

Type II Diabetes

About this study

This study compared two methods of teaching adults with newly diagnosed Type II diabetes how to achieve a lifestyle that maximises their health. On average, people with Type II diabetes are overweight, and have a history of poor diet and limited exercise (excess weight and inactivity are the biggest risk factors¹). The successful management of Type II diabetes requires a healthy diet and frequent exercise, which are vital for controlling blood sugar and reducing cardiovascular risk. A healthy diet means ample vegetables, fruits and whole grains, and limited sugars and fats. For people who are unaccustomed to them, achieving a healthy diet and regular exercise is difficult. This study evaluated an intervention designed to promote both. An ideal plan was devised (e.g., saturated fat intake of less than 10% of their daily diet, less than 10% free sugars; moderate exercise for 30 minutes on 5 days per week). The dependent variable was adherence to the diet and exercise plan, expressed as a percentage. A good outcome is 80% adherence, but higher is better. High adherence was stressed to participants as the best way of minimising their risk of heart attack, stroke, blindness, and other complications.

The main question for this study was whether people would benefit more from a group intervention than from an individual intervention. Participants saw a trained diabetes health-advisor once per week for 8 weeks, and then fortnightly for the remainder of the three-month program. Half the participants met with the advisor in groups along with about 10 others with newly diagnosed diabetes. The remaining participants saw the advisor on a one-to-one basis.

Good management of diabetes might be aided by support from others. Therefore, at the beginning of the program, participants were classified as having a good level of *general* social support in their day-to-day lives, or insufficient social support, based on questions about friendships and family, having someone to talk to or to go out with (e.g., to a movie), and loneliness. It was thought that the benefits of group versus individual treatment might depend on people's general social support.

Two additional measures were taken. The first was diabetes self-efficacy: a baseline measure of participants' confidence at being able to successfully manage their diabetes. The second was *diabetes-specific* support *during* the program (during the treatment period). Diabetes-specific support is support that relates *directly* to managing diabetes (not general social support like having friends). Questions about specific support included whether other people had shown an interest in their diet, shared meal ideas, exercised with them, and congratulated them on their efforts. Data for this study are in the SPSS data file "*Type2 Diabetes.sav*".

Data information (read *carefully*, and ensure you understand the direction of scoring)

Variable name	Description
id	participant ID number
modality	Treatment modality; categorical - 2 levels: 0 = individual, 1 = group; experimentally manipulated; between subjects
gensupport	General social support category at baseline; categorical - 2 levels: 0 = insufficient, 1 = good; between subjects
adherence	Adherence to the program expressed as a percentage (from a daily diary). Around 80% adherence represents a good outcome. Obviously higher is better.
selfefficacy	Future expectations for success at managing their diabetes – continuous. Measured at the study's beginning (before treatment allocation). Scores can range from 1 (<i>not at all confident</i>) to 5 (<i>very confident</i>). Higher scores = greater self-efficacy.
specific1 to specific6	Scores on each of 6 questions that make up a <i>single</i> measure of diabetes-specific support from other people during the program (you'll need to compute a new variable using Transform, Compute – see the Prac 3 walkthrough). On each, scores can range from 1 (<i>none</i>) to 5 (<i>excellent</i>).

¹ Type II diabetes most commonly arises in adulthood; the causes and risk factors are very different from Type 1
Type 2 Diabetes.pdf

Assignment information

There is important general information about Assignment 2 in the handbook (pp. 13 – 17), AND later in this document.

In the report, write in clear English, e.g., don't use abbreviations such as non-English variable names from the data file. When communicating with readers, aim to be as clear as possible.

Assignment Tasks

1. Under the heading **Design**, provide a design statement for the study (for the experimental or quasi-experimental components), and briefly *name* the other variables that were measured.
2. Did treatment modality affect adherence to the diabetes program, and did the effect of treatment modality vary depending on baseline category of general social support?
3. Was adherence related to (a) baseline diabetes-management self-efficacy or to (b) diabetes-specific support? All that's needed here is 2 correlations, reported concisely.
4. Use multiple regression analysis to test a *mediation* hypothesis (using one IV and one mediator). Present a brief *rationale* for the hypothesis based on logic or theory.

For some of the studies there *might* be more than one potential mediation hypothesis, so you can choose the one that seems the most interesting and for which you can provide a good justification. Note that a good mediation hypothesis will address a worthwhile question that increases our understanding of a key issue in the study, and informs our main conclusions. Ensure you follow all the procedures for testing mediation, and clearly describe your regression analyses. As a reminder: having a categorical IV for a mediation hypothesis is fine.

- For each analysis (question 2 - 4), provide a hypothesis and a *very* brief justification (for the hypothesis). The justification should be no more than 1 or 2 sentences each because otherwise you might have to repeat yourself in the discussion. All hypotheses should be directional (don't predict no relationship).
 - For each analysis, ensure the analysis itself is clearly specified and the results are clearly presented in appropriate APA format. It does not matter if your hypothesis is not supported by the results of your analysis.
 - For each analysis, offer an interpretation/*explanation* of the outcome. It doesn't have to be sophisticated, elaborate or to reflect established psychological theory. However, it should provide a clear, logical/plausible and thoughtful potential explanation for the pattern of results. (Students should not do any reading on the topic of the study that they choose: these studies were made up. We are seeking a thoughtful approach). Where relevant, you can consider practical significance.
 - In a brief conclusion indicate the key 'take-home' message from the study: what have we learned about helping people with newly diagnosed Type II Diabetes?
 - The assignment must use what has been covered in PSYC3007 about reporting and interpreting statistics. That means you should read about each analysis to make sure that you present and interpret it correctly, and read Section 16 in the notes called *A guide to reporting descriptive and inferential statistics* (available as a separate document on FLO or in the Notes pp. 122 - 129), including the part headed "When reporting data analyses and outcomes, do the following".
- ◇ **Append SPSS output:** The assignment should include the relevant output from SPSS used in your answers to questions 2-4. Attach the output to the end of your report as an appendix (do not submit it separately). Clearly label which output refers to which question. Do not attach peripheral or irrelevant output. You might choose to edit the output to make it as concise as possible. The easiest way control the output is to copy selected SPSS tables into a Word document (see handout on FLO called *Inserting SPSS output into Word*).

See the topic handbook for extra information, e.g., about structure and the most heavily weighted components for marking (pp. 13 - 17)

Guidelines for the Assignment

- (1) Write clearly in normal paragraphs throughout (do not use dot points, numbered lists, or non-English variable names).
- (2) For Question 1, provide a brief, but complete design statement, based on the instructions and examples on pages 33 – 34 of the Notes. You needn't give details about the method (because they are usually in a Method section).
- (3) **Question 2 requires one ANOVA.** For the second part of Question 2, you should predict an interaction (see [Sections 7 & 8](#) or [Lectures 10 & 11](#) – additional help/guidance is available in the Prac 3 & Prac 5 answer sheets)
- (4) Pay careful attention to the way in which Question 2 is phrased. **Decide on which IV is the main IV and which is the moderator, and express your interaction hypothesis and the results in conformity with that.** See Section 8 on Moderation. When running the ANOVA, putting the moderator in before the key IV will group the cell means sensibly in the SPSS output.
- (5) Do not test whether the data meet assumptions for parametric tests.
- (6) When calculating a single score from a number of variables, consider whether it would be more meaningful to calculate a mean rather than a total. A mean might be easier to interpret (in Transform Compute, after adding the items together to make a total, divide the total by the number of items)
- (7) The computation of any new variable *must* be outlined so the reader knows what was done (not the SPSS procedure, but *conceptually*, e.g., “Total self-esteem was calculated by adding scores for the 12 self-esteem questions.”).
- (8) Use the handbook guidelines for reporting analyses and results (e.g., Section 16)
- (9) The examples of reporting statistics in this handbook are meant to be helpful but *not to be copied verbatim* with a mere substitution of the appropriate numbers. The assignment must be written in your own words.
- (10) **If you decide to present means in a table**, see FLO for information about creating APA-formatted tables. Put the table in the main body of your report. **Don't use any SPSS output tables in the main body of your report.**
- (11) **If you decide to use a figure (you don't have to)**, see the handout on FLO on creating APA-style figures using *Excel*. Do not use an SPSS plot unless you can edit it to make it comply with APA format. Figures are a good way of presenting complex results like interactions. They're not used for straightforward results like main effects or correlations. Present the figure in the main body of the report.
- (12) We can assume that, when a variable is described as having been experimentally manipulated, random allocation was used (by definition).
- (13) The handbook provides suggestions about structuring the assignment.
- (14) Remember that the assignment requires an appendix (attached at the end of your assignment)
- (15) Double-space your assignment
- (16) Filename: for this study, include the word “diabetes” in the name of your assignment file, e.g., [PSYC3007 diabetes](#). Keep your filename short (FLO will add your name and FAN when you upload it)