International Advanced Level Psychology

Summary of Studies Unit 4 WPS04

Issue 2. November 2024

International Advanced Level Psychology
Summary of Studies: Unit 4 WPS04

Contents

Introduction

About this booklet

This selected studies summary booklet is produced to support teachers delivering the International Advanced Level Psychology to support their students with the published research studies that are named in the specification but may not be easily accessible to centres.

The booklet includes the classic and contemporary studies from the topics in the specification. Some of the studies included are compulsory classic and contemporary studies, and some are optional contemporary studies – these are highlighted where appropriate.

How to use this booklet

This booklet initially gives brief guidance on how classic and/or contemporary studies may be assessed in the International AS and A level Psychology qualification.

Each study contained within this booklet includes a summary of each study including the aim, procedure, findings, and conclusions. To prepare candidates appropriately for assessment, this booklet should be used in conjunction with the other resources available on the Pearson website [here](#).

Candidates may be assessed on any of the assessment objectives (AO1, AO2, AO3) or a combination of these where appropriate.

Assessment

Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of studies. They may also be asked to draw on their understanding of ethics where this is appropriate to a study.

Candidates should be able to suggest improvements to studies, where appropriate, that could draw on these issues.

Candidates should understand the classic and contemporary studies sufficiently to be able to provide specific details, such as the aim, procedure, results and conclusions.

Assessment of a study can take the form of short-answer questions and extended open response questions. They can be assessed in the written examination using any of the taxonomy (command) words as appropriate.

Assessment Objective 1 (AO1) involves demonstrating knowledge and understanding of the study. This could be regarding the aim(s), procedure, results, and/or conclusion(s) of the study.

AO1 could be assessed as a short answer question (less than 8 marks) or as part of an extended response question (8 marks or more).

Extended response questions use certain taxonomy (command words) to specify the assessment objectives required. For example, if students are asked to 'evaluate' a classic study for 8 marks, this will be assessed using a Levels Based Mark Scheme and both AO1 and AO3 material will be required to be able to achieve 8 marks.

Assessment Objective 2 (AO2) involves application of a classic or contemporary study. This could involve the use of the study to explain a novel stimulus, or to apply to Issues and Debates.

AO2 could be assessed as a short answer question (less than 8 marks) or as part of an extended response question (8 marks or more).

Extended response questions use certain taxonomy (command words) to specify the assessment objectives required. For example, if students are asked to 'discuss' a classic study in relation to a novel stimulus for 8 marks this will be assessed using a Levels Based Mark Scheme and both AO1 and AO2 material will be required to be able to achieve 8 marks.

Assessment Objective 3 (AO3) involves analysing, interpreting, or evaluating the study to make judgements or to suggest improvements.

AO3 could be assessed as a short answer question (less than 8 marks) or as part of an extended response question (8 marks or more).

Short answer questions (less than 8 marks) will typically use a combination of AO1/AO2 with AO3 as there is the identification or application of material before a judgement/conclusion is made or an improvement is reasoned.

Extended response questions use certain taxonomy (command words) to specify the assessment objectives required. For example, if students are asked to 'evaluate' a classic study in relation to a novel stimulus for 12 marks this will be assessed using a Levels Based Mark Scheme and AO1, AO2, and AO3 material will be required to be able to achieve 12 marks.

Further support

A range of materials are available to download from the Psychology page of the Pearson website to support you in planning and delivering the new specifications.

Centres may find it beneficial to review this document in conjunction with:

- IAL Psychology Assessment Material
- Assessment Objectives descriptors in the specification
- Taxonomy (command words) descriptors in Appendix 9 of the specification)
- Levels Based Mark Band guidance
- Component guides that exemplify the topics in the specification.
- Exemplar responses to the SAMs materials provided for each paper.
- Examiner reports
- Teaching and learning materials webpage

TOPIC H: Clinical Psychology

Classic study: Rosenhan (1973) On being sane in insane places.

Aim(s)

To investigate whether the sane could be distinguished from the insane, and whether degrees of insanity can be distinguished from each other. To investigate whether normal people can get admitted to psychiatric hospitals and to see if they are discovered to be sane once admitted. To investigate how patients are treated in psychiatric hospitals.

Procedure

The study is an example of a field experiment using an independent groups design (each hospital takes part once). The independent variable was the schizophrenic symptoms that the pseudo patients presented with, and the dependent variable was admission (or not) and diagnostic label (or not) given to the pseudo patient.

The study also involved participant observation. Once admitted, the pseudo-patients kept written records of how the ward operated, as well as how they themselves were treated.

Sample: a volunteer sample of eight sane people was selected. It included a psychology graduate student in his 20s, three psychologists, a paediatrician, a psychiatrist, a painter, and a 'housewife'. There was a total of three women and five men.

Hospital sampling: 12 different hospitals, in five different states across the USA. The hospitals were varied, including old and new, research orientated and non-research orientated, understaffed and not understaffed, and private and state funded.

The pseudo patients gave a false name and job to the hospitals, but all other details they gave about their lives were true including general ups and downs, relationships with spouse/children/parents, school life, work life, and general frustrations and joys. They had no prior history of psychiatric problems, therefore their histories and behaviours had no indicator of pathological behaviour in any way. The hospital staff did not know the pseudo patients were present in the hospital except in the case of Rosenhan, when he himself was a pseudo patient, who had informed the hospital Chief Psychologist and Administrator.

They initially telephoned the hospital for an appointment and, when at the admissions office, they complained that they had been hearing voices. There was a

standardised response that pseudo patients gave when asked about the voices. They said the voice was often unclear, but it seemed to say 'empty', 'hollow', and 'thud'. The voice was unfamiliar to them, but it was the same gender.

Upon being admitted to the psychiatric ward with a diagnosis of schizophrenia in all but one case, the pseudo patients immediately stopped simulating any symptoms of abnormality. Rosenhan does note that some of the pseudo patients were mildly nervous and anxious in the beginning, although this was brief. They were also concerned about being found out to be frauds and that this would be embarrassing. Each pseudo patient had been told they would have to get released from the hospital by convincing staff they were sane.

The pseudo patients took part in ward activities and spoke to patients and staff as they would ordinarily. There was little to do on the ward, so the pseudo patients attempted to engage others in conversation. They spent time writing their observations. At the beginning this was done secretly, although it became evident that no one was particularly interested in their note taking, so this was done more openly in places like the day room.

Pseudo-patient 'normal' behaviours were often seen as part of their illness. For example, nursing records for three of the pseudo patients stated, 'Patient engages in writing behaviour', highlighting that their writing was interpreted as pathological behaviour. The pseudo patients were given medication for their illness (this was not taken by the pseudo patients).

When asked by the ward staff how they were feeling, they said they were fine and no longer experienced symptoms. All of the pseudo patients disliked the experience and wished to be discharged immediately, motivating them to 'prove' their sanity. Therefore, their behaviour was fully cooperative, and this is supported by the nursing notes from ward staff, who were found to have stated "exhibited no abnormal indications" (obtained after the study was complete).

Results

None of the pseudo patients were detected.

Each was eventually discharged with a diagnosis of 'schizophrenia in remission', this diagnosis was made without one clear symptom of this disorder.

They remained in hospital for 7 to 52 days (average 19 days).

Although they were not detected by the staff, many of the other patients suspected their sanity (35 out of the 118 patients voiced their suspicions). Some patients voiced their suspicions very vigorously - for example, "You're not crazy. You're a journalist, or a professor. You're checking up on the hospital".

It was estimated that the pseudo patients were given a total of 2,100 medication tablets, though only two were swallowed. The rest were either pocketed or flushed down the toilet.

Nurses stayed in the ward offices about 90 per cent of the time.

The amount of time pseudo patients spent with psychiatrists, psychologists, registrars and so forth was an average of under seven minutes per day.

Conclusions

The study revealed that the environment has a major impact on the process of diagnosis, and in the hospital environment staff could not tell the mentally disordered from the mentally healthy. Behaviour, such as note taking, was interpreted within a context of insane and reinforced the diagnosis of the pseudo patients. Rosenhan suggested that this, along with significant examples in the observation notes of the pseudo patients, would indicate that the behaviours of individuals were interpreted through the environment and context of a schizophrenia diagnosis. A different meaning is most likely to have been attributed to the 'writing behaviour' had the person been seen to be sane.

Rosenhan noted that experience for the pseudo patients was one of depersonalisation and powerlessness, evident in how they were deprived of many human rights such as freedom of movement and privacy. Medical records were open to all staff members, regardless of status. Personal hygiene was monitored and many of the toilets did not have doors.

When the pseudo patients visited the toilets to dispose of their medication, they found the medication of other patients also there. It would seem that, as long as the patients were co-operative, then their behaviour went unnoticed. An example of this is a discussion about a patient, where staff were pointing at him and talking in the presence of other patients as if they were not there.

There was evidence in some hospitals of abusive behaviours towards patients in full view of other patients, but this would stop as soon as another staff member approached. This indicated that staff were credible witnesses, but patients were not.

The diagnosis of 'schizophrenia in remission' is not indicative of the pseudo patient behaviours, but it is more the case that, once labelled with schizophrenia, the person is stuck with this label. If the person is to be discharged, then the assumption is that the schizophrenia is in remission, not that the person is 'sane', and not that the institution believes the person to have ever been sane.

Rosenhan suggests that, in general, doctors are more likely to err on the side of

caution and call a healthy person sick rather than a sick person healthy. However, psychiatric diagnoses can carry stigma, making the implications of inaccurate diagnoses serious.

Once labelled with a condition like schizophrenia, find it very difficult to escape the label and be judged as sane.

Study 2

Aim

To investigate whether the tendency to diagnose the sane as insane could be reversed.

Procedure

Staff at a teaching hospital (who disbelieved the results of Rosenhan's study) were informed that, over the next 3 months, one or more pseudo patients would make an attempt to gain admission to the hospital.

Each staff member had to rate each patient presenting for diagnosis or who had been admitted on the likelihood that they were the pseudo patient.

Rosenhan did not send any pseudo patients to the hospital.

Results

193 patients received judgements from staff who had sustained contact with them.

41 patients were judged, with high confidence, to be pseudo patients by at least one staff member.

23 patients were suspected of being pseudo patients by at least one psychiatrist.

19 patients were judged to be possible pseudo patients by at least one psychiatrist and one member of staff.

Conclusions

This indicates that the tendency to diagnose insane over sane could be reversed if there is something at stake, in this case, the reputation or status of the staff and

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psychiatrists and their hospital. Rosenhan noted that there was not any way to actually know if those patients where judgements were made were actually sane or insane.

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Contemporary study for schizophrenia: Suzuki et al. (2014) High prevalence of underweight and undernutrition in Japanese inpatients with schizophrenia.

Aim(s)

To investigate the prevalence of underweight and overweight/obesity in Japanese inpatients with schizophrenia and to investigate the nutritional status of Japanese inpatients with schizophrenia.

Procedure

Height and bodyweight were measured, and the BMI calculated (weight in kilograms divided by the square of height in meters).

Nutritional status was operationalised as the variants of total protein (TP), total cholesterol (TC), triglyceride (TG), and fasting plasma glucose (FPG) levels.

These were measured using a blood sample taken after a ≥ 9 hour fast.

Nutritional status was determined by:
- Hypoproteinemia was defined as TP <6.7 g/dL
- Hypoglycemia was defined as FPG <70 mg/dL
- Hypocholeserolemia was defined as TC <10 mg/dL
- Hypotyrcerimedia was defined as TG <50 mg/dL

Weight was determined by:
- Overweight/obesity was defined as BMI ≥ 25kg/m^2
- Standard weight was defined as BMI $\geq$18.5 to <25 kg/m^2
- Underweight was defined as BMI <18.5 kg/m^2

Sample: 333 inpatients diagnosed with schizophrenia using the DSM-IV-TR, all aged between 16 and 80 years old. Patients were from nine psychiatric hospitals in Niigata Prefecture, Japan.

Participants were matched on age and sex with a control group of 191 health volunteers. All participants gave written, informed consent.

Suzuki et al. controlled for overt physical illness, recent changes in drug therapy and concurrent treatments with any drugs other than benzodiazepines and mood stabilisers; excluding these patients from the study.

The BMI and nutritional status of patients with schizophrenia and the control group were compared.

Results

The results for BMI and nutrition status versus presence of schizophrenia are shown in **Table 1** below, where data is given as a % mean score in relation to the number of participants in each measure. A mean of the blood sample results is also provided. For mean scores, a $\pm$ standard deviation is also given where applicable.

Measure	Patients with Schizophrenia	Control group
Age (years)	39.1 $\pm$11.9	37.5 $\pm$10.3
Smoker	35.4%	38.2%
Duration of hospitalisation (months)	2.9	-
Overweight/obesity BMI $\geq$ 25kg/m^2	26.7%	22.0%
Standard weight BMI $\geq$18.5 to <25 kg/m^2	59.2%	73.8%
Underweight BMI <18.5 kg/m^2	14.1%	4.2%
Hypoproteinemia TP <6.7 g/dL	22.3% 7.0 g/dL $\pm$0.5	2.1% 7.5 g/dL $\pm$0.4
Hypoglycemia FPG <70 mg/dL	0.6% 89.7 mg/dL $\pm$9.1	0% 94.4 mg/dL $\pm$13.9
Hypocholeserolemia TC <10 mg/dL	14.7% 181.5 mg/dL $\pm$31.9	1.6% 201.8 mg/dL $\pm$33.5
Hypotyrcerimedia TG <50 mg/dL	7.5% 105.5 mg/dL $\pm$57.7	13.6% 118.9 mg/dL $\pm$10.0

Table 1

The results for demographic and nutritional status versus BMI in the patients with schizophrenia are shown in **Table 2** below, where data is given as a % mean score in relation to the number of participants in each measure.

Measure	Underweight BMI <18.5 kg/m^2	Standard weight BMI ≥18.5 to <25 kg/m^2	Overweight/obese BMI ≥ 25kg/m^2
Age (years)	40.5%	38.7%	38.2%
Gender (% male)	48.9%	52.8%	55.1%
Smoker	19.1%	34.5%	46.1%
Duration of hospitalisation (months)	3.7%	2.8%	3.0%
Hypoproteinemia TP <6.7 g/dL	23.9%	25.0%	15.3%
Hypoglycemia FPG <70 mg/dL	2.2%	0.5%	0.0%
Hypocholeserolemia TC <10 mg/dL	10.9%	15.4%	15.1%
Hypotyrcerimedia TG <50 mg/dL	211.7%	6.4%	2.3%

Table 2

The underweight group predominantly received Aripiprazole anti-psychotic medication, whereas the standard weight and overweight/obese group received predominantly Olanzapine.

There is a higher prevalence of underweight in patients with schizophrenia, whereas the prevalence of overweight/obesity in patients with schizophrenia is no different to the control group.

In patients with schizophrenia, there is a higher prevalence of Hypoproteinemia and Hypocholeserolemia than in the control group.

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Conclusions

The nutritional status of Japanese inpatients with schizophrenia is poorer than that of the general population.

Hypocholeserolemia is associated with cerebral hemorrhage in the Japanese general population, suggesting that inpatients with schizophrenia are therefore at a high risk of cerebral hemorrhage.

There is no significant difference between the inpatients with schizophrenia and the control group for overweight/obesity. Therefore, the health hazards related to overweight/obesity are similar for inpatients with schizophrenia to the general population.

The results of prevalence of underweight in Japanese inpatients with schizophrenia are consistent with results found by Kitabayashi et al. (2006)) and are higher than the 8.1% underweight general population of Japan.

Underweight appears to be correlated with risk of death, therefore suggesting that underweight patients with schizophrenia have a higher risk factor.

Patients who were underweight had the highest duration of hospitalisation, therefore length of hospitalisation may have a negative influence on physical health. Bone density is lower in patients undergoing antipsychotic drug treatments compared to the general population, and a lack of exercise as an inpatient can also cause lowered bone density. Low bone density is related to low body weight.

Therefore, the physical health of inpatients with schizophrenia should be taken into account in clinical practice.

*Candidates should study **ONE contemporary study** as appropriate to their **chosen 'other' disorder**. For candidates studying anorexia nervosa, please see the contemporary studies for anorexia nervosa.*

Contemporary study for unipolar depression (option 1): Hans and Hiller (2013) Effectiveness of and drop out from outpatient cognitive-behavioural therapy for adult unipolar depression: A meta- analysis of nonrandomised effectiveness studies.

Aim(s)

To investigate the overall effectiveness and drop-out rates from individual and group outpatient cognitive behavioural therapy (CBT) for adults with a primary diagnosis of unipolar depression.

Procedure

The meta-analysis was conducted using 34 effectiveness studies. Hans and Hiller operationalised an effectiveness study to be nonrandomised clinical trials that represented routine practice for treatments using CBT. RCT studies were excluded as they were not deemed representative of routine clinical practice with patients suffering from unipolar depression.

Drop-out was considered in most of the studies analysed to be cessation of treatment before completion, but after attendance at one or more sessions.

They developed a search strategy based on key words to locate studies; words included clinic setting, effectiveness, naturalistic, routine practice. They combined these with subject headings of unipolar depression and cognitive behavioural therapy.

Hans and Hiller searched the following databases, covering the timespan of inception of database, to January 201: MEDLINE via Ovid, PsychINFO, and PSYNDEXplus. In addition, the electronic searches were supplemented with 'hand searches', for example looking in the references lists of the effectiveness studies found to locate additional studies.

The criteria for selection was established as whether the study examined the outcome of face to face CBT for patients with unipolar depression. CBT referred to cognitive therapy, behavioural therapy or a combination of both. The studies that had included less than half of the usual 12 CBT sessions were excluded from selection. The patients in the studies selected had a diagnosis of major depressive disorder, minor depressive disorder, or dysthymic disorder as the primary diagnosis.

As the aim of Hans and Hiller is to study the adult population, they excluded studies that targeted narrow populations, such as the elderly.

For each study, they coded patient and intervention characteristics and coded clinical representativeness and methodological quality using a standardised coding system.

Hans and Hiller were both trained in the coding protocol: Hans coded all of the studies and Hiller coded 20% of these in order to provided inter-rater reliability, which was assessed using Cohens kappa score and any discrepancies were resolved through discussion.

Statistical analysis was used to measure the end of treatment effect on depression severity, and this was also applied to studies where follow up had been conducted.

The analysis was benchmarked against RCTs where a weighted mean of within-group effect of the treatment was used.

Results

65.63% of patients in the studies had been referred to CBT through standard clinical routes.

93.10% of treatment programmes were provided by practicing therapists or therapists in training, with the remaining 6.90% through research therapists.

In 44.12% of studies, a diagnostic check was conducted with participants, and in the remaining studies prior clinical judgment of patient disorder was accepted.

The results are summarised in **Table 1** below.

	Completed CBT	Dropped out of CBT
Patient sample size	1880	1629
Females	68.61%	66.37%
Major depressive disorder	79.71%	92.66%
Antidepressant medication	58.44%	49.91%
Individual CBT sessions	21.71 average	18.99 average
Group CBT sessions	11.18 average	8.78 average

Table 1

Hand and Hiller found statistically significant improvement outcomes for depressive symptoms in those who completed CBT over those who dropped out. There was no significant difference between the outcomes of individual and group CBT treatments.

The number of people who dropped out and did not complete individual CBT treatment was higher than the dropout rates for group CBT therapies.

The dropout rates for individual therapy were higher than those found in the benchmark RCT, but there were no significant differences in group therapy dropout between the studies samples and the benchmark RCT studies.

Conclusions

The meta-analysis finding would suggest that routine CBT for outpatients is effective. Those who completed CBT reported a substantial reduction in depression at the end of their treatment.

Evidence available suggests that this effectiveness is maintained for at least 6 months after the completion of therapy.

Despite the favourable outcomes from completing CBT, there is a high dropout rate, with on average every fourth person who begins CBT dropping out before completion.

Patients benefitted from both individual and group CBT programmes, and on average those who attended individual CBT usually attended twice as many sessions. Those who attended individual CBT tend to achieve better functioning than those who attend group CBT.

Dropout rates are much higher from individual CBT than from group CBT, which could be a result of the difference in the number of sessions required for completion.

Finally, Hans and Hiller concluded that there are limited studies available for the effectiveness of routine clinical practice, and that many had poor methodological quality, highlighting that research could be improved in the field of effectiveness studies.

Contemporary study for unipolar depression (option 2): Ma, Quan and Liu (2014) Mediating effect of social support on the relationship between self-evaluation and depression.

Aim(s)

To investigate the relationship between self-evaluation, depression and social support to see if social support mediates a person's self-evaluation of their depression. To investigate whether core self-evaluation negatively affects depression and if core self- evaluation positively effects perceived social support.

Procedure

The core self-evaluation was measured using the Core Self-Evaluations Scale (CSES), a 12-item scale developed to measure across four traits: self-esteem, generalised self- efficacy, neuroticism and locus of control. This has a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. It has a reliability score of 0.82 (Cronbach's alpha) in assessing core self-evaluations.

Perceived social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS). This has 12-items, each answered on a seven- point Likert scale ranging from 1 = very strongly disagree to 7 = very strongly agree. The MSPSS measures an individual's perception of how much outside support he or she receives in three subscales: family, friends and significant others.

Depression is measured using the Zung Self-Rating Depression Scale (SDS), which consists of 20-items with a 4-point scale with 1 = a little of the time and 4 = most of the time. It has a high internal consistency score of 0.92 (Cronbach's alpha) for measuring a depressive disorder.

Sample: 538 university students (281 females and 257 males) with a mean age of 19.4 years old (SD=2.8). Sample was obtained through volunteer sampling, no participant received any compensation for taking part in the study. Informed consent was obtained from all participants.

Participants completed an online survey that consisted of the CSES, MSPSS and SDS. The hyperlink to the survey was distributed using online forums. Consent was obtained from participants before they entered the section with the surveys. The surveys had no time limits and the IP addresses of participants were monitored to ensure each participant did not take part more than once.

Results

Table 1 summarises the descriptive statistics and Cronbach's alpha for the measures.

	M	SD	Cronbach's alpha
Core self-evaluation	34.94	5.91	.834
Depression	38.42	7.65	.849
Perceived social support	61.71	95	.899
Family	2.69	3.87	.767
Friends	2.63	3.45	.840
Significant others	2.36	3.78	.801

Table 1

Table 2 highlights the correlations of core self-evaluation, depression and perceived social support.

Core self-evaluation	1					
Depression	-.636	1				
Perceived social support	.365	-.375	1			
Family	.287	-.318	.838	1		
Friends	.360	-.349	.830	.492	1	
Significant others	.296	-.300	.899	.633	.670	1

Table 2

Using a linear regression analysis, Mai, Quan and Liu assesses whether core self-evaluation (IV) negatively affects depression (DV), and then to assess whether core self- evaluation (IV) affected perceived social support (mediator). A multiple regression analysis was then made to assess whether the core self-evaluation (IV) and perceived social support (mediator) affected depression (DV).

The absence of perceived social support (mediator) gave a beta coefficient of -0.636 between core self-evaluation and depression.

The inclusion of perceived social support (mediator) gave a beta coefficient of -0.457 between core self-evaluation and depression.

Therefore, the mediating effect of perceived social support is given as -0.179. As this is not zero, there is partial support for perceived social support mediating core self- evaluations and depression.

Conclusions

Core self-evaluation negatively affected depression, while core self-evaluation positively affected perceived social support. There is a partial mediating effect of social support.

Positive self-evaluation may help people seek out social support more easily, and result in less severe depression than for people without positive self-evaluation.

The partial mediating effect of social support provides further evidence of why certain social and situational influences have been shown to account for a link between the severity of depression and self-evaluation.

*Candidates should study **ONE contemporary study** as appropriate to their **chosen 'other' disorder**. For candidates studying unipolar, please see the contemporary studies for unipolar depression.*

Contemporary study for anorexia nervosa (option 1): Becker et al. (2002) Eating behaviours and attitudes following prolonged exposure to television among ethnic Fijian adolescent girls.

Aim(s)

To investigate the impact of prolonged exposure to television on eating attitudes and behaviours of Fijian adolescent girls. To investigate whether Western television stimulated disordered eating behaviours in a culture traditionally supporting robust appetites and body shape.

Procedure

Fiji was selected as there was an extremely low prevalence of eating disorders, with one reported case by mid-1990's. Nadroga was selected as there had been no television prior to mid-1995. Additionally, traditional Fiji aesthetic body image is robust in preference, therefore the 'pressure to be thin' was distinctly absent in Fiji. Dieting is discouraged and robust appetites are promoted in Fijian values.

A multi-wave, cross-sectional method was used to sample two separate groups of Fijian adolescent girls. The first wave was undertaken in 1995 prior to the introduction of television to Nadroga. The second wave took place in 1998, three years after television had been introduced.

Sample: 63 respondents participated in 1995 (pre-television) and 65 respondents participated in 1998 (post-television). They were selected from secondary school with a mean age of 17.3 years old in 1995 and 16.9 years old in 1998. Written informed consent was obtained from respondents and their legal guardians.

Respondents completed a 26-item eating attitudes test (EAT-26) that included questions about binge eating and purging behaviour. The respondents were fluent in English and the test was not translated. However, concepts that may have been unfamiliar were explained in English and the local Fijian dialect. An EAT-26 score of 20 or above was considered to be high. In addition, respondents answered questions about television ownership and frequency of viewing.

A semi-structured interview was conducted with any respondent reporting a binge eating or purging behaviour in their responses to the EAT-26.

In 1998 additional questions were used to elicit data on body image, dieting, and disparities between views of weight and dieting of respondent/parent or

respondent/tradition.

Additional data was collected in 1998 through an open-ended, semi-structured interview with 30 selected respondents showing disordered eating behaviours and television viewing habits. A thematic analysis was conducted on the transcripts of these interviews.

Results

Table 1 gives a summary of the results.

	1995 sample	1998 sample
Mean age (years)	17.3	16.9
Mean BMI	24.5	24.9
Television ownership in household *n (%)*	26 (41.3%)	46 (70.8%)
Binge eating *n (%)*	5 (7.9%)	3 (4.6%)
EAT-26 score over 20 *n (%)*	8 (12.7%)	19 (29.2%)
Induced vomiting for weight control *n (%)*	0 (0%)	7 (11.3%)

Table 1

Respondents living in a household with televisions were more than three times likely to have and EAT-26 score of greater than 20.

An EAT-26 score greater than 20 was more likely to be reported by those who felt they should eat less. Those who reported that they felt they should eat less were significantly more likely to report self-induced vomiting.

69% of respondents in 1998 reported that they had dieted to lose weight, compared to the Fijian traditional values where robust body shape and eating had been the norm and dieting was rare in and before 1995.

74% of the respondents in 1998 reported that they felt 'too big or fat' (against traditional Fijian values and traditions) which was significantly associated with dieting.

Themes emerging from the interviews in 1998 included:

- An interest in emulating television characters by changing clothing, hairstyle, behaviour and body reshaping was reported by 29 subjects.
- 83% responded that television had influenced themselves and/or their friends to change their body shape and/or weight.
- 40% rationalised their desire to eat less/change body shape in order to improve career prospects.
- 30% saw televisions characters as role-models for work and career choices.
- All subjects interviewed expressed that television affected intergenerational values and/or behaviour.

Conclusions

Two key indicators of disordered eating amongst the population sampled include high EAT-26 scores and self-induced vomiting to lose weight. These behavioural changes are evident after prolonged exposure to television over 3 years. Narrative data indicated an attitude change towards diet, weight loss and aesthetic body ideals linked to Western media imagery.

The impact of television appears to have had a profound effect on the previously traditional Fijian values and cultural traditions that had advocated robust eating and body image, and previously 'protected' against body dissatisfaction.

Contemporary study for anorexia nervosa (option 2): Reichel et al. (2014) 'Glass fairies' and 'bone children': Adolescents and young adults with anorexia nervosa show positive reactions towards extremely emaciated body pictures measured by the body startle reflex paradigm.

Aim(s)

To investigate the emotional processing of extremely emancipated body cues in adolescents and young adults with and without anorexia nervosa. To use pictures taken from websites that promote extreme thinness targeted specifically at adolescents and young adults interested in extreme thinness mixed with a standard set of images. To measure arousal and appetitive and aversion reactions to the images presented to the adolescents and young adults with anorexia nervosa and control group.

Procedure

Sample: 72 female adolescents and young adults, 36 with a primary diagnosis (based on ICD-10 criteria) of anorexia nervosa (mean duration of 1.3 years) and 36 as a control group. The groups were matched on age, between 14 and 21 years old, and education. Participants with hearing or visual impairments, neurological disease, or medication affecting a startle reflex were excluded from the study. All participants gave written informed consent; additional written consent was obtained from legal guardians of minors.

Emancipated body image photographs were preselected from a total of 8000 taken from pro-anorexia internet galleries. The selected 36 images were presented to a pilot group of 100 healthy female volunteers and rated for aversion, arousal and perceived underweight.

Pictures were standardised for background and emotional facial expressions. The faces of people in the images were not displayed to participants to anonymise the person in the image.

The selected stimulus pictures consisted of 52 photographs. These were divided into four subcategories:

- 12 unpleasant
- 12 neutral
- 12 pleasant
- 16 body pictures

Participants were assessed using the Visual Analogue Scale (VAS) for mood, arousal, hunger state and body dissatisfaction to control for any situational variables prior

to taking part in the study.

Participants were seated in front of a screen at a distance of 1.5 meters. The 52 images were presented and counterbalanced in sets of 26 containing images from each subcategory. The first set was presented, and then a 15-minute break given before the second set.

The picture in each set was shown for 12 seconds. Pictures were randomised and intermingled with blank screen images. There was a 12 second interval between each picture/blank screen.

Three quarters of the pictures were shown with a startle eliciting noise (startle reflex condition), and a quarter of the blank screens were shown with a startle eliciting noise (startle reflex condition). The remaining pictures, without noise, were used to measure arousal.

The noise was standardised as a 50ms pulse at 95dB of white noise through headphones. Startle reflex was measured as eye-blink response recorded from electomytographic activity (EMG) over the left orbicularis oculi muscle using Ag/AGC1 electrodes. The magnitude of the startle response was measured. As a result of this measurement two participant's results was removed from the data as they were found to be 'non-responder'.

Skin conductance (SCR) was recorded using electrodes that measured electro-waves. This started 1000ms before the picture and continued 4000ms after the picture. No participants were found to be non-responders, so all data was used. A baseline measure was taken as an average in the 1000ms before pictures were shown, and magnitude scores were taken between 900ms and 4000ms after the picture had been seen.

Heart rate (HR) responses were recorded using an ECG and heart rate was measured as second-to-second beats per minute (bpm) for 10 seconds after the picture was shown. The baseline measure was HR mean in the 1s before picture onset, HR acceleration was defined as the difference between HR baseline and HR maximum after picture was shown. Technical issues resulted in the removal of 8 participants and 8 control group results being removed from the data.

After removing electrodes, half of the pictures were shown again with nine new pictures intermingled. These were subjectively rated by participants. A questionnaire (EDI-2) about body image, eating behaviour and general emotional functioning was also completed by participants.

Results

Anorexia nervosa participants scored lower on BMI and the EDI-2 compared to the healthy control group.

Startle reflex magnitude

The startle reflex magnitude was higher across all participants for unpleasant pictures than for neutral pictures, and higher for neutral pictures than for pleasant pictures.

In patients with anorexia nervosa, the startle reflex magnitude was smaller when viewing emancipated body pictures than for neutral pictures and unpleasant pictures. There was no difference between magnitude for pleasant pictures.

The control group startle reflex magnitude was higher when viewing emancipated body pictures than for neutral pictures and pleasant pictures. It was not as high as the magnitude when viewing unpleasant pictures.

Subjective rating

When pictures were subjectively SAM rated, the emancipated body pictures were rated significantly more negatively than the neutral pictures by both the control group and participants with anorexia nervosa.

Arousal magnitude

Skin conductance (SCR) did not show any significant differences between the subcategories of neutral, pleasant and unpleasant pictures presented to participants.

SCR scores elicited from emancipated body images was significantly higher than the neutral pictures for both groups.

Heart rate (arousal measure)

There was a significant decrease in heart rate from the baseline for unpleasant pictures compared to pleasant pictures and neutral pictures.

The participants with anorexia nervosa showed a significantly lower HR deceleration overall for pleasant, neutral and unpleasant pictures when compared to the control group.

A marginally lower HR decrease response was found in participants with anorexia nervosa than the control group when viewing emancipated body pictures. There was no significant difference in HR acceleration.

Subjective rating

The SAM rating arousal scores showed a significantly lower arousal score for participants with anorexia nervosa than for the control group, for unpleasant pictures and pleasant pictures compared to neutral pictures.

In both groups, a significant arousal increase was found in SAM self-reporting for emancipated body pictures compared to neutral pictures.

Conclusions

Patients with anorexia nervosa have a lowered startle response to being exposed to emancipated bodies when compared to healthy control groups, suggesting that the emancipated body images were appealing to patients with anorexia nervosa.

An averseness to emancipated body pictures was found for all participants in the self- reported subjectivity ratings (SAM), possibly indicating that patients with anorexia nervosa may hide their reactions or may not be aware of their automatic body appetitive reaction. This may be a result of social desirability effects in self-reported data.

Therefore, extremely emancipated body image pictures evoke an automatic appetitive reaction in patients with anorexia nervosa, but an automatic aversion reaction in healthy controls.

The reactions to emancipated body pictures compared to low or no reactions to ideal slim body pictures suggests that the theory of weight gain fear is not a full explanation of anorexia nervosa. Therefore, the role-model function of mass media pictures may not be as influential as proposed, and patients with anorexia nervosa pursue a specific, extreme body ideal. Therapies may benefit from less focus on 'weight phobia' and more focus on rewards and hedonic value of starvation.

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