pairfam

Panel Analysis of Intimate Relationships and Family Dynamics

The Factorial Survey Experiment on "Infidelity Norms and Attitudes" in the German Family Panel (pairfam)

Christiane Bozoyan, Claudia Schmiedeberg

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1 Introduction

A factorial survey experiment focusing on infidelity in intimate relationships was implemented in wave 11 of the German Family Panel pairfam (2018/2019). Factorial survey experiments are used to measure respondents' attitudes, beliefs, and behavioral intentions based on an experimental design. Respondents are asked to evaluate one or several "vignettes": scenarios describing hypothetical situations that include experimentally varied information on aspects of interest. As these "dimensions" are varied independently from each other, factorial survey experiments are able to disentangle different factors that simultaneously affect judgments, as well as measure respondents' norms and attitudes more precisely than single-item questions. For an overview on factorial survey experiments, see Auspurg und Hinz (2015), Mutz (2011), and Wallander (2009).

The factorial survey experiment described here was designed for three purposes. First, to investigate what exactly (subgroups of) respondents mean when thinking and speaking of infidelity in intimate relationships, as a clear definition is lacking in the literature and infidelity is often simplified to extradyadic sexual intercourse (e.g., Labrecque und Whisman 2017, 2020; Lammers et al. 2011; Traeen und Martinussen 2008). Second, the experiment allows variation in respondents' normative judgments to the presented vignettes to be examined, which sheds light on the conditions for which infidelity is more or less acceptable. Third, this design also considers how acceptable the third person's behavior is perceived to be, broadening the focus to all three individuals concerned by an act of infidelity.

2 Description of the factorial survey experiment

The factorial survey module was implemented in the CASI (computer-assisted self-interview) section of the pairfam questionnaire, meaning respondents answered the questions themselves without interviewer intervention. An introductory text was included before the vignettes, which informed respondents that the couples described were approximately 30 years old (roughly the average age of the pairfam sample), had been faithful until the situation described in the vignette, and did not lead an open relationship. Each respondent was then presented with three vignettes that described heterosexual couples who experience a, more or less explicit, act of infidelity. For each vignette, respondents were asked to form judgments regarding the following three questions: Was the described situation an act of infidelity? How acceptable was the behavior of the partner committing this act? How acceptable was the behavior of the third person involved?

The situations were described using several attributes (dimensions) that were experimentally varied across the vignettes. Dimensions concerned both the primary couple's relationship and the conditions of the act of infidelity. For instance, some couples were described as being happy in their main relationship while others were not. In some vignettes, the female partner interacted with the third person, while in other vignettes the male partner was described as the perpetrator. Vignettes also varied in the description of behaviors, including talking, hugging, kissing, and sexual intercourse. This variation of dimensions allows the impact of the dimensions on vignette evaluations to be studied; for instance, whether judgments differ for male and female perpetrators.

Table 1 provides an overview of the vignette dimensions and the corresponding levels of each dimension. The vignettes were described with nine different contextual and behavioral

dimensions that were previously tested in a pretest: (1) the duration of the primary relationship; (2) parental status; (3) satisfaction with the primary relationship; (4) gender of the perpetrating partner; (5) whether the third person is unknown or a friend of the betrayed partner; (6) level of emotional involvement with the third person; (7) duration of the described behavior; (8) whether the described behavior includes erotic online contact; and (9) a description of the behavior.

Table 1: Overview of vignette dimensions and levels

Dimensions	Variable name	Levels	
Duration (main relationship)	vduration	Short (0)	Long (1)
Children (main relationship)	vchild	None (0)	One (1)
Satisfaction (main relationship)	vsat	Low (0)	High (1)
Gender perpetrating partner	vpartner	Male (0)	Female (1)
Third person status	vthird	Stranger (0)	Friend of the partner (1)
Emotional involvement	vemo	No (0)	Yes (1)
Online behavior	vonline	No erotic messages (0)	Erotic messages (1)
Duration infidelity	vfreq	Once (0)	Two months (1)
Explicit behavior	vaction	No physical contact (1)	Long hugs (2)
		Kisses (3)	Intercourse (4)

The vignette module began with a short, standardized preamble (Figure 1) that informed respondents about the task and the fixed information on the hypothetical couples (i.e., age and prior faithfulness). This information remained constant for all respondents and across all vignettes. Respondents were assured that their individual opinion was asked, and that there were no correct or incorrect answers.

Figure 1: Introductory text

> We are interested in how behaviors within romantic partnerships are evaluated.
>
> In the following, 3 example couples will be introduced. For all couples, both partners are approximately 30 years old. Thus far, each couple has remained faithful and do not lead open relationships.
>
> Please indicate for each couple whether you would describe the behavior as infidelity, and how you would evaluate the behavior. There are no right or wrong answers. We are simply interested in your personal opinion.

Each respondent was then presented with three randomly selected vignettes. Figure 2 shows two example vignettes, including the description of the hypothetical situations and the different outcome measures. These two examples represent the minimum and maximum vignettes, in other words: the first vignette includes the minimum level of each dimension, whereas the second vignette contains the maximum levels.

Respondents were asked to evaluate whether the behavior in question was an act of infidelity on a four-point scale ranging from "clearly no infidelity" (1) to "clearly infidelity" (4). A second question asked how acceptable the behavior in question was, concerning both the perpetrator and the third person. Responses were given on a seven-point scale ranging from "completely unacceptable" (1) to "completely acceptable" (7). These two questions were posed independently from each other, so that, for instance, one act of infidelity can be evaluated as (rather) acceptable, and a behavior not perceived as infidelity can nevertheless be regarded as (rather) unacceptable.

Figure 2: Minimum and maximum infidelity vignette examples

Minimum infidelity vignette:

The couple has been together for a <u>relatively short</u> amount of time and <u>does not have any children</u>. Both partners are <u>not very happy</u> with their relationship.
The male partner meets a single woman <u>at a party</u> whom he finds attractive. She knows about his relationship.
They have a conversation, but there is <u>no physical contact</u>. They <u>do not exchange erotic messages or pictures</u>. They <u>did not fall in love</u>, and do not see each other again.

Maximum infidelity vignette:

The couple has been together for a <u>relatively long</u> amount of time and <u>has one child</u>. Both partners are <u>happy</u> with their relationship.
<u>For two months</u>, the female partner regularly meets up with a single <u>friend of her partner</u> in secret whom she finds attractive. He knows about her relationship.
They <u>have sex</u> with each other. They send various <u>erotic messages or pictures</u> to each other. They have <u>fallen in love</u> with each other.

Note: Dimensions are underlined.

Dimensions and levels were determined following a pretest. First, fifteen cognitive interviews with a diverse set of respondents in terms of gender, age, and educational level were conducted. Subsequently, an online pretest was conducted with more than 300 respondents who had been acquired via social media. Based on the pretest results, the design was slightly modified: a fourth level (hugging) was added to the dimension "explicit behavior" and the answer categories concerning the first evaluation task were expanded from a dichotomous variable (no infidelity vs. infidelity) to a scale with four levels.

3   Experimental design to generate vignettes

The full set of possible scenarios (the "vignette universe", i.e., all possible combinations of dimension levels; see Auspurg and Hinz 2015) is calculated as the Cartesian product of the number of levels of all individual dimensions. In this experiment, the full set comprises $N = 2^8 \times 4 = 1,024$ unique vignettes. The experiment was implemented as a full factorial (rather than a d-efficient) design, meaning that all possible combinations of dimensions and levels were presented to the respondents, and no implausible combinations of dimensions existed. A full factorial design has several advantages: The design matrix is orthogonal, meaning that columns are not correlated, and single dimensions can therefore be estimated independently. Further, a full factorial design matrix assures level balance, so that all levels

of all dimensions occur with the same frequency, leading to more precise estimations of statistical parameters. Third, all main effects and all possible interaction terms can be identified (Auspurg und Hinz 2015).

Respondents were allocated to a random subsample of three vignettes. A total of 9,573 anchor respondents answered at least one vignette. Based on a universe of 1,024 unique vignettes and three vignettes per respondent, each vignette was evaluated roughly 27 times on average (min. 14 times, max. 46 times). The large number of respondents in the pairfam panel provides sufficient statistical power to test for heterogeneous effects of the vignette dimensions across subgroups.

4 Sample, descriptive results, and data quality

In wave 11, a total of 9,918 anchor respondents participated in the pairfam survey. As presented in Table 2, of these, 9,573 (96,5%) evaluated at least one of the three assigned vignettes, resulting in a total of 28,003 completed vignette evaluations and an item nonresponse rate of 5.8% (i.e., 1,751 of 29,754 possible vignette evaluations).

Table 2: Overview of the vignette distribution

	Respondents	Vignette evaluations
N respondents	9,573	28,003
N female respondents	5,073	14,872
N male respondents	4,500	13,131
N respondents (step-ups)	469	1,370
N respondents (cohort 2001-2003)	2,397	7,250
N respondents (cohort 1991-1993)	2,464	7,857
N respondents (cohort 1981-1983)	2,687	7,015
N respondents (cohort 1971-1973)	1,556	4,511

Source: pairfam wave 11, number of respondents (wide format), and vignette evaluations (long format). All values belong to respondents who evaluated at least one vignette.

Table 2 also shows the distribution of vignette evaluations across cohorts and gender. More women than men responded to the vignettes, which is consistent with the main sample (53.05% women, 46.95% men). The same is true for the four birth cohorts: For the three younger cohorts, responses are approximately equally distributed whereas a smaller number of observations stems from the oldest cohort, corresponding to the distribution of wave 11 respondents across cohorts.

The following presents selected descriptive results. Figure 3 shows the distributions of evaluations regarding whether the behavior in question was perceived as an act of infidelity. Most of the vignettes were classified to some degree as infidelity (67,5 %), but with a healthy amount of variance with 16% of the vignettes perceived as "definitely unfaithful".

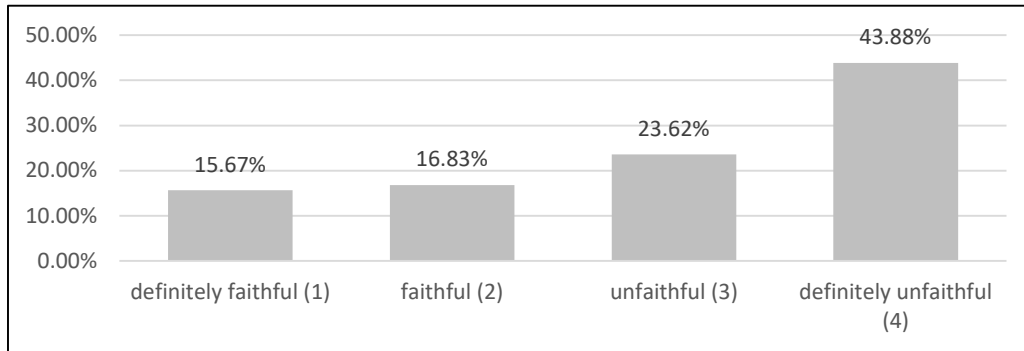Figure 3: Distributions of evaluations regarding infidelity

Figure 4 shows the distribution of evaluations regarding the acceptability of the described behavior. Results are given for (unfaithful) men and women separately. Differences between evaluations regarding unfaithful women and unfaithful men are very small.

Figure 4: Distribution of evaluations regarding acceptability of the behavior
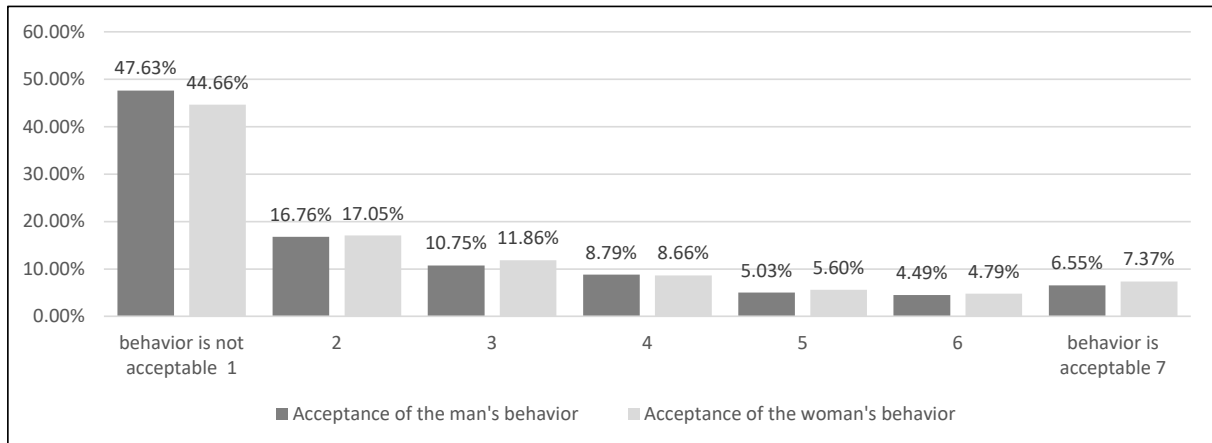
Analyses show that the quality of the data produced by the experiment is high. An experimental design was chosen to preclude correlations between vignette dimensions and respondents' characteristics. Such correlations both within the vignettes and between vignette and respondent data were tested as a quality check of the randomization process. For instance, no correlation was found between the behavior described and the duration of the behavior. The vignette partner dimension (male or female) appears to be significantly correlated with the duration of the main relationship, the duration of the described behavior, and the type of behavior, which may be due to item nonresponse.

Table 3: Spearman correlations between vignette dimensions

	vduration	vchild	vsat	vcheatersex	partner	emo	online	freq
vchild	-0.0074							
vsat	0.004	-0.0016						
vcheatersex	0.0038	0.009	0.0071					
vpartner	0.0213*	0.0036	0.0007	-0.0014				
vemo	0.0054	0.005	-0.0064	-0.0058	0.0083			
vonline	0.0039	0.0057	0.0097	0.0046	-0.0113	0.002		
vfreq	0.0083	-0.0095	0.0057	-0.0049	0.0125*	-0.0091	0.0049	
vaction	0.0005	0.0064	-0.0061	0.0035	0.0130*	0.0015	0.005	-0.0039

5　Description of the vignette data set

The vignette data set "anchor11_vig.dta" (Stata) or "anchor11_vig.sav" (SPSS) includes the vignette data in long format (i.e., each row represents one vignette).

The first column of the data contains the respondent ID, which is necessary to merge the data with the anchor data set "anchor11.dta" (Stata) or "anchor11.sav" (SPSS). As all respondents were presented with three different vignettes (labeled 1, 2, and 3), the variable *vignette* in the second column of the data contains the order in which the vignettes were presented. Each unique vignette is defined by a vignette index (variable *ind,* ranging from 1 to 1,024) that identifies the distinct vignettes within the vignette universe. The vignette dimensions are captured in the variables *vdurationn*, *vchild*, *vsat*, *vcheatersex*, *vpartner*, *vemo*, *vonline*, *vfeq*, and *vaction.* By design, none of these variables contain missing values.

Responses to the evaluation prompts are given in the variables *decvig*, *accvigma*, and *accvigwo*. Missing values are coded analog to the main pairfam data: -1 = "Don't know" and -2 = "No answer". The variable *decvig* reflects whether the described behavior was perceived as an act of infidelity, while the variables *accvigma* and *accvigwo* include the acceptability of the male and female actor's behavior. Note that the gender of the acting partner is experimentally varied, so that *accvigma* refers to the behavior of the perpetrating male partner if the vignette described this situation. However, for vignettes describing perpetrating women, it refers to the third-party male with whom the female partner interacted. The same holds for *accvigwo*. While these variables can be used to analyze infidelity of men and women separately, they must be recoded to variables indicating the judgment concerning the perpetrating partner and the third party, respectively, to analyze the entire vignette data set.

To merge the vignette data, which are in long format, with the wave 11 anchor data set (in wide format), use the Stata code *merge m:1 id using "path\anchor11.dta".*

6　References

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