

## Assessment paper and instructions to candidates:

### SP201– RESEARCH METHODS FOR SOCIAL POLICY

Suitable for all candidates

#### Instructions to candidates

This paper contains **FIVE** questions with sub-questions. Answer **ALL** questions. The marks allocated to each question are given alongside in brackets. There are 100 marks (100%) in total.

- You may use any course materials or other available resources including those on the Internet. You may not consult anyone else.
- Round your answers to **at least** two decimal places.
- Always explain your reasoning and justify your answers.
- Submit **two** files on Moodle: a pdf file (with the coversheet) answering the questions and a do file that replicates your analyses.
- Where possible, use the formatting provided. If you need to make formatting adjustments, please use a large font (for example Arial or Helvetica pt15, which can easily be read on a tablet), line spacing with a minimum of 1.5 lines, left alignment, and margins of about one inch (2.54cm) on all four sides of the page.
- The assessment window is one week, with a deadline of **12 pm midday (BST) Thursday 25<sup>th</sup> May 2023**. However, the approximate amount of time you are expected to spend on this assessment is 3 hours.
- If you have any queries during the assessment window, please email [socialpolicy.ug@lse.ac.uk](mailto:socialpolicy.ug@lse.ac.uk). Please **do not** contact course convenors or class teachers directly with any queries. We will take forward any relevant queries on your behalf. Please remember that you must not include any reference to your candidate number in your query. Any cohort-level responses will be communicated to all via Moodle announcements for each course, where applicable.
- In case of technical issues, you should contact [tech.support@lse.ac.uk](mailto:tech.support@lse.ac.uk). Please copy (CC) [socialpolicy.ug@lse.ac.uk](mailto:socialpolicy.ug@lse.ac.uk) to your email inquiry.

## Assessment questions

### Are children of parents who have same-sex relationships different?

The New Family Structures Study (NFSS) sampled American young adults (aged 18-39) who were raised in various types of family arrangements. A sociologist, Mark Regnerus, published the debut article analysing data from the NFSS in 2012 and concluded that young adults raised by a parent who had a same-sex romantic relationship fared worse on a majority of 40 different outcomes, compared to six other family-of-origin types.

The controversial initial findings from the study were soon revisited and challenged by various scholars, including Cheng and Powell (2015) and Rosenfeld (2015). This controversy was at the heart of evidence presented in the recent Supreme Court case that struck down the Defense of Marriage Act and legalised gay marriage across the US. In 2015, the American Sociological Association filed an amicus brief with the Supreme Court stating that the initial study by Regnerus in 2012 “cannot be used to argue that children of same-sex parents fare worse than children of different-sex parents” because “the paper never actually studied children raised by same-sex parents.”

This exercise is adapted from the initial study, along with two response papers:

- Regnerus, Mark. 2012. “*How different are the adult children of parents who have same-sex relationships? Findings from the New Family Structures Study.*” *Social Science Research*, Vol. 41, pp. 752–770.
- Cheng, Simon & Powell, Brian. 2015. “*Measurement, methods, and divergent patterns: Reassessing the effects of same-sex parents.*” *Social Science Research*, 52, pp. 615 - 626.
- Rosenfeld, Michael J. 2015. “*Revisiting the Data from the New Family Structure Study: Taking Family Instability into Account.*” *Sociological Science*, 2, pp. 478-501.

To simplify the analysis, we focus on three mutually exclusive family types used in the original study by Regnerus (we use the same names that Regnerus did in his original study): *ibf* if the respondent lived with mother and father from age 0 to 18 and their parents are still married at the time of the survey (referred to as “intact biological families”); *1m* if the respondent’s mother had a same-sex romantic relationship; *gd* if the respondent’s father had a same-sex romantic relationship; and *other* if the respondent belongs to neither *ibf* nor *1m* nor *gd* families.

The data set is the file *nfss.dta*. Variables in this data set are described below:

Variable name	Description	Value labels
depression	Level of depression	Scale ranging from 1-4 with higher numbers indicating more symptoms of depression
welfare	Whether on public assistance	1 if currently on public assistance 0 otherwise
fstructure	Family-of-origin type	1 <i>ibf</i> intact biological family 2 <i>1m</i> mother had a same-sex relationship

		3 gd father had a same-sex relationship 4 other
age	Age in years	
female	Gender	1 if female 0 otherwise
educ_m	Mother's education level	1 below high school 2 high school 3 some college 4 college and above
white	Race	1 if non-Hispanic white 0 otherwise
foo_income	Respondent's estimate of income of family-of-origin while growing up	1 0-20k 2 20-40k 3 40-75k 4 75-100k 5 100-150k 6 150-200k 7 above 200k
ytogether	Number of years lived with parent and his/her same-sex partner	
ftransition	Number of childhood family transitions	

### Question 1 (20 marks)

We begin by comparing respondents in intact biological families (*ibf* for short) with those whose mother had a same-sex relationship (*1m* for short), as Regnerus did in his original study.

- What is the mean level of depression, respectively, for respondents in *ibf* versus *1m* families? Construct a 95% confidence interval around each estimate.
- What is the difference in depression level between young adults growing up in *1m* families vs. *ibf*? Do young adults growing up in *1m* families have significantly higher levels of depression than those growing up in *ibf* at 1% level? Justify your answer.
- Using the results above, can we claim that having a mother who had a same-sex relationship leads to higher levels of depression during young adulthood? Why or why not? (Answer in no more than 5 sentences.)
- Do you think we can design a randomised control trial to study the causal effect of being raised by a parent who had a same-sex romantic relationship? If yes, how? If no, why not? (Answer in no more than 5 sentences.)

## Question 2 (25 marks)

Now we use regression models to estimate the difference in depression levels among young adults raised in different family-of-origin types.

- Run a linear regression to estimate the difference in depression levels across different family types. Use `ibf` as the reference group. *Based on the results from the regression*, what is the mean depression level among young adults in `ibf`? What is the difference in depression level between `1m` and `ibf`? Is the difference statistically significant at 1% level? How do your answers compare to your findings in Questions 1a and 1b?
- Does level of depression vary significantly across family-of-origin types? Conduct a joint significance test, using 5% as the significance level. Make sure to state your null hypothesis and alternative hypothesis explicitly.
- Following Regnerus (2012), add several control variables to the regression model: age, gender, mother's education, race (non-Hispanic white or not), and respondent's estimate of family-of-origin income. Interpret the coefficient on `1m`. Is the coefficient significantly different from zero at 1% level? How have your estimates changed from your model in Question 2a? Why?
- What proportion of the variation in depression levels has been explained by family structure and these background characteristics together? Which model fits better, the one in Question 2c or the one in Question 2a? Why?
- Using your preferred model, what is the predicted depression level for a 28-year-old, non-Hispanic white, male from an intact biological family (`ibf`) whose mother had completed college and whose perceived family-of-origin income is 70k? What is the predicted depression level for a person with the same characteristics but from a family where the mother had a same-sex romantic relationship `1m`?

## Question 3 (15 marks)

Regnerus describes the results of this study as showing that young adults “*raised by*” parents in same-sex relationships fare differently from other young adults. Cheng and Powell (2015) used calendar data that was included in the original NFSS study but not used in the Regnerus paper to examine how many years the young adults actually lived with their parent and the parent's same-sex partner from age 0 to 18. This information is recorded by the variable `ytogether` in the data set provided. (Note: the variable is missing for young adults in `ibf` and other groups because they don't have a parent who had a same-sex relationship.)

- Make a *single* histogram to show the distribution of `ytogether` for young adults whose parents had a same-sex relationship (either `1m` or `gd`). Set the bin width to 1 year and use fraction on the y-axis. Interpret your histogram. Does your finding from the histogram strengthen or weaken Regnerus' claim that children raised by same-sex parents are different?
- Remove young adults who have never lived with their parent and the parent's same-sex partner from age 0 to 18 from your sample, and run your regression model from Question 2c again. How have your results changed compared to Question 2c?

- c. After removing young adults who have never lived with their parent and the parent's same-sex partner from age 0 to 18, does depression level still differ significantly by family type controlling for background characteristics? Conduct a joint significance test, using 5% as the significance level.

#### Question 4 (25 marks)

Rosenfeld (2015) challenged the findings from Regnerus by showing that family instability—adult household members moving into and out of the child's household—explains most of the negative outcomes that had been attributed to same-sex parents. In the data set, we have included `ftransition` variable which was used by Rosenfeld to measure number of family transitions.

- What is the mean number of family transitions for each of the three family types (`1m`, `gd`, `ibf`)? Use a box plot to make further comparisons across the family types. Given your findings, do you think Intact Biological Families (`ibf`) is the best comparison group for studying the effect of having a parent who had a same-sex relationship? Why or why not?
- Restrict your sample to young adults in stable families (i.e., with zero family transitions), and run your regression in Question 2c again. How have your results changed compared to Question 2c?
- Now let's examine a different outcome: whether the young adult is currently on public assistance. Combine `1m` and `gd` into one category, and call it `ss` families (meaning families where either parent had a same-sex relationship). What is the proportion on public assistance among young adults in intact biological families (`ibf`) and those in `ss` families, respectively? Are young adults from `ss` families significantly more likely to be on public assistance at 1% level?
- Now restrict your sample to young adults in stable families (i.e., zero family transitions). Repeat the analysis in Question 4c.

#### Question 5 (10 marks)

Suppose we want to conduct a poll to find out about American adults' attitudes towards same-sex couples' right to adopt children today.

- A Gallup poll in 2014 using a random sample of 1,028 adults found that 63% of American adults agreed that same-sex couples should have the legal right to adopt a child. Is the proportion significantly greater than 60% at 5% level? At 1% level?
- Suppose you expect 60% to be the true proportion in the population agreeing with same-sex couples' legal right to adopt a child. What is the minimum sample size you need for your poll to achieve a margin of error within 2 percentage points (at 95% confidence level)?
- Suppose you have conducted the survey using simple random sampling with the sample size you have calculated in Question 5b. In addition to the full sample analyses, you find that 5% of your respondents are Gen Z (born in or after 1997), and 70% of Gen Z respondents agree with same-sex couples' legal right to adopt a child. Construct a 95% confidence level around 70%. Is the margin of error smaller or greater than 2 percentage points?

### **Submit your .do file (5 marks)**

Please make sure your code in the .do file replicates your analysis with no error messages. Upload your .do file on Moodle as it is – Do NOT convert it to pdf.