Case Study 2

for February 5

Your client is a pediatric psychologist who is studying differences in development between normal children and children with two different developmental disabilities. To measure this, she is considering the following study. The parents of 60 children (20 per group) are to be given surveys at three different ages. These surveys have 10 questions each, and for each question, the parents can answer "no trouble," "a little trouble," "some trouble," or "lots of trouble." These are to be coded 0-3 and the average score recorded for each child for each of the three ages.

The resulting data is expected to look somewhat like the following. Group 1 (g1) is the normal children; groups 2 and 3 (g2 and g3) are the children with the two types of developmental disabilities. It's jittered on the x-axis for clarity. Note that there are many 0's in this data set (45% of the total); 0's occur when the parents answer "no trouble" for all 10 questions. The fitted line is the arithmetic average for each time point.



See the next page for groups and specific questions to discuss and present.

Groups 1 and 2 should answer these questions:

Is 20 children per group a sufficiently large sample size? If you need more information, what information would you need? Assume you have this information. How would you calculate the necessary sample size? Would you suggest any changes to the researcher's design that might result in additional power?

Groups 3 and 4 should answer these questions:

How would you analyze the resulting data? Consider both simple and sophisticated methods. Would you suggest any changes to the researcher's design to make the analysis easier to perform and interpret?

Group 1:

NameEmailYi Yangyang1138Xiao Zhongzhong072Qing Maimaixx034Gang Chengchen2285Danning Lilixx0700Yi Wangwangx857Ran Songsongx162Group 3:Group 4:NameEmailJohn Zobelzobe0025Pamela Sweeneyswee0003David Zepedazepe0003Heng Zhangzhang440Cindy Houserhouse109Ka Young Parkparkx748	-		Group 2:	
Yi Yang Xiao Zhong Qing Mai Gang Cheng Danning Liyang1138Chun Pu Song songx183Kiao Zhong Qing Mai Gang Cheng Danning Limaixx034 Lixx0700 Yi Wang Wangx857 Ran Song songx162Chun Pu Song songx183Group 3:Craig Rolling Vi Wang Songx162roll0204 Changqing Ye Vexxx053 Teng ZhangGroup 3:Group 4:NameEmail John Zobel David Zepeda Lindy Houser Ka Young Park Ka Young ParkGroup 3:Vi Wang Ving Lu Lindy HouserShanshan Ding Lindy Houser House109Ka Young Park Ka Young Parkparkx748Ka Young Parkparkx748	Name Ei	mail	Name	Email
Group 3:Group 4:NameEmailNameEmailJohn Zobelzobe0025Shanshan Dingdingx05Pamela Sweeneyswee0003Wei Qianqianx02David Zepedazepe0003Shu Dingdingx09Heng Zhangzhang440Jing Yangyang138Cindy Houserhouse109Ying Luluxxx25Ka Young Parkparkx748Lingzhou Xuexuexx04	Yi Yang ya Xiao Zhong zh Qing Mai m Gang Cheng ch Danning Li lix Yi Wang wa Ran Song so	ng1138 ong072 aixx034 en2285 cx0700 angx857 ngx162	Chun Pu Eric Graa Andy Wa Craig Rol Changqin Teng Zha	Songsongx183lumgraal002ngwang1074lingroll0204g Yeyexxx058ngzhang620
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John Zobelzobe0025Shanshan Dingdingx05Pamela Sweeneyswee0003Wei Qianqianx02David Zepedazepe0003Shu Dingdingx09Heng Zhangzhang440Jing Yangyang138Cindy Houserhouse109Ying Luluxxx25Ka Young Parkparkx748Lingzhou Xuexuexx04	Name	Email	Name	Email
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Cindy Houserhouse109Ying Luluxx25Ka Young Parkparkx748Lingzhou Xuexuexx04	Heng Zhang	zhang440	Jing Yang	g yang1387
Ka Young Park parkx748 Lingzhou Xue xuexx04	Cindy Houser	house 109	Ying Lu	luxxx255
	Ka Young Park	parkx748	Lingzhou	Xue xuexx041

The chair for this week is David Zepeda.

Actual calculations are not expected, but if you'd like to play with the data from this graph, it is available on the website.