

Sample Answer

Discuss research into the reliability of exercise and mental health (15 marks)

Reliability is the extent to which something can be replicated and produce consistent results over time. In order to maintain reliability a research study should have high levels of control particularly over extraneous variables and should aim to ensure all procedures are standardised for all participants. This allows for replication of the method.

Lewis et al (2014) conducted a reliable study to investigate the long and short-term effect of a dance intervention on mood in the elderly, specifically on a group of people with Parkinson's Disease (PD). They compared elderly individuals with PD to elderly individuals without PD, who were matched on age. In order to see if there were any benefits of exercise on mental health, participants took part in 10 one-hour dance sessions run by a qualified dance instructor over ten weeks. In order to have high levels of reliability there needs to be control and standardisation throughout the procedure of a study. This experimental study had strict control over the variables and ensured all participants were exposed to the same procedures making it a fair test. Lewis et al (2014) had an experimental group of 22 people with Parkinson's disease and another control group of 15 for comparison. Having a control group increases the reliability of the findings when analysing the difference between the two groups, especially if the difference is more obvious in the experimental group. Other studies such as Hackney and Earhart (2009) also show the clear benefit of dance on movement control in people with Parkinson's Disease. They too compared different dance styles to a control group and found that the tango and waltz/ foxtrot groups improved significantly when compared to the control group who received no intervention. This shows a difference in the experimental groups increasing the reliability of the findings. In the Lewis et al (2014) study there was also a baseline measurement of participants' mood using the Mini Mental State Examination (MMSE) which when compared to the post-treatment scores showed a clear difference which is useful when making cause and effect conclusions. This improves the accuracy of the findings and allows conclusions to be formulated.

Another way research could be seen to be reliable is to collect quantitative data using standardised measures. In the Lewis et al (2014) study all participants completed two objective measures following the dance sessions to assess their mental health; the Profile of Mood States inventory (POMS) and the Brunel University Mood Scale (BRUMS). Both assessments were originally developed for use in a clinical setting and were chosen as they showed good reliability for the elderly (Nyenhui et al, 1999) along with excellent levels of internal consistency. They collected quantitative data using statements about mood on a 5-point Likert scale. The POMS is a 64-item mood scale and is scored on six subcategories; Tension-Anxiety, Vigour-Activity, Depression-Dejection, Fatigue-Inertia, Anger-Hostility & Confusion-Bewilderment. The POMS also produces a score for Total Mood Disturbance (TMD) and low scores indicate a more positive mood state. The BRUMS is a short version of the POMS, verified by Terry et al (1999) to be suitable for use with adults in a normal population. The BRUMS is scored according to the same dimensions as the POMS but on a 24-item scale. Both objective measures can easily be replicated and are likely to produce consistent results over time.

Furthermore other research has shown improvements in people's mood, including those measured by the Profile of Mood States (POMS). Lane and Lovejoy (2002) studied a group of 80 participants who had attended an exercise class on a regular basis for the previous three months. Participants completed the POMS test 15 minutes before exercise and then immediately after an aerobic dance exercise class. The results indicated that anger, confusion, fatigue, tension, and vigour reduced significantly, supporting the notion that exercise reduces negative mood. This shows the reliability of the POMS test as replication has been consistent over the years.

However, conducting research with groups of participants that are unique can raise issues with reliability, in that individual differences may affect the consistency of the findings over time. In the Lewis et al (2014) study participants with Parkinson's Disease were compared with other elderly groups without Parkinson's. If this procedure were to be replicated with a similar sample, we may not get the same results. This would depend on the individuals in the groups themselves. Despite this the results indicate that exercise does have a beneficial effect on mental health, and regardless of different experiences of Parkinson's Disease, on the whole would be better than no exercise.

