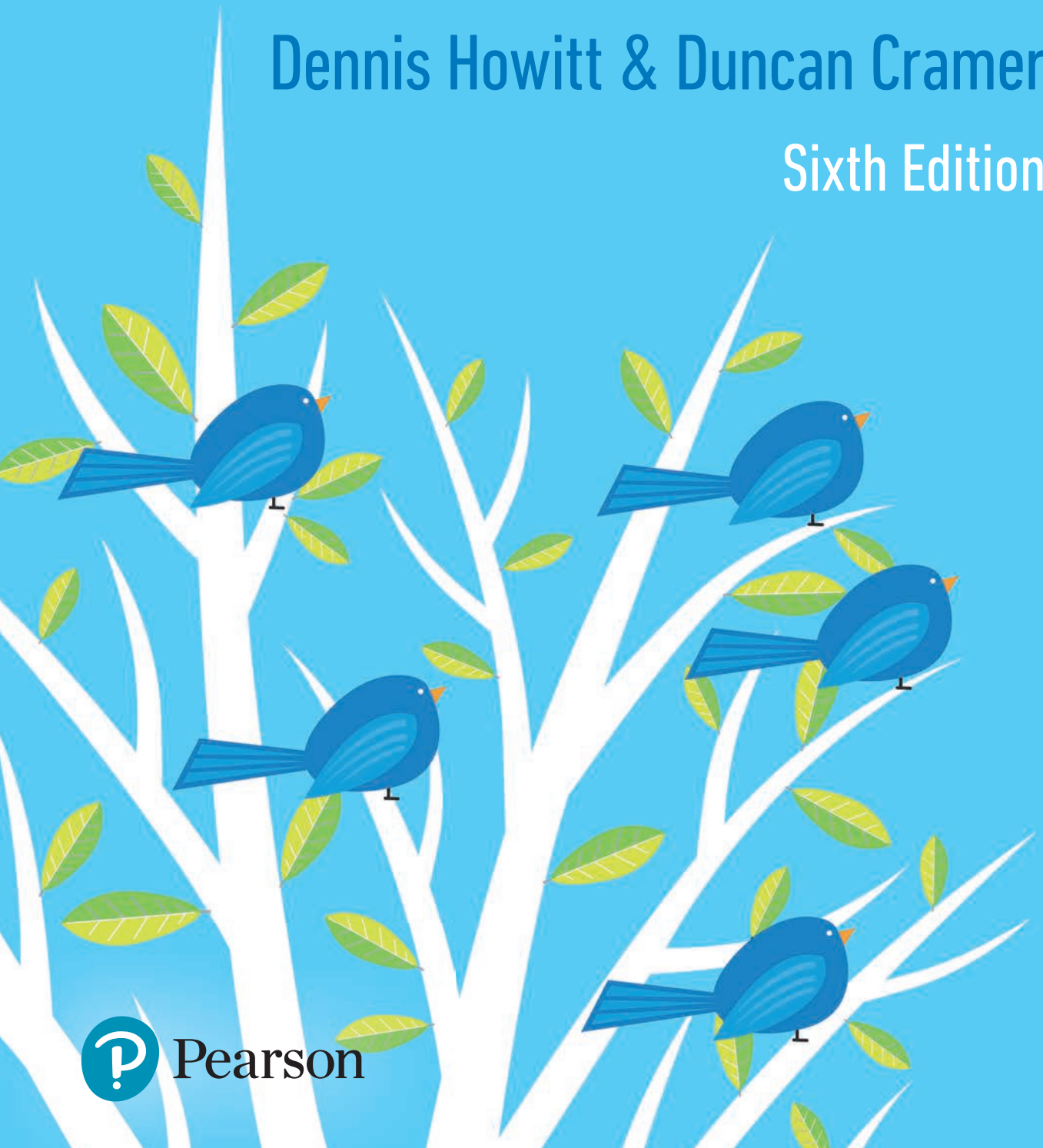


Research Methods in Psychology

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Sixth Edition



Research Methods in Psychology

The screenshot shows the EBSCOhost PsycINFO search interface. At the top, there are navigation links: New Search, Thesaurus, Cited References, Indexes, Sign In, Folder, Preferences, Languages, and Ask-A-Librarian. The search bar contains the text 'interpersonal attraction' and 'attitude similarity' with dropdown menus for 'AB Abstract' and 'Clear'. Below the search bar, there are links for Basic Search, Advanced Search, and Search History. The search results section shows 'Search Results: 1 - 50 of 76' and a list of results. The first result is titled '1. Do birds of a feather play sports together? Moderators of the similarity-attraction relationship in the context of sports and physical activities.' It includes a thumbnail of a document, the author 'Tolman, Ryan', the publisher 'ProQuest Information & Learning', and the subject 'Subjects: Athletes; Sexual Attraction; Sports; Male; Female'.

FIGURE 7.14

PsycINFO results (Source: The PsycINFO® Database screenshot is reproduced with permission of the American Psychological Association, publisher of the PsycINFO database, all rights reserved. No further reproduction or distribution is permitted without written permission from the American Psychological Association and reproduction with permission from EBSCO Information Services)

Abstract:

Psychological theories of **similarity** and **attraction** predict that common interests and participation in particular sports and physical activities (SPA) will lead to greater **attraction**. However, both social structural and evolutionary sexual strategies theories predict that the sexes will engage in different SPAs. Furthermore, SPAs are theorized to function as cultural courtship rituals by which people make inferences regarding desirable mate characteristics. The current study sought to examine whether relationship context, participants' sex, and their sex-role **attitudes** moderated the **similarity-attraction** relationship and whether perceived characteristics associated with particular SPA participation influence **interpersonal attraction**. Using an online questionnaire, heterosexual participants (N = 336 females, 174 males) were provided a list of 29 SPAs and rated each on levels of personal interest and experience, perceived characteristics associated with people who engage in each SPA, and **interpersonal attraction** towards people who engage in those SPAs in four relationship contexts (same- and other-sex friendships, short-term sexual relationships, and long-term romances). **Similarity** in SPAs was found to be positively associated with **attraction**, significantly moderated by the interaction with participant's sex and relationship context, and significantly more influential across relationship contexts for participants with traditional sex-role **attitudes**. Perceptions of gender-role alignment with SPA engagement predicted **interpersonal attraction**. Although females strongly associated male athletes as being athletic and physically strong, these characteristic perceptions were not found to align with their ratings of **interpersonal attraction**. Males were significantly more influenced by perceptions of kindness in romantic contexts than females. In opposite-sex relationship contexts, both sexes prioritized perceived physical attractiveness followed by social popularity. (PsycINFO Database Record (c) 2017 APA, all rights reserved)

Document Type: Dissertation

FIGURE 7.15

PsycINFO abstract (Source: PsycINFO is a registered trademark of the American Psychological Association (APA). Reprinted with permission of the American Psychological Association and Ryan Tolman)

also search for specific phrases used by putting them in inverted commas. There may be more than one version of the item. If selecting the first item does not produce the article, check the other versions. In general, it is better to do this while you are logged into your university website just as you would if you were using these bibliographic databases. It is more likely that the university has access to the journal websites than you as a private individual. This might also help you if you have lost or mislaid the full details of a paper and only have a fragment such as the authors or the title. It is surprising how often you can locate the full details simply by typing what you have into an Internet search engine.

7.4 Obtaining articles not in your library

A large number of journals are published relevant to psychology. As the budgets of libraries are limited, your library will subscribe to only a fraction in hard copy. Furthermore, it may not have a complete set of a journal. Inevitably, some of the articles you are interested in reading will not be available in your library. There are at least six different courses of remedy:

- Many journals now have a web-based electronic version which you may be able to access. Information about this may be available on your library's website. If your library subscribes to the electronic version of a journal, this is very good news indeed, since you can obtain virtually instant access to it from your computer, which allows you to view it on the screen, save a copy and print it.
- It is possible that the article is freely available on the web. To see whether this is the case, you could type some of the major details of the article in a search engine such as Google Scholar and see whether it is present.
- You may have friends at other universities or there may be other universities near to where you live. You can check in their catalogue to see whether they have the journal volume you need using the web pages of your local library in many cases.
- Libraries provide an inter-library loan service through which you can obtain either a photocopy of a journal article or a copy of the issue in which the article was published. It is worth obtaining the issue if there is more than one article in that issue which is of interest to you. This service is generally not free and you may be expected to pay for some or all of these loans. You will need to check locally what arrangements are in place for using such a service. This service is relatively quick and you may receive the photocopied article in the post or an e-mailed electronic copy within a week of requesting it.
- Sometimes it may be worth travelling to a library such as the British Lending Library at Boston Spa in Yorkshire to photocopy these yourself. You need to order articles in advance. The maximum number of articles you can request in a day at this library is currently restricted to 10. It is worth checking before going. You will find contact details on <https://www.bl.uk/>. Choose 'Visit' and then 'Reading rooms' and the 'Boston Spa Reading Room' option.
- You may write to or e-mail the author (or one of the authors if there is more than one) of the paper and ask them to send you a copy of it. E-mail is best. Authors usually have an electronic version of their paper which they can send to you as an attachment. Some authors may have copies of their papers which you can download from their website. Perhaps the easiest way to find an author's e-mail address is to find out where they currently work by looking up their most recently published paper. This is readily done

in Web of Science or PsycINFO. Then use an Internet search engine such as Google by typing in their name and the name of the institution. Include your postal address in your e-mail so that authors know where to send the paper should they not have an electronic copy. Remember to be courteous when wording your e-mail by thanking them for their help.

Box 7.3 Talking Point

Judging the reputation of a publication

There is a form of pecking-order for research journals in all disciplines, including psychology. To have an article published in *Nature* or *Science* signals something of the importance of one's work. Researchers are attracted to publishing in the most prestigious journals for professional notice and advancement. Virtually every journal has a surfeit of material submitted to it, so very good material may sometimes be rejected. The rejection rate of articles submitted for publication in journals is relatively high. In 2017, rejection rates varied from 34 per cent for *Experimental and Clinical Pharmacology* to 90 per cent for *Journal of Applied Psychology*, with an average of 70 per cent across the non-divisional journals published by the leading American Psychological Association (American Psychological Association, 2018). Not unexpectedly, agreement between referees or reviewers about an article's quality may be considerably less than perfect in psychology (Cicchetti, 1991; Munley, Sharkin, & Gelso, 1988) and in other disciplines such as medicine (Callahan, Baxt, Waeckerle, & Wears, 1998). Quality, after all, is a matter of judgement. Authors often find that an article rejected by one journal will be accepted by the next journal they approach.

The impact factor is a measure of the frequency with which the average article in a journal has been cited within a particular period. This may be regarded as a useful indicator of the quality of the journal. More prestigious journals should be more frequently cited than less prestigious ones. Clarivate Analytics, which produces Web of Science, also publishes *Journal Citation Reports* annually in the summer following the year they cover (encircled in blue in Figure 7.5). The impact factor of a particular journal may be found using these reports. The period looked at by *Journal Citation Reports* is the two years prior to the year being considered (Institute for Scientific Information, 1994). For example, if the year being considered is 2019, the two years prior to that are 2017 and 2018. The impact

factor of a journal in 2019 is the ratio of the number of times in 2019 that articles published in that journal in 2017 and 2018 were cited in that and other journals to the number of articles published in that journal in 2017 and 2018:

$$\text{journal's impact factor 2019} = \frac{\text{citations in 2019 of articles published in journal in 2017 – 2018}}{\text{number of articles published in journal in 2017 – 2018}}$$

So, for example, if the total number of articles published in 2017 and 2018 was 200 and the number of citations of those articles in 2019 was 200, the impact factor is 1.00. The impact factor excludes what are called self-citations where authors refer to their previous articles.

Taking into account the number of articles published in a particular period controls for the size of the journal. If one journal publishes more articles than another journal, the former is more likely to be cited simply for that reason, if all else is equal. This correction may not be necessary, as it was found by Tomer (1986) that the corrected and the uncorrected impact factors correlate almost perfectly (.97).

The impact factors for a selection of psychology journals for the years 2013 to 2017 are presented in Table 7.3. The impact factor varies across years for a journal. For example, for the *British Journal of Social Psychology* it increased from 1.69 in 2016 to 1.78 in 2017. It also differs between journals. For these journals in 2017, the highest impact factor was 5.73 for the *Journal of Personality and Social Psychology* and the lowest was 1.23 for the *Journal of Social Psychology*. An impact factor of about 1.00 means that the average article published in that journal was cited about once in the previous two years, taking into account the number of articles published in that journal in



Table 7.3

Impact factors for some psychology journals for 2017 to 2013

| Journal | 2017 | 2016 | 2015 | 2014 | 2013 |
|-----------------------------------------------------|------|------|------|------|------|
| <i>British Journal of Social Psychology</i> | 1.78 | 1.69 | 1.80 | 1.91 | 1.51 |
| <i>Journal of Personality and Social Psychology</i> | 5.73 | 5.02 | 4.74 | 5.03 | 5.51 |
| <i>Journal of Psychology</i> | 1.52 | 1.64 | 1.25 | 1.73 | 0.97 |
| <i>Journal of Social and Personal Relationships</i> | 1.70 | 1.43 | 1.46 | 1.16 | 1.08 |
| <i>Journal of Social Psychology</i> | 1.23 | 0.84 | 0.77 | 0.98 | 0.71 |
| <i>Personality and Social Psychology Bulletin</i> | 2.50 | 2.50 | 2.56 | 2.91 | 2.52 |
| <i>Social Psychology Quarterly</i> | 2.34 | 1.90 | 1.46 | 1.41 | 1.65 |

those two years. Web of Science includes only those journals that are considered to be the most important (Clarivate Analytics, n.d.).

However, even the Institute for Scientific Information, which introduced the impact factor measure, says that the usefulness of a journal should not be judged only on its impact factor but also on the views of informed colleagues or peers (Institute for Scientific Information, 1994). The impact factor is likely to be affected by a number of variables such as the average number of references cited in a journal or the number of review articles that are published by a journal. The relationship between the citation count of a journal and the subjective judgement of its standing by psychologists has not been found to be strong. For example, Buss and McDermot (1976) reported a rank-order correlation of .45 between the frequency of citations for 64 psychology journals in the period 1973–1975 and a five-point rating made of those journals by the chairs or heads of 48 psychology departments in the United States based on an earlier study by Mace and Warner (1973). This relationship was stronger at .56 when it was restricted to the 10 most highly cited journals. In other words, agreement was higher when the less highly cited journals were excluded. Rushton and Roediger (1978) found a Kendall's tau correlation of .45 between the ratings of these journals by these departmental heads and their impact factors. Chairs of departments are an influential group of people in that they are often responsible for selecting, giving tenure and promoting academic staff. However, it is possible that nowadays chairs are more aware of impact factors and so the relationship between the impact factor and the rating of the journal may be higher.

There appears not to be a strong relationship between the number of times a published paper is cited by other authors and either the quality or the impact of the paper as rated by about 380 current or former editors, associate editors and consulting editors of nine major psychology journals who had not published papers in those journals (Gottfredson, 1978). Because the distribution of the number of citations was highly skewed with most articles not being cited, the logarithm of the citation number was taken. The correlation between this transformed number was .22 for the quality scale and .36 for the impact scale. The number of times a paper is cited is given by both Web of Science and PsycINFO (*Cited References* under *PDF Full Text*). The number of times a paper is cited in these two databases is likely to differ as their coverages differ. Provided that the number of citations is not zero, if you select *Cited References* in PsycINFO or the number of references immediately after it in Web of Science, you will see details of the papers that have cited this reference.

The lack of agreement about the quality of published papers was dramatically illustrated in a study by Peters and Ceci (1982) in which 12 papers which had been published in highly regarded American psychology journals were resubmitted to them 18–32 months later using fictitious names and institutions. Of the 38 editors and reviewers who dealt with these papers, only three realised that they were resubmissions. Of the nine remaining papers, eight of these previously published papers were rejected largely on the grounds of having serious methodological flaws. This finding emphasises the importance of the reader being able to evaluate the worth of a paper by themselves and not relying entirely on the judgements of others.

7.5 Personal bibliographic database software

There are several bibliographic database software packages that enable you to quickly store the details of references of interest to you from electronic databases such as Web of Science and PsycINFO. These include EndNote, RefWorks and Mendeley. If you look at the Web of Science screenshot in Figure 7.8, you will see that there is an option to *Save to EndNote online* (RefWorks is on the drop-down menu). For example, we could save the details of the reference by Noval, Molinsky and Stahl in Mendeley as shown in Figure 7.16. Mendeley is free at the time of writing. The easiest way of saving this is to move this PDF to the box under *All Documents*. You can also use this kind of software to write out the references that you cite in your work in a particular style such as that recommended by the American Psychological Association. For example, we could format the Noval, Molinsky and Stahl reference in terms of the 6th edition of the APA *Publication Manual* using Mendeley's *Citation Plugin* as presented in Figure 7.17. Once you have chosen this style and inserted all your citations (i.e. Noval, Molinsky and Stahl) in a Microsoft Word or LibreOffice document using *Insert Citation* (as encircled in blue in Figure 7.17), you simply select *Insert Bibliography* (also encircled in blue in Figure 7.17). You still have to familiarise yourself with the details of this particular style, as it is necessary to check whether the reference list matches the chosen style.

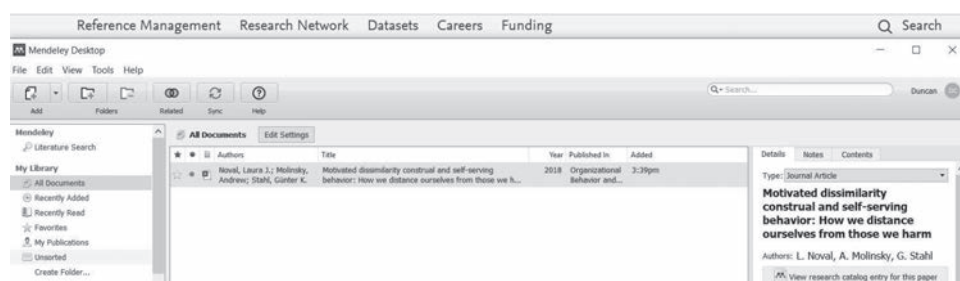


FIGURE 7.16

Standard view of a reference in Mendeley (Source: Microsoft Corporation)

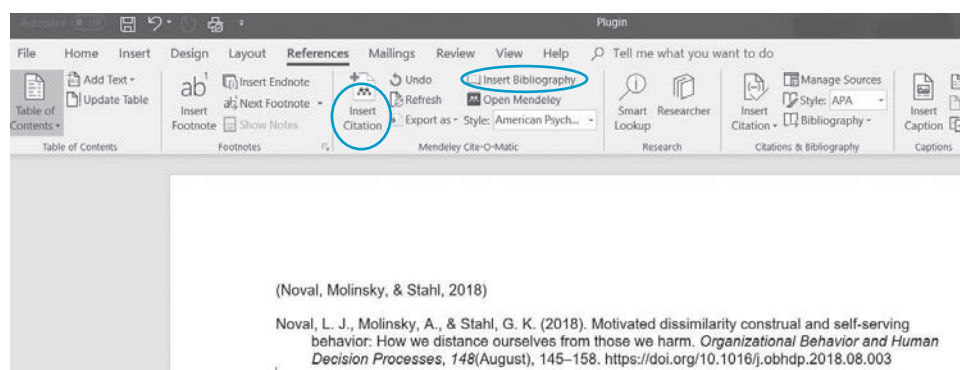


FIGURE 7.17

6th edition APA publication style of a Mendeley reference (Source: Microsoft Corporation)

Box 7.4 Research Example

Meta-analysis of the relation between the five-factor model of personality and academic performance

Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin*, 135, 322–338.

One modern version of the literature review is known as meta-analysis. Primarily, it differs from the regular literature analysis in that statistical methods are used to combine the data across a range of studies to establish overall (meta-) trends. Although meta-analyses can look extremely technical, it is not too difficult to produce a worthwhile meta-analysis using relatively simple methods, as we demonstrate in Howitt and Cramer (2020). Unfortunately, this is not a topic tackled by the ubiquitous statistical package SPSS, though naturally meta-analysis programs are available. However, if you understand a few very basic statistical ideas such as effect size, then it is not too difficult to incorporate ideas from meta-analysis into your research review. Effect size is simply the size of the effect (trend) expressed in a standardised form so that all studies can be compared irrespective of how key variables were measured. One measure of effect size – the correlation coefficient – you are probably aware of, but there are others. So maybe the difference between your experimental group and control group means is 5.2. This can actually be turned into a correlation coefficient, but it can also be turned into another measure of effect size (e.g. Cohen's *d*) in a way not too dissimilar from calculating the *t*-value in a *t*-test or *z*-score. The important thing at this point is to understand that the results of a wide range of studies can be meaningfully combined. Often students complain that even similar studies of the same thing can produce contradictory findings. Meta-analysis provides methods of making sense of this confusion.

A thorough and up-to-date literature review is important for all quantitative research but particularly for meta-analyses which seek to provide an overall statistical summary of published and often unpublished studies. Including unpublished studies is considered useful because they may not have found statistically significant findings and may as a consequence be less likely to be submitted for publication or be published if submitted.

Background

Arthur Poropat (2009) conducted a meta-analysis of studies which had investigated the relationship between the five-factor model of personality and academic performance (see Figure 7.18). These five factors were Agreeableness (such as being likeable and friendly), Conscientiousness (such as being dependable and keen to achieve), Emotional Stability (such as being calm and relaxed), Extraversion (such as being active and sociable) and Openness (such as being imaginative

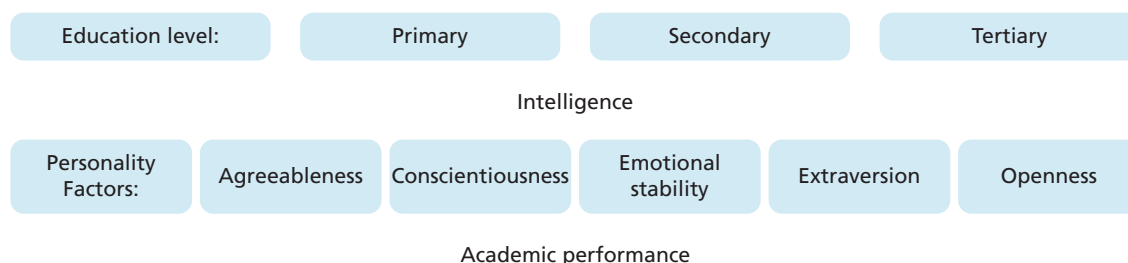


FIGURE 7.18

Main variables in Poropat's (2009) study