**Research Methods Master Terminology and Study Sheet**

**For SAQs and ERQs on research methods, it is essential that you know how to describe the relevant research methods in detail.**

**For ERQs on research methods specifically, it is also essential that you know at least 1 strength and 1 limitation for each relevant method.**

**The following methods are the official research methods accepted by the IB. Anything other research method related terms, such as “fMRI”, “twin/adoption studies”, “surveys” are data collection techniques, but not research methods.**

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| ***Method*** | ***QuaN/QuaL*** | ***Characteristic 1*** | ***Characteristic 2*** |
| *Experiment* | *QuaN* | *Experimenters decide on a single variable, the independent variable (IV) which they manipulate (or deliberately alter) in order to see whether this brings about a change in a second variable, known as the dependent variable (DV) which is measured in some quantitative way.* | *All other variables which might affect the dependent variable are held constant (controlled) meaning any change in the DV can be said to have been caused by the IV and this means that the findings of experimental studies can be said to have strong internal validity.* |
| *Field experiment* | *QuaN* | *Field experiments also seek causal relationships between a deliberately manipulated independent variable and a measured or dependent variable yet they do not take place under controlled conditions, instead they are conducted in real-world environments where participants can be found going about their daily business, e.g. at a cinema or shopping centre.* | *Participants in field experiments are often unaware that they are being observed as part of an experiment, meaning that their behaviour is more natural, while this increases the ecological validity of the findings, the inability to control extraneous variables due to the natural setting decreases internal validity.* |
| *Quasi experiment* | *QuaN* | *Quasi means ‘seemingly’ or ‘apparently’ and quasi experiments therefore share some but not all of the characteristics of a laboratory experiment; the defining feature is that it is not possibly to randomly allocate participants to the experimental (treatment) and/or control groups, as these groupings are outside of the control of the experimenter.* | *The fact that participants cannot be randomly allocated in a quasi-experiment means that the findings can be said to lack internal validity as there may be uncontrolled variables that led participants to be in one group and not the other, which are responsible for any changes in the DV.* |
| *Natural experiment* | *QuaN* | *Natural experiments are characterised by the fact that the independent variable is naturally occurring, i.e. the change between the experimental and control conditions is brought about as a consequence of factors which are outside of the experimenters control, e.g. before and after the introduction of western TV channels on a remote island.* | *As changes in the independent variable are naturally occurring, the findings of natural experiments may lack internal validity, as changes in the DV may have arisen due to extraneous factors, i.e. other societal changes which accompanied the introduction of Western TV were actually responsible for changes in the DV.* |
| *Correlation* | *QuaN* | *Correlational studies have no manipulated variables and therefore do not seek to establish causal relationships as is the case with experimental studies; they have two or more measured variables known as co-variables which are measured using quantitative data, e.g. through some sort of rating scale.* | *Correlational studies are common in areas of psychology where it may not be possible to ethically or practically manipulate variables as part of an experiment; as there is no attempt to establish causality, internal validity relates solely to the extent to which the instruments used to measure the co-variables provide accurate and meaningful data.* |
| *Naturalistic Observation: Participant* | *QuaL* | *The observer collects data from participants’ in their natural environments without any deliberate manipulation of the setting; while tallying can be used to collect quantitative data, the researcher may record qualitative ‘field notes’, describing behaviours of interest while diagrams and sketches may also be used.* | *In a participant observation the researcher becomes actively involved within the community or group that he or she is studying; this facilitates a unique perspective that would not have been otherwise possible and though this can lead to subjectivity, the credibility of the data may also be enhanced.* |
| *Naturalistic Observation: Non-Participant* | *QuaL* | *The observer collects data from participants’ in their natural environments without any deliberate manipulation of the setting; while tallying can be used to collect quantitative data, the researcher may record qualitative ‘field notes’, describing behaviours of interest while diagrams and sketches may also be used.* | *In a non-participant observation the researcher remains separate from the activities of the group and does not interact with participants whilst conducting the observation; this lack of involvement means that the researcher is free to focus entirely on the data collection, arguably leading to a more accurate record of events.* |
| *Naturalistic Observation: Covert* | *QuaL* | *The observer collects data from participants’ in their natural environments without any deliberate manipulation of the setting; while tallying can be used to collect quantitative data, the researcher may record qualitative ‘field notes’, describing behaviours of interest while diagrams and sketches may also be used.* | *In a covert observation, participants are unaware of the observer and according to the BPS this is ethical if the study takes place in a public setting; data collected will be more credible as behaviour will be less inhibited and unaffected by demand characteristics or evaluation apprehension for example.* |
| *Case study* | *QuaL* | *Case studies typically focus on a single individual, group or organisation that is unusual in some way; the researcher generally collects a detailed case history including secondary data from school reports or hospital records for example; this allows the researcher to gain necessary insight before collecting their own primary data.* | *Case studies often comprise data that has been gathered using a variety of techniques including interview, observation and the use of standardised tests for example. This is known as method triangulation and results in a rich and detailed insight into the behaviours of interest.* |
| *Unstructured interview* | *QuaL* | *Unstructured interview have a clear research objective and the interview schedule will include broad topics or themes for discussion; there may or may not be a list of starter questions but the defining features of this style of interview are flexibility and freedom; the direction of the interview is determined by the interviewee and the interviewer bases any questions asked on their previous responses.* | *Unstructured interviewers need more training and experience to collect credible data; it can be hard to keep the interview on track and achieve the research objective when there is no ‘script’ as such; eliciting relevant information without asking leading questions and with minimal guidance in the interview schedule requires practice and skill.* |
| *Semi-structured interview* | *QuaL* | *A semi-structured interview is more flexible than a structured interview; while there is a pre-determined set of questions in the interview schedule, the interviewer may deviate from this, asking follow-on questions if the interviewee presents an unanticipated and relevant view; the interviewer may also rephrase questions and alter the order as appropriate.* | *The semi-structured Interview schedule may include both open and closed questions: open questions prompt longer, richer answers from respondent allowing them to elaborate in their own words without being guided in any particular direction by the interviewer while closed questions result in brief, precise answers of just a few words.* |
| *Focus Group* | *QuaL* | *A focus group comprises 8-12 people who are interviewed together about a topic of common interest; this size group works well allowing all members to have their say; people who share similar experiences tend to bond together, developing a sense of belonging and trust which helps them to talk freely about even sensitive issues.* | *In a focus group the researcher become the group facilitator and their role is to monitor the discussion, keep the group on the topic if they veer off into an irrelevant topic; they must ensure that all issues raised are responded to and explored as fully as possible within the time available.* |

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| ***Method*** | ***QuaN/QuaL*** | ***Strength*** | ***Limitation*** |
| *Experiment* | *QuaN* | * *High internal validity - Tighter control of variables*   + *Easier to comment on cause and effects* * *Replicable*    + *Relatively easy to replicate* | * *(sometimes) Demand characteristics*   + *participants aware of the experiment, may change behavior.* * *Artificial environment*   + *Low realism* * *Low ecological validity*   + *difficult to generalise to other situations.* * *(sometimes) Researcher bias*   + *bias when experimenter's expectations affect behaviour.* |
| *Field experiment* | *QuaN* | * High mundane realism - study is conducted in a natural setting rather than a lab. * High ecological validity - easy to generalise results to other situations. * Demand characteristics - less likely affecting the results | * Internal validity - lack of control, lots of extraneous variables * Hard to replicate - thus having poor reliability |
| *Quasi experiment* | *QuaN* | * Because it studies real life effects' , it has pretty good mundane realism and ecological validity. | * Less internal validity because confounding variables are more likely * Demand characteristics might also be an issue because participants know that they are being studied. * No cause and effect relationship explored   + Bidirectional ambiguity |
| *Natural experiment* | *QuaN* | * There is also higher ecological validity, as well as mundane realism * More likely to reflect real life due to the fact that it is naturally occurring * Participants may be unaware that they are being studied, not as many demand characteristics | * The findings of the natural experiment may lack internal validity * There is no control over confounding variables * There is also a lack of objectivity when measuring abstract terms * Difficult to replicate * Many extraneous variables * No cause and effect relationship explored: bidirectional ambiguity |
| *Correlation* | *QuaN* | * looks to understand the natural interconnectedness of more than 1 variable in a study * Wants to see if two or more variables are connected/related to each other, and how | * Researcher can’t manipulate any of the variables involved * But it also doesn’t matter how/where these variables are observed, as long as there is no artificial interference |
| *Naturalistic Observation: Participant* | *QuaL* | * Produces rich qualitative data which shows a picture of how people really live. Researchers can see for themselves * More flexible and allows for an open mind. Researcher can follow up different ideas if something interesting occurs * Allows researcher to gain empathy through personal experience. By acting as a member can get insight into their meanings, view points, values and problems - authentic data. | * If the researcher becomes too involved they may lost objectivity and become bias * It can be difficult to get time / privacy for recording * Time consuming |
| *Naturalistic Observation: Non-Participant* | *QuaL* | * Increases external validity if findings in a lab can be found in a natural setting under similar conditions | * People are more prone to conformity and changes in behaviour when they know they are being watched (demand characteristics) * Hard to control outside variables * Different interpretations can be drawn from the same behaviour → inconsistent data |
| *Naturalistic Observation: Covert* | *QuaL* | * *More natural behaviour occurs if people are unaware of observation* | * *Mundane realism* * *Difficult to replicate* |
| *Case study* | *QuaL* | *Background information - usually backed up with secondary sources from school reports or hospital records.*  *Method triangulation → can richer data on the phenomenon being studied.* | *Poor Population Validity - they usually focus on a select group of individuals or one individual in particular*  *Less control over extraneous variables* |
| *Unstructured interview* | *QuaL* | Flexibility - no fixed set of questions so can explore whats interesting/relevant at the time. Interviewer can find new ideas and hypotheses  checking understanding - easier for interviewer and interviewee to check each others meanings. - if interviewee doesn't understand question they can ask - or if interviewer is unsure what interviewees meanings are can ask follow up questions to find out more | Reliability - not reliable as not standardized - each one unique as may ask different questions to different people if something interesting occurs so its almost impossible to replicate  Practical Problems - Unstructured interviews take long time to conduct - limits number that can be carried out = small sample size compared with methods such as questionnaires - less representative |
| *Semi-structured interview* | *QuaL* |  |  |
| *Focus Group* | *QuaL* |  |  |