on the main differences of the distribution of these variables across regions.

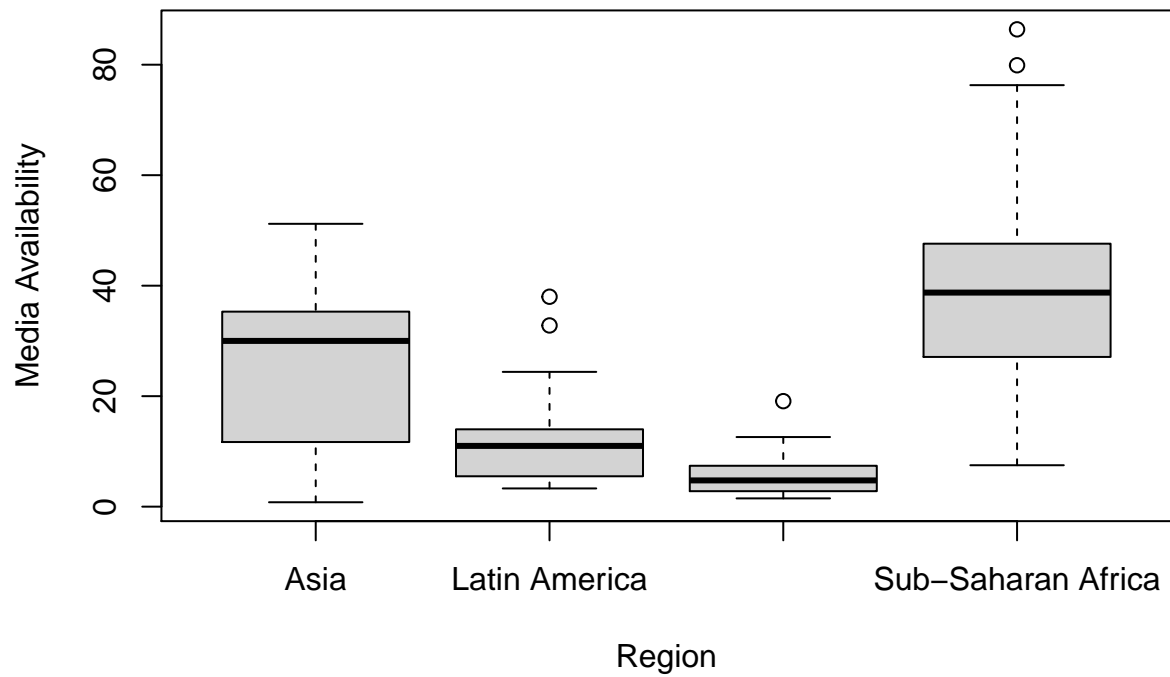
### Answer 3

```
boxplot(beat_burnfood ~ region, data = dhs,
        main = "Burning food",
        ylab = "Approval of beating because of burning food",
        xlab = "Region")
```

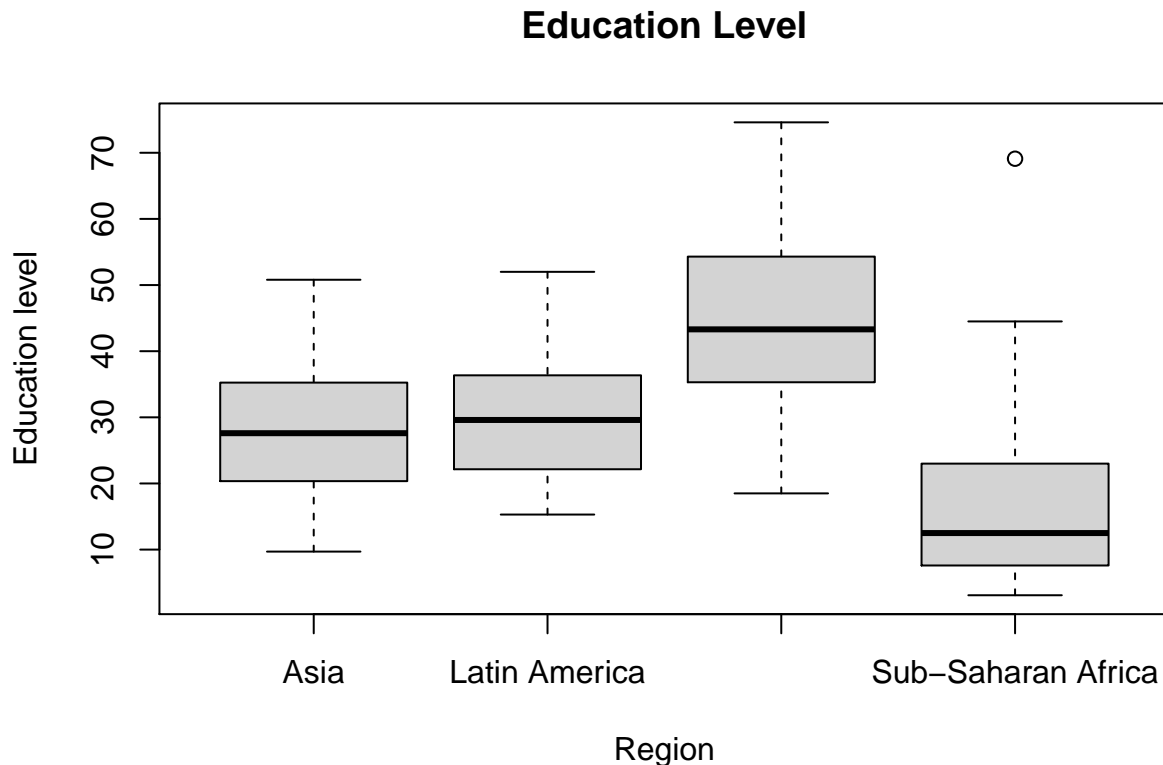


```
boxplot(dhs$no_media ~ region, data = dhs,
        main = "Media Presence",
        xlab = "Region",
        ylab = "Media Availability")
```

## Media Presence



```
boxplot(dhs$sec_school ~ region, data = dhs,  
        main = "Education Level",  
        xlab = "Region",  
        ylab = "Education level")
```



These box plots show the regional mean and outliers for the support of domestic violence in the case of burning food, general education levels, and presence of media. There is higher average support for domestic violence in the case of the Middle East and Sub-Saharan Africa as opposed to Asia and Latin America. We also see that there is higher media presence in LA and ME than there is in Sub-Saharan Africa or Asia. Similarly, Sub-Saharan Africa has the lowest levels of education of all the regions.

#### Question 4

An important point of the researcher's hypothesis is that the support towards intimate partner violence should *decrease* over time, as more women across regions have access to formal schooling and exposure to mass media. To test this idea, using time-series plots, examine the trends in `beat_burnfood` from 1999-2014 *within each region*. Thinking about the study design, what should we consider before trusting that this plot shows a change over time in attitudes?

#### Answer 4

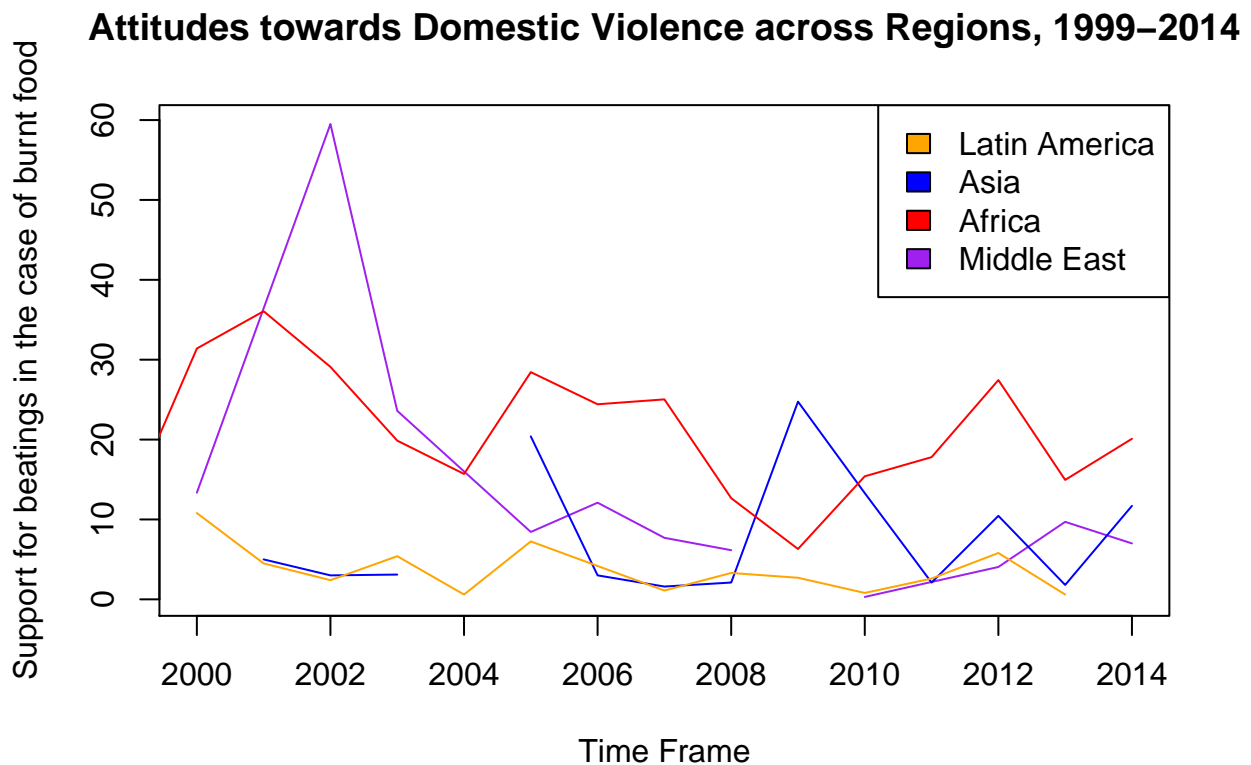
```
asia <- subset(dhs, region == "Asia")
lam <- subset(dhs, region == "Latin America")
africa <- subset(dhs, region == "Sub-Saharan Africa")
me <- subset(dhs, region == "Middle East and Central Asia")

asia_dvtrend <- tapply(asia$beat_burnfood, asia$year, mean, na.rm = TRUE)
africa_dvtrend <- tapply(africa$beat_burnfood, africa$year, mean, na.rm = TRUE)
lam_dvtrend <- tapply(lam$beat_burnfood, lam$year, mean, na.rm = TRUE)
```



```
me_dvtrend <- tapply(me$beat_burnfood, me$year, mean, na.rm = TRUE)

plot(names(me_dvtrend), me_dvtrend, type = "l", col = "purple",
      xlab = "Time Frame",
      ylab = "Support for beatings in the case of burnt food",
      main = "Attitudes towards Domestic Violence across Regions, 1999-2014")
points(names(asia_dvtrend), asia_dvtrend, type = "l", col = "blue")
points(names(africa_dvtrend), africa_dvtrend, type = "l", col = "red")
points(names(lam_dvtrend), lam_dvtrend, type = "l", col = "orange")
legend("topright", c("Latin America", "Asia", "Africa", "Middle East"), fill=c("Orange", "Blue", "Red", "Purple"))
```



This graph shows that in each region during this time period, there is a general trend that opposes violence against women. In each of these regions, it trends downward but some regions have a more erratic response, specifically Africa. Before trusting this study it would be important to look at the actual numbers of domestic violence events in these regions to ascertain whether or not these trends are a result of social pressure or an actual reflection in the change of perspective.