Compare 1 independent vs many dependent variables using seaborn pairplot in an horizontal plot

The `pairplot` function from seaborn allows to plot pairwise relationships in a dataset.

According to the documentation (highlight added):

> By default, this function will create a grid of Axes such that each variable in data will by shared in the y-axis across a single row and in the x-axis across a single column. The diagonal Axes are treated differently, drawing a plot to show the univariate distribution of the data for the variable in that column.
>
> **It is also possible to show a subset of variables or plot different variables on the rows and columns.**

I could find only one example of subsetting different variables for rows and columns, here (it's the 6th plot under the *Plotting pairwise relationships with PairGrid and pairplot()* section). As you can see, it's plotting many independent variables (*x_vars*) against the same single dependent variable (*y_vars*) and the results are pretty nice.

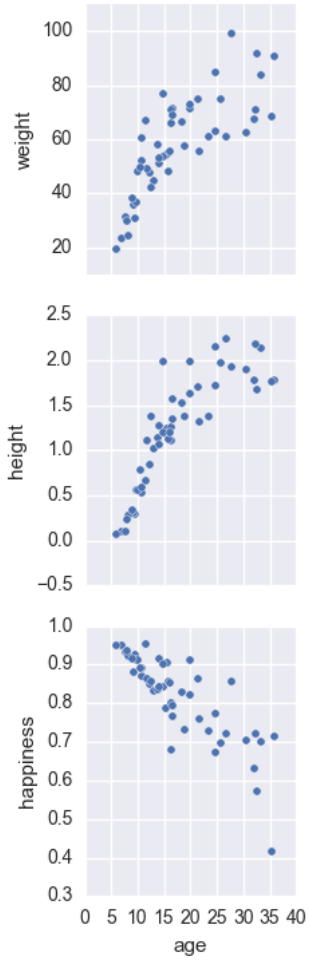
I'm trying to do the same plotting a single independent variable against many dependent ones.

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

ages = np.random.gamma(6,3, size=50)
data = pd.DataFrame({"age": ages,
                     "weight":
80*ages**2/(ages**2+10**2)*np.random.normal(1,0.2,size=ages.shape),
                     "height":
1.80*ages**5/(ages**5+12**5)*np.random.normal(1,0.2,size=ages.shape),
                     "happiness": (1-ages*0.01*np.random.normal(1,0.3,size=ages.shape))})

pp = sns.pairplot(data=data,
                  x_vars=['age'],
                  y_vars=['weight', 'height', 'happiness'])
```

The problem is that the subplots get arranged vertically, and I couldn't find a way to change it.



I know that then the tiling structure would not be so neat as the *Y* axis should be labeled at every subplot. Also, I know I could generate the plots making it by hand with something like this:

```
fig, axes = plt.subplots(ncols=3)
for i, yvar in enumerate(['weight', 'height', 'happiness']):
    axes[i].scatter(data['age'],data[yvar])
```

Still, I'm learning to use the seaborn and I find interface very convenient, so I wonder if there's a way. Also, this example is pretty easy, but for more complex datasets seaborn handles for you many more things that would make the *raw-matplotlib* approach much more complex quite quickly (*hue*, to start)

python seaborn

asked Aug 12 '15 at 13:22

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The point of `PairGrid` is to draw multiple plots where variables are shared across axes, so you're not going to be able to use it for what you want to do. – mwaskom Aug 12 '15 at 14:52

Fair enough. Is there any way to do what I was trying with this kind of `pandas` -aware syntax? – mgab Aug 12 '15 at 15:44

If your're just doing scatterplots, it should be pretty easy to use pandas plotting methods. – mwaskom Aug 12 '15 at 16:16