

Chapter 14

1. Field and Lawson (2003) reported the effects of giving 7–9-year-old children positive, negative or no information about novel animals (Australian marsupials). This variable was called 'Infotype'. Each child received all three types of information about different animals. The gender of the child was also recorded. The outcome was the time taken for the children to put their hand in a box in which they believed either the positive, negative, or no information animal was housed (see Field, A. P., & Lawson, J. (2003). Fear information and the development of fears during childhood: Effects on implicit fear responses and behavioural avoidance. *Behaviour Research and Therapy*, 41, 1277–1293). How did they analyse their data?
 - a. One-way independent ANOVA.
 - b. One-way repeated measures ANOVA?
 - c. Two-way mixed ANOVA.*
 - d. Two-way independent ANOVA.

2. Field & Lawson (2003) reported the effects of giving 7–9-year-old children positive, negative or no information about novel animals (Australian marsupials). This variable was called 'Infotype'. The gender of the child was also recorded. The outcome was the time taken for the children to put their hand in a box in which they believed either the positive, negative, or no information animal was housed (positive values = longer than average approach times, negative values = shorter than average approach times). The output of their analysis is below.

\$ANOVA								
	Effect	DFn	DFd	SSn	SSd	F	p	p<.05
1	INFOTYPE	2	82	9.177	4.588	7.283	.001	**
2	INFOTYPE:GENDER	2	82	.599	.299	.623	-	

\$`Sphericity Corrections`							
	Effect	GGe	p[GG]	p[GG]<.05	HFe	p[HF]	p[HF]<.05
3	INFOTYPE	7.283	.001	*	7.283	.001	**
4	INFOTYPE:GENDER	0.475	.618	-	0.475	.623*	-

3. Based on the above output, what analysis has been done?
 - a. A two-way mixed ANOVA.*
 - b. A three-way mixed ANOVA.
 - c. A two-way repeated measures ANOVA.
 - d. A two-way independent ANOVA.

4. A researcher tested 40 adults. Each adult had to rate their mood after listening to a tape of people being sick, and then again after a tape of people laughing. What experimental design has been used?
 - a. A repeated measures design.*
 - b. A matched design.

- c. A mixed design.
- d. A between-subject design.

An experiment was conducted to see how people with eating disorders differ in their need to exert control in different domains. Participants were classified as not having an eating disorder (control), as having anorexia nervosa (anorexic), or as having bulimia nervosa (bulimia). Each participant underwent an experiment that indicated how much they felt the need to exert control in three domains: eating, friendships and the physical world (this final category was a control domain in which the need to have control over things like gravity or the weather was assessed). So all participants gave three responses in the form of a mean reaction time; a low reaction time meant that the person did feel the need to exert control in that domain. The variables have been labelled as **group** (control, anorexic, or bulimic) and **domain** (food, friends or physics). The **R** output from an analysis is shown below and the next two questions relate to this output.

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$ANOVA
      Effect  DFn  DFd  SSn          SSd      F      p      p<.05
(Intercept)  1    27  7383094.090  98210.579  2029.756  .000  ***
GROUP        2    27  6795.729    98210.579  0.934    .405
DOMAIN       2    54  67459.951  227046.533  8.022    .001  **
DOMAIN:GROUP 4    54  55061.976  227046.533  3.274    .018  *

$`Mauchly's Test for Sphericity`
Effect  W      p      p<.05
DOMAIN  .711  .012  *

$`Sphericity Corrections`
      Effect      GGe  p[GG]  p[GG]<.05  HFe  p[HF]  p[HF]<.05
DOMAIN      8.022  .002  **        8.022  .002  **
GROUP       .934  .405
DOMAIN:GROUP 3.274  .029  *        3.274  .023  *

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5. What analysis has been conducted?
 - a. Two-way repeated measures ANOVA.
 - b. Three-way independent ANOVA.
 - c. Two-way mixed ANOVA.*
 - d. Analysis of covariance.

6. What can we conclude about the main effect of the **group** variable?
 - a. People with eating disorders need to exert more control over different domains of their life, $F(2, 27) = 0.93, p < .05$.
 - b. When ignoring the type of domain, people who differ with regard to eating disorders did not significantly differ in their need to exert control, $F(2, 27) = 0.93, p > .05$.*

- c. People with eating disorders significantly differ in their need to exert control over food, $F(2, 27) = 0.93, p > .05$
- d. People with eating disorders need to exert significantly more control over different domains of their life than people without eating disorders, $F(1, 27) = 2029.76, p < .001$.