

National Qualifications 2011-12

Psychology Higher C263 12

Research Investigation Briefs for use in Session 2011/12

This document contains briefs for each of the Research Investigation titles to be used in session 2011/12. Candidates must choose one of the Research Investigation Briefs from the list below:

<i>Psychology: Understanding the Individual</i>	
Page 3	1. Early Socialisation Daycare: What's best for the child? A survey of gender differences in attitudes to daycare for young children. (Please note changes have been made to both the Method and Results for this brief)
5	2. Memory An investigation into the use of images to aid memory.
6	3. Stress A laboratory experiment on the effect of a mild 'stressor' on a biological response.
<i>Psychology: The Individual in the Social Context</i>	
7	4. Prejudice A questionnaire survey of attitudes to the elderly in people of various ages, with correlational analysis.
9	5. Conformity An experimental investigation of the influence of others' judgments on estimation of number of sweets in a jar/pasta pieces in a pack.
10	6. Social relationships A non-experimental study to compare views on relationship rules for couples, between genders.
12	7. Atypical Behaviour A correlational study investigating whether specific phobias of animals (zoophobia) are related to the animals' appearance.
13	8. Intelligence A questionnaire survey investigating age differences in people's lay beliefs about the nature of intelligence.

NB Several references are provided with each brief. Most of these are cited in widely available texts, and it is not necessary for teachers and candidates to access all of these primary sources, for the RI report. In all cases, many other relevant research studies are covered in various textbooks and online.

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

Note

Higher Psychology candidates are required to undertake a Research Investigation (RI) as one of the two components of the external Course assessment. Teachers/lecturers and candidates should select **one** of the eight research investigation briefs provided here. For session 2011-12: three are based on a topic from the Unit 'Psychology: Understanding the Individual', and five are from 'Psychology: The Individual in the Social Context'.

Please also refer to the current Arrangements document, particularly the Guidance on Learning and Teaching in the 'Investigating Behaviour' Unit specification. The practical skills of planning and logging research are required for internal assessment of that Unit, therefore the NAB materials for the Unit provide a template for a research plan and log; it is recommended that this forms the basis of the RI. Comprehensive guidance on the conduct and reporting of the RI is given in the SQA document *Higher Psychology Research Investigation Guidelines* (Revised 2010). Information on Course Assessment can be found in the *Course Assessment Specification (CAS)*. All information and guidance relevant to the RI, including this document, can be found on the SQA website – www.sqa.org.uk.

The research design to be followed is provided in this document. The references provide useful background information on the topic under investigation. Teachers/lecturers are encouraged to promote candidates' active participation in the design process, rather than simply giving the brief as a handout.

It is the centre's responsibility to ensure that candidates follow ethical procedures with all participants. See the BPS *Code of Ethics and Conduct* (2009), at www.bps.org.uk; and the ATP *Guide to Ethics for Teachers and Students of Psychology at Pre-Degree Level* (2003), the latter being included in the SQA document *Higher Psychology Research Investigation Guidelines* (Revised 2010).

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

Psychology: Understanding the Individual

(1) Early Socialisation

Daycare: What's best for the child? A survey of gender differences in attitudes to daycare for young children.

Background: Increasing numbers of young children attend various forms of daycare, often because their parents are in employment. Many aspects of the daycare environment can affect the child's socio-emotional and cognitive development, and opinions vary as to its benefits or otherwise. Scottish government policy emphasises the importance of good quality childcare services (see *The Early Years Framework*, 2008). Essential ingredients of good quality care include caregiver-child verbal interaction and other forms of stimulation (eg Schaffer, 1998), as well as consistency of staffing and a good child-to-caregiver ratio (NICHD, 1999). Relatives such as grandparents may provide a richer environment than a nursery or childminder (Melhuish et al, 1990). There may be negative effects due to long (20+) weekly hours (eg Belsky, 1988), or as a result of the child starting full-time daycare before the age of 1 year (Baydar and Brooks-Gunn, 1991). Much research also shows positive effects of daycare. Gender differences in childcare in the home have been extensively researched: for example, men are less likely to be involved in bathing a child, getting them dressed or putting them to bed (*Growing up in Scotland*, 2008). As far as daycare outwith the home is concerned, Shpancer and Bennett-Murphy (2006) found that women had more positive attitudes than men, however overall there has been little research into gender differences in attitudes to non-parental daycare.

Aim: To investigate gender differences in attitudes to daycare for young children.

Hypothesis: Candidates should devise suitable hypotheses for the investigation. The alternative hypothesis should be a prediction of gender differences in attitudes to the impact of daycare on children's development and wellbeing.

Method: A questionnaire survey. The variables of interest are gender and attitudes to daycare (these should not be termed "IV" and "DV", as the method is non-experimental). Candidates should construct a questionnaire (eg 5 or 10 items) measuring views on various aspects of daycare in terms of their effects on children's wellbeing, such as: whether daycare provides a stimulating environment for children, whether it disrupts the attachment bond with parent(s), improves social skills, helps language development, causes any lasting harmful effects etc. Items should use a 5-point Likert scale for response options, showing levels of agreement with a statement, eg:

Daycare can help young children's language development (tick one)				
Strongly agree (5)	Agree (4)	Unsure (3)	Disagree (2)	Strongly disagree (1)

If the item is positively worded (like the example above), "Strongly agree" scores 5, however, for any negatively-worded items (eg "Daycare" disrupts the attachment bond with parent(s)", scoring must be reversed, so that, when added together they give a measure of the participant's overall positive/negative attitude to daycare. It is also possible (but not obligatory) to include one or two open-ended item(s) for qualitative analysis, for example, on what is seen as constituting "good quality" daycare.

In their **standardised instructions** to participants, candidates may find it helpful to define "daycare", including different types of daycare and the age range of interest (eg from birth to 3 years). They should emphasise that the items are about what is seen as beneficial, or otherwise, for the child's development / wellbeing; attitudes to other aspects - such as cost and convenience for parents - are *not* being sought (this is reflected in the title "What's best for the child?"). The wording of items should also make this clear.

Other **materials** should be prepared, including a brief and request for consent, standardised instructions, debrief. Candidates should decide whether to conduct the questionnaire verbally (face-to-face or on the phone), or by distributing and collecting paper copies, or electronically (eg as an email attachment or an online survey).

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

Participants may be parents, but not necessarily, since the questionnaire will elicit views/attitudes, *not* personal experience either as a parent or as a child. Roughly equal numbers of female and male participants will be needed.

Specific Ethical Considerations: As well as routine ethical procedures (informed consent, right to withdraw, participants must be 16+, confidentiality, debrief, etc), candidates should consider ethical issues specific to this investigation. **Candidates must ensure they do not cause participants any discomfort or distress.** Therefore, in their brief or instructions, **candidates should make it very clear to participants that they are NOT being asked about their own children, nor about their own childhood experience. Candidates should emphasise to participants their right to withdraw at any time, without having to give a reason, and without any adverse consequences for them. Participants' gender can simply be recorded by candidates themselves when administering the questionnaire; it is not necessary to ask participants their gender.**

Results: Each participant's responses should be totalled so that each person has one overall score, representing the extent of positive or negative attitude to daycare (eg if there are 5 items, the maximum score is 25). Descriptive statistics should be applied, which are appropriate for the ordinal data: medians and/or means, ranges, bar chart(s). Note that Likert-scale data is ordinal: it should not be treated as nominal/categorical, therefore candidates should NOT use percentages and pie-charts showing proportion of participants at each point on the scale. Any qualitative analysis may be described in the Discussion section of the RI report.

References:

- Baydar, N. and Brooks-Gunn, J. (1991) Effects of maternal employment and child-care arrangements on pre-schoolers' cognitive and behavioural outcomes. *Developmental Psychology*, 27, 932-945.
- Belsky, J. and Rovine, M. (1988) Non-maternal care in the first year of life and the security of parent-infant attachment. *Child Development*, 59, 157-167.
- Melhuish, E.C., Lloyd, E., Martin, S. and Mooney, A. (1990) Type of childcare at 18 months: II Relations with cognitive and language development. *Journal of Child Psychology and Psychiatry*, 31, 861-870.
- NICHD Early Child Care Research Network (1999) Child care and mother-child interactions in the first three years of life. *Developmental Psychology*, 35, 1399-1413.
- Schaffer, H.R. (1998) *Making Decisions About Children*. Oxford: Blackwell.
- The Scottish Government (2008) *The Early Years Framework Part II*. Edinburgh.
<http://www.scotland.gov.uk/Publications/2009/01/13095148/13>.
- The Scottish Government (2008) *Growing up in Scotland, Year 2*.
<http://www.scotland.gov.uk/Publications/2008/02/01151619/0>
- Shpancer, N. and Bennett-Murphy, L. (2006) The link between daycare experience and attitudes toward daycare and maternal employment. *Early Child Development and Care*, 176(1), 87-97.

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(2) Memory

An investigation into the use of images to aid memory.

Background: this research is based on research by Paivio (1969; 1986) and is concerned with the use of images as an aid to recall. Paivio suggested the dual-coding approach ie information can be stored in memory based on verbal codes and sensory codes. He found that abstract nouns (eg psychology) were harder to recall than concrete nouns (eg dog). This is because it is easier to store concrete nouns visually as well as verbally – the dual-coding approach. This could be regarded as a mnemonic device to aid memory. Other related research was undertaken by Bower (1972) who asked participants to create a mental image of pairs of unrelated nouns eg 'cat' and 'skateboard', where the two nouns interacted eg the cat riding a skateboard. He found that more bizarre the image the greater the recall. Anderson (1995) found bizarre images produced the best recall due to their distinctiveness.

Aim: To investigate the use of images as a mnemonic device to aid memory.

Hypothesis: Candidates should devise suitable null and experimental hypotheses for the investigation.

Method: A laboratory based experiment using an independent groups (between subjects) design; the two conditions of the Independent Variable (IV) are: presentation of words **with** and **without** images.

The dependent variable (DV) is the amount of information recalled. Controls should be discussed, with particular reference being made to the use of an independent groups design. Candidates should identify an appropriate sampling method (opportunity sampling is acceptable) and devise an ethical standardised procedure. Stimulus materials should be prepared in the form of approximately 20 concrete nouns: 20 will be presented with an image and **the same** 20 without an image. Images may be obtained from Clipart or other copyright-free sources. Apparatus/materials should be prepared, including brief/request for consent, standardised instructions, debrief.

Specific Ethical Considerations: As well as routine ethical procedures (informed consent, right to withdraw, confidentiality, debrief, etc), candidates should be encouraged to explore ethical issues specific to this investigation. They should be aware of the personal nature of the recall task, and therefore of the need to ensure privacy, and sensitive treatment of participants. For example, participants should be assured that the memory task is not an intelligence test.

Results: Raw data obtained should be tabulated (number of items recalled). Descriptive statistics should be applied which are appropriate to the data, eg a mean recall score; suitable type(s) of graph(s) should be selected, eg bar chart, frequency histogram.

References:

Anderson, J.R. (1995b) *Cognitive Psychology and its Implications*. New York: W. H. Freeman & Company. Bower G. H. (1972) Mental Imagery and Associative Learning. L. Gregg (ed.), *Cognition in Learning and Memory*. New York: Wiley. Paivio, A (1969) Mental imagery in associative learning and memory. *Psychological Review*, 76, 241 – 263. Paivio, A (1986) *Mental Representations: A Dual Coding Approach*. Oxford: Oxford University Press.

Additional Reading

Gross, R. D. (2005) *Psychology: The Science of Mind and Behaviour*, London: Hodder Arnold, Chapter 17 page 296-297.

Williamson, M. *et al.* (2007) *Higher Psychology, Cheltenham: Nelson Thornes, Chapter 2 pages 46-51.*

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(3) Stress

A laboratory experiment on the effect of a mild stressor on a biological response.

Background: From the 1930s onwards Hans Selye led research into stress. Selye (1946) found that our bodies react to stress with a recognisable three-stage pattern of responses, which he named the General Adaptation Syndrome (GAS). Sources of stress may be individual, for example certain personality characteristics are associated with greater susceptibility to stress (eg Friedman & Rosenman, 1974); other stressors are social, occupational (eg Marmot et al, 1997) or environmental. Research in this area often involves putting individuals under stress experimentally, or by taking advantage of a real-life stressful situation, such as students taking exams (eg Kiecolt-Glaser et al, 1984). Many experimental studies have been conducted on non-human animals (eg Brady, 1958). In one study on human participants, Glass et al (1969) induced frustration by giving participants unsolvable puzzles, and found that those who had been subjected to unpredictable loud noise showed highest levels of stress.

Aim: To investigate the effect of a mild stressor on a specific biological response.

Hypotheses: Candidates should devise suitable null and experimental hypotheses.

Method: A laboratory experiment using independent measures (independent groups) design. The two conditions of the independent variable (IV) are two versions of a word-search task, where one has a complete set of words available in the word-search grid, and the other has a word(s) missing in the grid (alternatively, a dot-to-dot task where one version has a complete set of dots and the other has one dot missing). The dependent variable (DV) is the biological response, measured by, for example, "biodots" (which change colour in response to skin temperature change), or a heart rate monitor, or manual measurement of pulse using a stop-watch. Candidates should take a resting rate of the biological measure to act as a control between groups prior to measuring under the IV conditions. Certain variables should be controlled, especially those relevant to an independent measures design. Opportunity sampling is acceptable, and candidates should devise an ethical standardised procedure. Materials should be prepared in the form of a task with two versions. Other materials should include a brief and request for consent, standardised instructions for participants, and debrief.

Specific Ethical Considerations: As well as routine ethical procedures (informed consent, right to withdraw, participants must be 16+, confidentiality, debrief, etc.), candidates should consider ethical issues specific to this investigation, such as deliberately putting participants under stress. However, the stress will be 'mild', and less than participants experience in everyday life. Even so, sensitive treatment of participants is essential, as some participants may see this as a test of ability and therefore feel embarrassed. Testing participants individually may reduce possible embarrassment.

Results: Raw data obtained should be tabulated. Descriptive statistics should be applied which are appropriate to the data, eg means, medians, ranges (see Ready Reckoner from SFEU). Suitable graph(s) should be selected, eg bar chart of means/medians.

References:

- Brady, J.V. (1958) Ulcers in executive monkeys. *Scientific American*, 199, 95-100.
- Friedman, M. and Rosenman, R.H. (1974) *Type A Behaviour and Your Heart*, New York: Knopf.
- Glass, D.C., Singer, J.E. and Friedman, L.W. (1969) Psychic cost of adaptation to an environmental stressor. *Journal of Personality and Social Psychology*, 12, 200-210.
- Kiecolt-Glaser, J.K., Garner, W., Speicher, C.E., Penn, G.M., Holliday, J. and Glaser, R. (1984) Psychosocial modifiers of immunocompetence in medical students. *Psychosomatic Medicine*, 46, 7-14.
- Marmot, M., Bosma, H., Hemingway, H., Brunner, E. and Stansfield, S. (1997) Contribution of job control and other risk factors to social variation in coronary heart disease incidence. *The Lancet*, 350, 235-239.
- Selye, H. (1946). The general adaptation syndrome and the diseases of adaptation. *Journal of Clinical Endocrinology* 6:117-230

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(4) Prejudice

A questionnaire survey of attitudes to the elderly in people of various ages, with correlational analysis.

Background: Attitudes towards different groups are often stereotyped, whether on the basis of sex, ethnicity, disability, sexual orientation, age, social class etc. Stereotyping may be regarded as the cognitive component of prejudice, and may therefore lead to adverse consequences, such as discrimination, for the people concerned. There is a risk of self-fulfilling prophecy (Levy and Langer, 1994). Many researchers have discovered commonly-held negative stereotyped attitudes towards the elderly, but ageism has been systematically researched only since the 1990s. Hogg and Vaughan (2002) suggest that the relative lack of intergenerational interaction in western societies tends to result in more ageist attitudes amongst young people; prejudice against old people has been found in college students (Barrow, 1976) and in schoolchildren (Fillmer et al, 1984). The latter showed participants (4th- 6th graders) pictures of young adults and elderly people, and asked them to attach adjectives to each picture; views of the older people were generally stereotyped.

Aim: To discover whether there is a relationship between people's own age and their attitudes to the elderly.

Hypothesis: Candidates should devise suitable null and alternative hypotheses reflecting the variables under investigation. These should be correlational hypotheses. Direction of the predicted relationship should be considered.

Method: A non-experimental study by means of a survey using a questionnaire/rating scale. The design of the study is correlational, the co-variables being participant age or age band (eg intervals of 5 years) and extent of negative stereotyping of the elderly. Candidates should identify an appropriate sampling method (opportunity sampling is acceptable) in order to test participants of widely varying ages, from 16 upwards, including young adults, middle-aged people, and elderly people. An ethical standardised procedure should be devised. A questionnaire or rating scale should be produced, with a response format that uses either a Likert scale, or a semantic differential scale, or a word inventory. For example, using a 5-point Likert scale, participants may be asked whether they agree with statements such as "*Elderly people tend to be active*". Alternatively, items may be rated by means of a semantic differential scale: participants indicate on a seven-point scale, between two opposite descriptions, their perception of elderly people. For example:

"Elderly people tend to be: active _ _ _ _ _ inactive".

An alternative approach is to present participants with a picture/photo of elderly people and a list of 20-30 adjectives - a random mixture of equal numbers of favourable and unfavourable adjectives; each favourable adjective scores -1 and each unfavourable (stereotyped) adjective scores +1. Participants are asked to tick (say) ten that would be likely to apply to the people in the picture. Each participant obtains a single score which is the unfavourable minus the favourable adjectives they have chosen. Whatever the format of the questionnaire, the items and scoring key for responses should be designed in such a way that a higher score indicates a greater extent of negative stereotyping. Scores on items are simply totalled so that each participant obtains a single total score as a measure of their attitude. The questionnaire sheet must also ask for the participant's age or age band. Other materials should be prepared, including a brief and request for consent, standardised instructions, debrief.

Specific ethical considerations: As well as routine ethical procedures (informed consent, right to withdraw, participants must be 16+, confidentiality, debrief, etc), candidates should consider ethical issues specific to this investigation. For example, negative descriptive words should not be extreme or offensive. With elderly participants in particular, candidates should be sensitive to participants' possible discomfort in answering items relating to age.

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(4) Prejudice (contd)

Results: Each participant will have a pair of scores, ie their own age (or age band) and score for negative stereotyping. These make up the two sets of scores to be correlated. Descriptive statistics should be applied which are appropriate to the data and the hypothesis: a suitable graph would be a scattergram. Measures of central tendency and dispersion, and other types of graph, may be given, but are not essential.

References:

- Barrow, R. (1976) *Common Sense and the Curriculum*. London: Allen & Unwin.
- Fillmer, H.T. (1984). Descriptions of and attitudes toward the elderly. *Educational Gerontology*, 10(1-2), 99-107.
- Hogg, M.A. and Vaughan, G.M. (2002) *Social Psychology* (3rd edition). Harlow: Pearson Education.
- Levy, B. and Langer, E. (1994). Aging free from negative stereotypes: successful memory in China and among the American deaf. *Journal of Personality and Social Psychology*, 66(6), 989-997.

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(5) Conformity

An experimental investigation of the influence of others' judgments on estimation of number of sweets in a jar/pasta pieces in a pack.

Background: In 1932 Jenness asked participants individually to guess the number of beans in a jar. Participants were then given the opportunity to discuss their estimates with each other and asked to guess the number of beans in the jar again. It was found that the wide-ranging individual estimates converged towards a narrower group norm. Sherif (1935) investigated participants' responses to an ambiguous task. Using a procedure based on the autokinetic effect individual participants had to estimate how far a light appeared to move in a darkened room. Then, working in groups of four they discussed how far they thought the light had moved and then again individually estimated how far they thought the light had moved. The results again demonstrated that when people are exposed to the judgment of others their responses tend to become similar, suggesting conformity to group norms. Later researchers, notably Asch (1951, 1952), developed theories of conformity which provide explanations for such findings.

Aim: To discover whether people will conform to a group norm in an ambiguous task; more precisely, to discover whether people's responses in a task will differ if they are exposed to other people's judgements.

Hypothesis: Candidates should devise suitable null and experimental hypotheses, reflecting the variables under investigation.

Method: A laboratory or field experiment using an independent measures (independent groups) design. The two conditions of the independent variable (IV) are the use of a pre-completed high estimate sheet and a blank estimate sheet, and the dependent variable (DV) is the participant's estimate of the number of sweets in a jar/pasta pieces in a pack. Controls should be incorporated in the procedure, including those relevant to the use of an independent measures design. Opportunity sampling is acceptable, and an ethical standardised procedure should be devised. Materials should be prepared in the form of:

- a jar of sweets (or pack of pasta), or a good quality (A4 size) photograph of the jar of sweets or of the pack of pasta
- two types of estimate sheets: one with fictitious high estimates, as if given by previous participants and the other a blank one with no previous estimates shown.

Other materials should include a brief and request for consent, standardised instructions for participants, debrief. Researchers should count the sweets/pasta pieces first, in order to decide on fictitious high estimates which are plausible.

Specific Ethical Considerations: As well as routine ethical procedures (informed consent, right to withdraw, participants must be 16+, confidentiality, debrief, etc), candidates should consider ethical issues specific to this investigation. They should be sensitive to the possibility that some participants may see the task as an ability test, and therefore feel threatened or embarrassed. Candidates should address the issue of deception involved in the study, eg by careful debriefing. Although this task appears similar to popular competitions, participants should not be asked to pay to take part.

Results: Participants' estimates should be tabulated as raw data. Descriptive statistics should be applied, which are appropriate to the data and the hypothesis, ie measure(s) of central tendency and measure(s) of dispersion; suitable type(s) of graph(s) should be selected, eg bar chart of means/medians, frequency histograms.

References:

- Asch, S. (1951). Effects of group pressure upon the modification and distortion of judgements. In H. Guetzkow (ed.), *Groups, Leadership and Men* (pp.177-90). Pittsburgh: Carnegie Press.
- Asch, S. (1952). *Social Psychology*. Englewood Cliffs, NJ: Prentice Hall.
- Jenness, A. (1932). The role of discussion in changing opinion regarding matter of fact. *Journal of Abnormal and Social Psychology*, 27, 279-296.
- Sherif, M. (1935) A study of some factors in perception. *Archives of Psychology*, 27(187).

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(6) Social relationships

A non-experimental study to compare views on relationship rules for couples, between genders.

Background: Successful maintenance of any social or personal relationship depends on various factors. For example, some researchers claim relationship success depends on both parties adhering to certain 'relationship rules'. Argyle (1988) states that these informal rules govern the "behaviour which it is believed ought or ought not to be performed in each relationship" (p.233). Sets of rules have also been established for a range of different types of relationship, including friendships and work relationships. The breaking of rules is often a feature of relationship breakdown; those most relevant are related to intimacy, trust and social support (Argyle & Henderson, 1984). Given that a number of studies have discovered individual differences (eg Hazan & Shaver, 1987), including gender differences (eg Hendrick & Hendrick, 1995; Simpson et al, 1986), in various aspects of relationships, this investigation is concerned with possible gender differences in attitudes to relationship rules.

Aim: To investigate gender differences in the perceived importance of 'rules' in couple relationships.

Hypothesis: Candidates should devise suitable null and alternative hypotheses reflecting the variables under investigation. These should be hypotheses of difference, between genders. A simple difference between overall scores may be predicted. If considered appropriate, differences between the genders under each of the three categories may also be predicted (three additional hypotheses required).

Method: A non-experimental study using a questionnaire survey, based on an adapted version of Argyle and Henderson's (1984 and 1985) 'relationship rules', for friends or for partners in a couple. In those studies, rules were categorised as 'Intimacy rules', 'Exchange rules', 'Co-ordination rules' and 'Third party rules'. For this investigation, a questionnaire should be devised, containing a set of 'rules' (those provided in Box 1 would be suitable; they account for three of Argyle and Henderson's four categories). Participants then indicate how important they feel each rule is, on a Likert scale (eg 'not at all important'= 1, 'not very important'= 2, 'undecided'= 3, 'quite important'= 4, 'very important'= 5). There are nine items, three in each category, giving three scores out of 15 and an overall maximum score of 45. Candidates should identify an appropriate sampling method (opportunity sampling is acceptable), to obtain a sample of roughly equal numbers of females and males. A variety of ages is preferable. Other materials should be prepared, including brief/request for consent, standardised instructions, debrief.

Specific ethical considerations: As well as routine ethical procedures (informed consent, right to withdraw, participants must be 16+, confidentiality, debrief, etc), candidates should consider ethical issues specific to this investigation. **Candidates must emphasise to participants that they are NOT being asked to give personal information on their own relationships. Candidates should not include both members of a couple in the same sample, and should not ask participants their relationship status nor any other personal information. Participants' gender can simply be recorded by candidates themselves when administering the questionnaire; it is not necessary to ask participants their gender.** In case of participant discomfort, due to the nature of the topic, informed consent and the right to withdraw at any time need to be emphasised.

Results: Each participant's total score should be calculated from their questionnaire responses, such that each has one overall score (out of 45) representing perceived 'importance of relationship rules'. Descriptive statistics should be applied which are appropriate to the data and the hypothesis(es): measure(s) of central tendency and dispersion for both genders, bar chart(s) of means/medians, possibly frequency histograms. If additional alternative hypotheses have been posited for all three categories of rules, three scores (out of 15) should be calculated for each participant and analyses should be carried out in respect of all three categories.

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(6) Social relationships (contd)

Box 1: Rules for couples

How important is it that partners in any couple relationship:

- 1 Show mutual trust
- 2 Share the costs of joint activities, eg going out.
- 3 Show affection
- 4 Be tolerant of each other's friends
- 5 Show interest in each other's daily activities
- 6 Talk to partner about personal feelings and problems
- 7 Don't criticise each other in public
- 8 Give birthday cards and presents
- 9 Be faithful

Scoring key:

Intimacy rules: Items 1, 3, 6

Exchange rules: Items 2, 5, 8

Third party rules: Items 4, 7, 9

Adapted from:

Argyle, M. and Henderson, M. (1984) The rules of friendship. *Journal of Social and Personal Relationships*, 1, 211-237.

Argyle, M. and Henderson, M. (1985) *The Anatomy of Relationships*. London: Heinemann.

References:

- Argyle, M. (1988) Social relationships. In Hewstone, M., Stroebe, W., Codol, J-P. and Stephenson, G.M. (Eds), *Introduction to Social Psychology*. Oxford: Blackwell.
- Argyle, M. and Henderson, M. (1984) The rules of friendship. *Journal of Social and Personal Relationships*, 1, 211-237.
- Argyle, M. and Henderson, M. (1985) *The Anatomy of Relationships*. London: Heinemann.
- Argyle, M., Henderson, M. and Furnham, A. (1985) The rules of social relationships. *British Journal of Social Psychology*, 24, 125-129.
- Hazan, C. & Shaver, P.R. (1987). Romantic love conceptualised as an attachment process. *Journal of Personality and Social Psychology*, 52, 511-524.
- Hendrick, C. & Hendrick, S.S. (1995) Gender differences and similarities in sex and love. *Personal Relationships*, 2, 55-65.
- Simpson, J.A., Campbell, B. & Berscheid, E. (1986). The association between romantic love and marriage: Kephart (1967) twice revisited. *Personality and Social Psychology Bulletin*, 12, 363-72.

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(7) Atypical Behaviour

A correlational study investigating whether specific phobias of animals (zoophobia) are related to the animals' appearance.

Background: A number of different explanations have been proposed for the origins of specific phobias, from various psychological perspectives, in particular the psychoanalytical, behaviourist, and biological approaches; accordingly, these approaches offer a range of treatments for phobic disorders, based on their respective explanations of the causes of the disorder.

Bennett-Levy and Marteau (1984) demonstrated that people's fear of a range of small animals was strongly correlated with the animals' appearance. In particular, the amount of fear expressed related to the extent of the animals' "ugliness" or "strangeness", ie difference from the human form, for example in terms of skin texture. The findings appear to confirm that there may be a biological "readiness" to learn fear of particular stimuli (eg certain animals), which Seligman (1971) has termed "preparedness": due to our evolutionary history we may have a genetic predisposition that means we can be easily conditioned to fear things that are likely to pose an actual threat to our survival, eg snakes and spiders (which may or may not be poisonous). It may be that the ugliness/strangeness of a stimulus animal, ie perceived difference in appearance from ourselves, triggers fear and avoidance. In this way, biological and conditioning factors interact. This view of the origins of phobias has implications for the treatment of animal phobias. Reviews of the background literature on the development and treatment of animal phobias are presented in Bennet-levy and Mateau (1984), Gross (1987). McIlveen et al (1993), Roth (1990) and Atkinson et al (1990, or later editions); all give excellent coverage.

Aim: To investigate the basis of people's fear of animals.

Hypothesis: Candidates should devise suitable null and alternative hypotheses for the investigation. These should be hypotheses of correlation between the two co variables of fear of specified animals, and perceived strangeness/ugliness of these animals. Selection of a one- or two-tailed alternative hypothesis should be based on previous research findings.

Method: Non-experimental study: a survey by means of a questionnaire consisting of rating scales. Two variables will be investigated for a range of animals and insects: fear and perceived strangeness/ugliness. Each of these will be measured by having participants rate a number of animals and insects on a 10-point scale (a list of 29 animals and insects of varying degrees of attractiveness, in random order, can be found in McIlveen et al (1993); alternatively a list can be generated by candidates) On one scale participants will be asked to indicate how afraid they are of each of the animals and insects. On the other scale perceived strangeness will be assessed by (the same) participants rating how "ugly" they find certain animals. Participants should complete the ratings for each *variable* in turn; this may be achieved by presenting each participant with two sheets (one scale on each). The same list of animals/insects should appear on both sheets, with space for the participant to write their rating (0-10) alongside each creature. Candidates should identify an appropriate sampling method (opportunity sampling is acceptable). Participants may be fellow students, but **all must be over 16 years**.

Specific Ethical Considerations: As well as routine ethical procedures (informed consent, right to withdraw, participants must be 16+, confidentiality, debrief, etc), candidates should consider ethical issues specific to this investigation. Candidates should avoid using any potential participants who suffer from phobic disorder, and plan for contingencies such as how they might deal with any participants who show high fear ratings, and/or express concern about their fears.

Results: The initial analysis of the data involves computing the mean values provided by the participants for each of the 29 animals and insects on the fear, and strangeness variables. Once the mean values have been computed they should be ranked from highest to lowest on each variable. In order to examine the hypothesis that there will be significant positive correlation between the fear and strangeness/ugliness of a range of animals and insects, a scattergram should be drawn. Fear can be taken as the I.V. and should be plotted on the X axis. A significant correlation, based on a one tailed test, will support the hypothesis stated.

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

References:

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Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(8) Intelligence

A questionnaire survey investigating age differences in people's lay beliefs about the nature of intelligence.

Background: The nature of intelligence remains an area of controversy amongst psychologists. One way of illuminating the issue has been to investigate lay people's beliefs about intelligence, such as: what abilities / characteristics it comprises, to what extent it is influenced by 'nature' and 'nurture', whether it is fixed or can be changed through experience etc. As long ago as 1947, Flugel investigated "popular views on intelligence", using a short questionnaire of 16 items; in 1973 a replication of his study by Shipstone and Burt found that lay and professional views of intelligence had moved closer, for example in terms of there being more than one type of intelligence, greater recognition of environmental influence, reduced belief in gender differences (see Furnham, 2000), etc. Goodnow (1980) described various research techniques for investigating lay beliefs: simply asking people (as in Flugel's study), using rating scales, even analysing local proverbs (eg "thinkers are not doers"), etc. Such research has identified differences in beliefs between cultures, between groups (eg parents and teachers, students from different disciplines, etc), between adults and children etc. Another branch of research has attempted to link beliefs about intelligence with other variables; for example, Stella Cottrell (2003) suggests that students' academic performance is affected by such beliefs, and therefore advises students to reflect on their own views of the nature of intelligence (Cottrell, 2003, p.46).

Aim: to discover whether there are age differences in lay beliefs about the nature of intelligence, in terms of three features:

- Is intelligence one general underlying ability or does it comprise a number of different abilities/characteristics?
- To what extent is intelligence influenced by genes or by our environment (eg education, parents, diet etc)?
- To what extent is intelligence 'fixed' in a person, or can it be changed/improved?

Hypothesis: Candidates should devise suitable null and alternative hypotheses for the investigation. These should be hypotheses of difference, between age groups. It is acceptable to provide one alternative hypothesis (and one null), but data analysis of score differences will have to be conducted for each questionnaire item separately. (Three pairs of hypotheses may be used if preferred, ie one alternative and one null for each questionnaire item.)

Method:

A non-experimental study: a survey by means of a short 3-item questionnaire, adapted from items used in Shipstone and Burt's questionnaire. The variables being tested are age, and three types of beliefs about the nature of intelligence (these should not be termed "IV" and "DV", as the method is non-experimental). Each questionnaire item should offer a choice of positions along a dimension between opposite views, therefore a semantic differential scale (Osgood et al, 1957) is appropriate, eg:

Item: Is intelligence one general ability or does it comprise a number of different abilities?								
One general ability	1	2	3	4	5	6	7	A number of different abilities

Participants place a cross in the box that most closely represents their view on the dimension. Opportunity sampling is acceptable, and candidates should obtain roughly equal numbers of participants in each age-group. Participants may be fellow students of two different age groups, or students and older adults (eg parents / teachers).

Psychology Higher C263 12

Research Investigation Briefs for Session 2011/12

(8) Intelligence (contd)

Specific Ethical Considerations: As well as routine ethical procedures (informed consent, right to withdraw, participants must be 16+, confidentiality, debrief, etc), candidates should consider ethical issues specific to this investigation. **They must ensure that their brief, debrief and /or standard instructions make it clear to the participant that they are *not* being intelligence-tested nor being asked for their beliefs about their *own* intelligence.**

Results: Scores obtained should be tabulated as raw data, and should be presented in respect of all three items. Presentation of results should make it clear what the scores mean, in terms of the content of the questionnaire items. Descriptive statistics should be applied, which are appropriate to the data, to enable comparison between groups on each item, eg measure(s) of central tendency and dispersion, suitable graph(s), eg barcharts of means/medians (other types of graph are possible, eg frequency histograms). Explanation of results in relation to the hypotheses should be given in respect of each item. In the Discussion section of the report, findings should be interpreted for each item in turn.

References:

- Cottrell, S. (2003). *The Study Skills Handbook* (2nd Edition). Basingstoke: Palgrave Macmillan.
- Flugel, J. (1947). An inquiry as to popular views on intelligence and related topics. *British Journal of Educational Psychology*, 27, 140-152.
- Furnham, A. (2000) Thinking about intelligence. *The Psychologist*, 13(10), 510-514. [URL: <http://www.bps.org.uk/publicationfiles/thepsychologist/furnham.pdf>]
- Goodnow, J. (1980) Everyday concepts of intelligence and its development. In N. Warren (Ed.), *Studies in cross-cultural psychology: Vol 2* (191-219). London: Academic Press.
- Osgood, C.E, Suci, G.J. and Tannenbaum, P.H. (1957). *The Measurement of Meaning*. Urbana: University of Illinois.
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