20106
Management Capstone

Lecture - Week 3

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Learning Objectives

- To examine the two main research paradigms
- To identify the key methodologies associated with each paradigm
- To examine the possibility of using triangulation

Introduction

There is no consensus on how research should be defined in the literature

But there is general agreement that research is a systematic and methodical process of enquiry and investigation with a view to increasing knowledge

But this does not explain how research should be conducted...

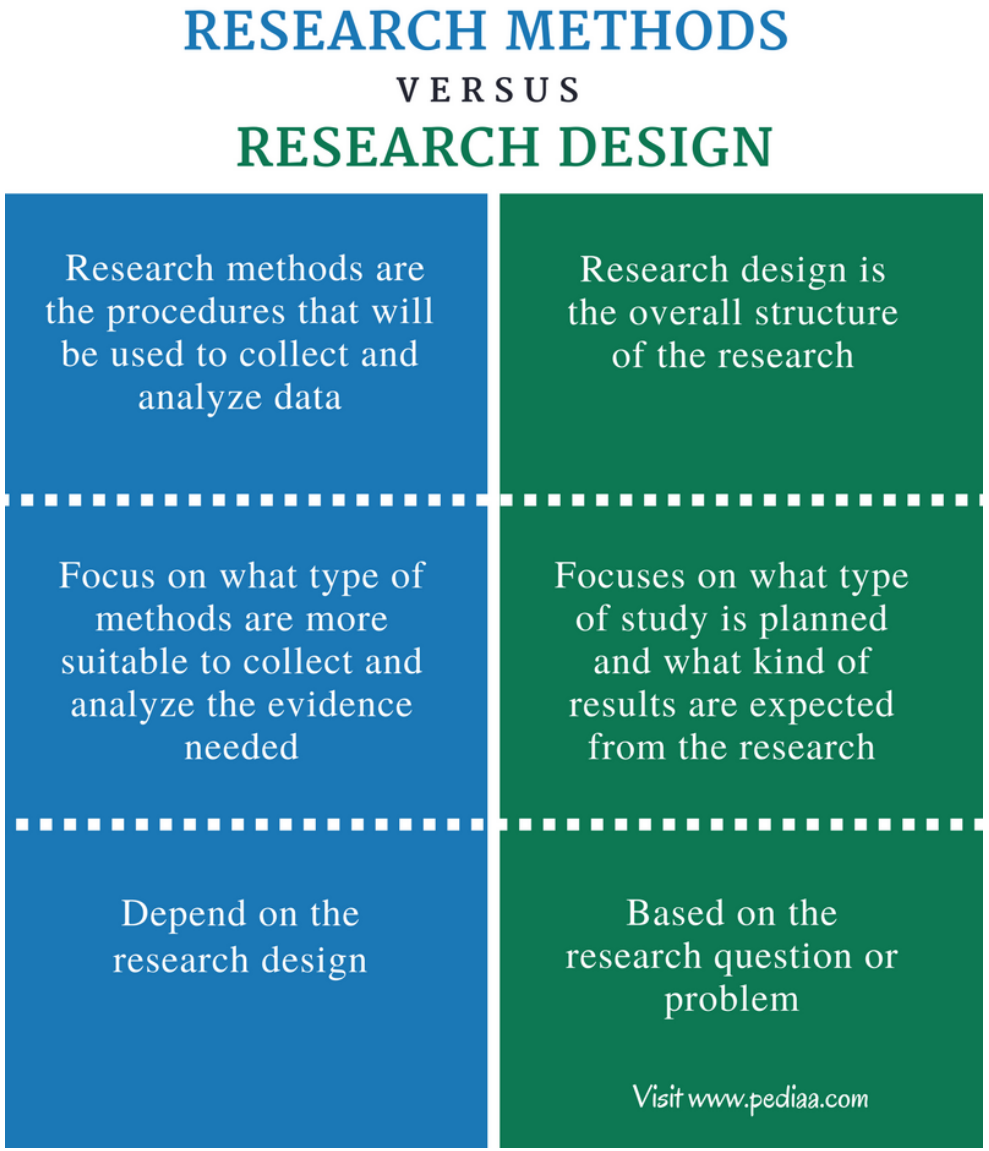
Exercise 1
How should research be conducted?

Even if you have never conducted business research before, you have probably taken part in consumer research

- Based on your experience as a researcher or as a participant in research, how should research be conducted?
- Is there a best way? Is there a norm?

Research design

- A **framework** or blueprint for conducting the research project
- Specifies the details of the **procedures** necessary for **obtaining information** needed to structure or solve the problem identified in your research
- A research design lays the **foundation** for conducting research
- Good research design is the “first rule of good research.”



Ontology and Epistemology

- **Ontology** – concerned with being‟ or reality. Ontology is the starting point of all research.
- Ontological claims: the nature of social reality, claims about **what exists, what it looks like, what units make it up and how these units interact with each other.**
- In short, ontological assumptions are concerned with what we believe constitutes social reality‟ (Blaikie, 2000, p. 8)
- **‘Epistemology** – „The branch of philosophy concerned with the origin, nature, methods & limits of knowledge‟In short, claims about **how what is assumed to exist can be known**‟ (Blaikie, 2000, p. 8).

Assumption	*Question*	*Quantitative*	*Qualitative*
Ontological	What is the nature of reality?	Reality is objective and singular, apart from the researcher	Reality is subjective and multiple as seen by participants in a study
Epistemological	What is the relationship of the researcher to that researched?	Researcher is independent from that being researched	Researcher interacts with that being researched
Axiological	What is the role of values?	Value-free and unbiased	Value-laden and biased
Rhetorical	What is the language of research?	Formal Based on set definitions Impersonal voice Use of accepted quantitative words	Informal Evolving decisions Personal voice Use of accepted qualitative words
Methodological	What is the process of research?	Deductive process Cause and effect Static design – categories isolated before study Context-free Generalisations leading to prediction, explanation and understanding Accurate and reliable through validity and reliability	Inductive process Mutual simultaneous shaping of factors Emerging design – categories identified during research process Context-bound Patterns, theories developed for understanding Accurate and reliable through verification

Research paradigms

A research paradigm is a framework that guides how research should be conducted, based on people's philosophies and their assumptions about the world and the nature of knowledge

Philosophy is 'a set or system of beliefs [stemming from] the study of the fundamental nature of knowledge, reality, and existence' (Waite and Hawker, 2009, p. 685)

Paradigms are 'universally recognised scientific achievements that for a time provide model problems and solutions to acommunity of practitioners' (Kuhn, 1962, p. viii).

Morgan (1979) suggests that paradigm can be used at three different levels:

- At the philosophical level, where it is used to reflect basic beliefs about the world
- At the social level, where it is used to provide guidelines about how the researcher should conduct his or her endeavours
- At the technical level, where it is used to specify the methods and techniques which ideally should be adopted when conducting research

What is Paradigm ?

A broad framework of perception, understanding, belief within which theories and practices operate.

… a network of coherent ideas about the nature of the world and the functions of researchers which, adhered to by a group of researchers, conditions their thinking and underpins their research actions [Bassey, 1990: para 8.1]

A basis for comprehension, for **interpreting social reality** [Cohen, Manion & Morrison, 2000: 9]

Researchers from different disciplines may have different paradigms.

There are competing paradigms in management research.

New approaches within the main paradigms

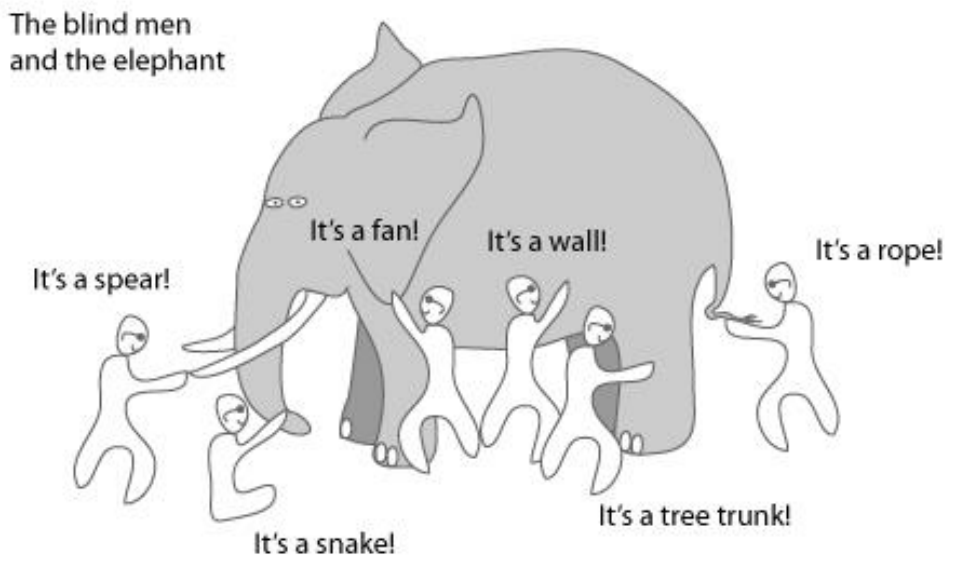
Since the original debate in the late 19th century, many different approaches have been developed and today, few researchers apply the pure forms of realism, positivism, idealism and interpretivism

New paradigms have emerged as a reaction to the perceived inadequacy of previous paradigms

But it takes time for new methods to become accepted; hence the use of derogatory terms such as ‘number-crunchers’ or ‘story-tellers’ (Smith, 1983)

Examples of approaches within the two main paradigms

Positivism	Interpretivism
Quantitative	Qualitative
Objective	Subjective
Scientific	Humanist
Traditionalist	Phenomenological



Core assumptions of the main paradigms

Before you can design your study, you need to identify your research paradigm

The starting point is to consider five philosophical questions relating to the core assumptions that underpin the two main paradigms ...

Assumptions of the main paradigms

- Creswell (1994) draws on a number of other authors to show the different assumptions of the two main paradigms: positivistic paradigm as quantitative and the phenomenological paradigm as qualitative.
- With the ontological assumption, you must decide whether you consider the world is objective and external to the researcher, or socially constructed and only understood by examining the perceptions of the human actors.
- ‘In quantitative research facts act to constrain our beliefs; while in interpretive research beliefs determine what should count as facts. (Smith, 1983)

Core assumptions of the main paradigms

1. The ontological assumption: What is the nature of reality?

Positivism: Reality is objective and singular

Interpretivism: Reality is subjective and multiple as seen by participants in a study

2. The epistemological assumption: What constitutes valid knowledge?

Positivism: The researcher is independent of what is being researched

Interpretivism: The researcher interacts with what is being researched (Continued)

3. The axiological assumption: What is the role of values

Positivism: Research is value-free and unbiased

Interpretivism: Research is value-laden and biased

Core assumptions of the main paradigms

4. The rhetorical assumption: What is the language of research?

Positivism: Formal language with set definitions, the impersonal voice and accepted quantitative words

Interpretivism: Informal language with evolving decisions, the personal voice and accepted qualitative words

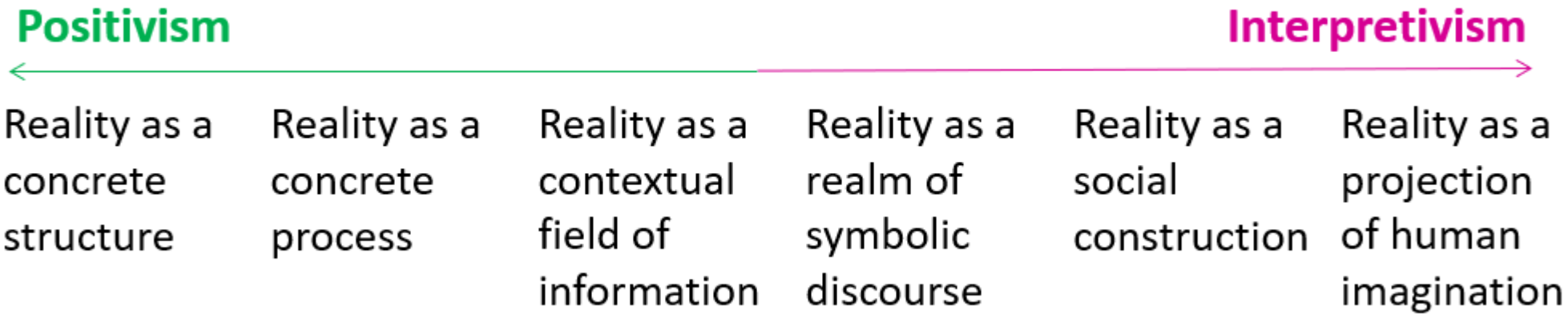
5 The methodological assumption: What is the process of the research?

Positivism: A deductive process, the study of cause and effect with a static design (categories isolated before study); research is context free; generalisations lead to prediction, explanation and understanding; results are accurate and reliable through validity and reliability

Interpretivism: An inductive process, the study of mutual simultaneous shaping of factors with an emerging design (categories identified during study); context bound; patterns/theories developed for understanding; findings are accurate and reliable through verification

A continuum of approaches

- Different approaches can be classified according to their core assumptions and placed on a continuum
- Example: Ontological assumptions



Morgan and Smircich, 1980, p. 492

Positivism VS Interpretivism

Positivism	Interpretivism
Relationship between society and the individual	
Society shapes the individual - *'Society consists of 'social facts' which exercise coercive control over individuals'*	Individuals have consciousness and are not just puppets who react to external social forces as Positivists believe.
People's actions can generally be explained by the social norms they have been exposed to through their socialisation.	Individuals are intricate and complex and different people experience and understand the same 'objective reality' in different ways
General focus of social research	
The point of research is to uncover the laws that govern human behaviour, just as scientists have discovered the laws that govern the physical world.	The point of research is to gain in-depth insight into the lives of respondents, to gain an empathetic understanding of why they act in the way that they do.
Prefer quantitative methods which allow for the researcher to remain detached from the respondents.	Prefer qualitative methods which allow for close interaction with respondents.
Preferred research methods	
Quantitative Require research to be valid, reliable and representativeness	**Qualitative** Prepared to sacrifice reliability and representativeness for greater validity

Positivism

* Gives validity and objectivity to a research.
* It is based on precise methods and can support a research with statistical and objective data.
* Lack of in-depth understanding of a context.
* "You cannot capture the full richness of the individuals and environments" (Gay, Mills & Airason, 2009, p.5).
* Deterministic view, people are social products (Wotherspoon, 1998, p.20).

Interpretivism

* Gives you options, different points of view, and this is "healthy" for society (Denzin & Lincoln, 2008; Willis, 2007).
* You can have access to different aspects of reality.
* The individual is an "active agent" (Wotherspoon, p.20).
* Difficulty to identify right or wrong - "Anything goes" (Feverabend, 1975).
* Anything could be just claimed without any validation of data or scientific approach.

Pragmatism

The two main paradigms are based on mutually exclusive philosophical assumptions about the world and the nature of knowledge.

And the researcher's paradigm provides the philosophical framework that underpins the choice of methodology and methods

But pragmatists argue that by ignoring the debate about reality and the nature of knowledge, the weaknesses of one paradigm can be offset by the strengths of the other

Pragmatism contends that the nature of the research question rather than the researcher's paradigm should determine the choice of methodology and that mixed methods can be used

Mixed methods vs multiple methods

Mixed-methods research involves using methods from more than one paradigm to collect, analyse and integrate qualitative and quantitative data in the same study

- If you are thinking of using mixed methods, discuss it with your supervisor before writing your research proposal
- Some examiners may not be sympathetic to pragmatism if they believe that without a commitment to one paradigm, there is no framework to support your methodology

Do not confuse the pragmatist's use of mixed methods with multiple methods

- Multiple methods research involves using more than one method but they are all drawn from the same paradigm
- Using multiple methods is non-controversial

Diagnosing your research paradigm. Indicate whether you agree or disagree with the following statements.

		Agree	Disagree	Don't know
1	Quantitative data is more scientific than qualitative data	☐	☐	☐
2	It is important to state the hypotheses before data collection	☐	☐	☐
3	Surveys are probably the best way to investigate business issues	☐	☐	☐
4	Unless a phenomenon can be measured reliably, it cannot be investigated	☐	☐	☐
5	A good knowledge of statistics is essential for all approaches to business research	☐	☐	☐
6	Case studies should only be used as a pilot project before the main research is conducted	☐	☐	☐
7	Using participant observation to collect data is of little value in business research	☐	☐	☐
8	Laboratory experiments should be used more widely in business research	☐	☐	☐
9	It is impossible to generate theories during the course of research into business issues	☐	☐	☐
10	Researchers must remain objective and independent from the phenomena they are studying	☐	☐	☐

Key concepts

Once you have identified your research paradigm, you can start designing your research by choosing the **methodology** and **methods** you will use to investigate your research question(s)

A **methodology** is an approach to the process of the research, encompassing a body of methods

A **method** is a technique for collecting and/or analyzing data

- Primary data are data generated from an original source (e.g. your own experiments, surveys, interviews or focus groups)
- Secondary data are data collected from an existing source (e.g. publications, databases or internal records)

Main methodological issues

1) Why you will collect certain data?
2) What data you will collect?
3) From where you will collect it?
4) When you will collect it?
5) How you will collect it?
6) How you will analyse it?

- You need to consider the strengths and weaknesses of potential methods in order to justify your choice when writing your methodology chapter

Link between paradigm and methodology

Your choice of methodology and methods should be guided by your research paradigm

A research paradigm is a framework that guides how research should be conducted, based on people's philosophies and their assumptions about the world and the nature of knowledges

Therefore, certain methodologies and their associated methods are used by researchers sharing the same philosophical assumptions about reality and what constitutes valid knowledge.

Methodologies associated with the main paradigms

Positivism	Interpretivism
Experimental studies	Hermeneutics
Surveys	Ethnography
Cross sectional studies	Participative enquiry
Longitudinal studies	Action research
	Case studies
	Grounded theory
	Diversity and equality studies

Positivistic methodologies

1) Cross-sectional studies

- Cross-sectional studies are a positivistic methodology designed to obtain information on variables in different contexts, but **at the same time**.
- Cross-sectional studies are conducted when there are constraints of time or resources. The data is collected just once, over a short period of time, before it is analysed and reported. Thus, cross-sectional studies take a snapshot of an ongoing situation.

For example: Data collected once from firms in a range of industries to study similarities and differences of economic characteristics

Positivistic methodologies

2) Experimental studies

- Experiments are conducted either in a **laboratory** or in a natural setting in a systematic way.
- The former permit considerable control by allowing the researcher to eliminate certain variables or keep some variable constant. Experimental studies permit **causal relationships** to be identified.
- The aim is to manipulate the independent variable (for example, the intensity of lighting in a room) in order to observe the effect on the dependent variable (for example, productivity levels of office workers).

Experimental studies in Management (example 1)

whether people do in fact think creativity is best achieved via divergent thinking. We asked participants to consider a series of choices between divergent and nondivergent processes, selecting which option in each choice would most likely result in the generation of "creative" ideas. Choices were made separately for two domains. Participants in a comparison condition considered these same processes, in the same domains, but considered which would most likely result in the generation of "high quality" ideas. We predicted that divergence would be understood as the process more likely to produce creative ideas and that divergence would be more strongly implicated in the generation of creative ideas than in the generation of high-quality ideas.

Participants. Eighty-three participants (40% female, U.S. residents) were recruited from Amazon Mechanical Turk (for additional demographic information, see Table S1 in the Supplemental Material available online). Demographic variables did not moderate the results.

Materials and procedure. Participants were randomly assigned to consider either which processes were most likely to generate a "creative" idea or which processes were most likely to generate a "high quality" idea. Participants in both conditions read two scenarios (fine arts and business), presented in a random order:

> Imagine that you are a [composer/consultant]. Your job is to come up with a [creative/high quality] [piece of music/product]. Select the approaches below that you think would most likely result in the generation of a [creative/high quality] [piece of music/product].

After reading each scenario, participants responded to a series of items in which they chose between a divergent approach and a nondivergent approach. The order of the items and of the options within each item were randomized. The items were "connecting the dots" versus "thinking outside the box," "building on tradition" versus "disregarding tradition," "following what others have done" versus "going against what others have done," and "bringing others' perspectives together" versus "adopting a perspective that is distinct from others' perspectives." Each item for which the nondivergent approach was chosen was scored as –1, and each item for which the divergent approach was chosen was scored as +1. For each participant, we calculated separate summed scores for the fine-arts domain and the business domain; the possible range for each score was –4 to +4, with scores greater than zero indicating that more divergent than nondivergent approaches were selected and scores less than zero indicating that more nondivergent then divergent approaches were selected.

Results

Within the creative-idea condition, scores were, on average, positive and significantly different from zero in both the fine-arts domain, $M = 1.58$, $SD = 2.71$, $t(42) = 3.83$, $p < .001$, 95% confidence interval (CI) = [0.75, 2.42], and the business domain, $M = 1.91$, $SD = 2.18$, $t(42) = 5.74$, $p < .001$, 95% CI = [1.23, 2.58]. These results indicate that the generation of creative ideas was associated with divergence more than with nondivergence, and they support the notion that creativity is understood as a tendency to generate outside-the-box ideas that differ from the status quo. Within the high-quality-idea condition, participants' scores did not differ significantly from zero in either the fine-arts domain, $M = 0.70$, $SD = 2.58$, $t(39) = 1.71$, $p = .095$, 95% CI = [–0.13, 1.53], or the business domain, $M = 0.55$, $SD = 2.68$, $t(39) = 1.30$, $p = .20$, 95% CI = [–0.31, 1.41].

To test whether, across domains, the generation of creative ideas was associated more with divergent approaches than was the generation of high-quality ideas, we conducted a mixed-model analysis of variance (ANOVA) with idea type as the between-subjects factor and domain as the within-subjects factor. There was no Idea Type × Domain interaction, $F(1, 81) = 0.48$, $p = .49$, $\eta_p^2 = .01$, and no main effect of domain, $F(1, 81) = 0.07$, $p = .80$, $\eta_p^2 = .00$, but there was a predicted main effect of idea type, $F(1, 81) = 6.46$, $p = .013$, $d = 0.56$; scores were higher in the creative-idea condition ($M = 1.74$, $SD = 2.01$) than in the high-quality-idea condition ($M = 0.62$, $SD = 2.00$), which suggests a unique association between creativity and divergence.

Study 1

In Study 1, we investigated whether the creative thought process tends to be masculinized. That is, we examined whether masculine-agentic traits are perceived as more central to creative thinking than are feminine-communal traits, and whether this association is strongest when the divergent nature of creative thinking is emphasized.

Method

Participants. Eighty participants (49% female, U.S. residents) were recruited from Amazon Mechanical Turk (see Table S1 in the Supplemental Material for additional demographic information). Demographic variables did not moderate the results.

Materials and procedure. Participants were randomly assigned to one of two conditions. Participants in the divergent-thinking condition read a passage describing creativity as the ability to "think outside the box," see the world differently than the average person does, and create things that do not conform to traditions. Participants

in the convergent-thinking condition read that creativity is the ability to "connect the dots," see the connections between disparate ideas, and create things that bring ideas together in a unique way (see the Supplemental Material for the text used for this manipulation).

Participants then rated, on a 9-point scale, how central 16 personality traits were to creativity, as described in the passage. Eight of the traits were stereotypically masculine-agentic (decisive, competitive, self-reliant, willing to take risks, ambitious, daring, adventurous, courageous), and 8 were stereotypically feminine-communal (sensitive, cooperative, understanding of others, helpful to others, sympathetic, nurturing, warm in relations with others, and supportive; cf. Prentice & Carranza, 2002). An exploratory factor analysis with varimax rotation revealed a two-factor structure. The 8 masculine-agentic traits loaded onto one factor, so ratings of these traits were combined ($\alpha = .88$). The 8 feminine-communal traits loaded onto the other factor, so ratings of these traits were combined ($\alpha = .92$).

Results

A mixed-model ANOVA with condition as the between-subjects factor and trait type as the within-subjects factor revealed a main effect of trait type, $F(1, 78) = 75.02$, $p < .001$, $\eta_p^2 = .49$, qualified by a marginally significant interaction between trait type and condition, $F(1, 78) = 3.05$, $p = .084$, $\eta_p^2 = .04$ (see Fig. 1). Follow-up tests revealed that participants associated creativity more with stereotypically masculine-agentic personality traits than with stereotypically feminine communal personality traits in both the divergent-thinking condition ($M = 7.22$, $SD = 1.26$, vs. $M = 5.10$, $SD = 2.04$), $F(1, 78) = 54.18$, $p < .001$, $d = 1.25$, and the convergent-thinking condition ($M = 6.26$, $SD = 1.43$, vs. $M = 4.85$, $SD = 1.56$), $F(1, 78) = 23.90$, $p < .001$, $d = .94$. Furthermore, the masculine traits were perceived as more central to creativity when divergence was emphasized, rather than convergence, $F(1, 78) = 10.21$, $p = .002$, $d = 0.71$, which indicates that the association between creative thinking and masculinity is most pronounced when creativity is conceptualized as seeing the world differently than other people do and as generating ideas that diverge from norms and traditions. There was no effect of condition on the perceived centrality of the feminine traits, $F < 1$, $p = .536$.

Study 2

In Study 2, we examined whether the perceived connection between stereotypically masculine-agentic qualities and creativity might result in male creative professionals being evaluated as more creative than their female counterparts. We also explored moderation by domain: We

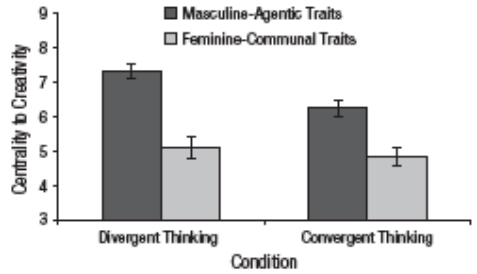


Fig. 1. Results from Study 1: effect of condition on ratings of the centrality of masculine-agentic and feminine-communal traits to creativity. Error bars indicate ±1 *SEM*.

did not expect to observe the gender difference in domains in which it is difficult to envision stereotypical males operating, because any male envisioned in such a domain would not carry with him the usual stereotype content (Kunda & Spencer, 2003). We therefore compared the effects of the target's gender on perceived creativity in an aesthetic domain in which stereotypes related to masculinity are reasonably applicable (architecture) and in an aesthetic domain in which they are less applicable (fashion design).

Method

Participants. One hundred sixty-nine participants (36% female, U.S. residents) were recruited from Amazon Mechanical Turk, in accord with our goal of recruiting 40 participants per experimental group (see Table S1 in the Supplemental Material for demographic information). Demographic variables did not moderate the results.

Materials and procedure. Participants were randomly assigned to one of four experimental conditions in which they read background information about either an architect (male or female) or a fashion designer (male or female). All information was identical across conditions except for the target's profession and gender (which was manipulated by varying the first name; see the Supplemental Material for the text used for the manipulation). Participants were then instructed to examine the target's work, which was identical in the two gender conditions. In the architecture condition, participants saw three images of houses. Two of the images were of Villa Freundorf (designed by Project A01 Architects), and one of the images was of Home Spa (designed by architekti.sk). In the fashion-design condition, participants saw three images of fashion designs from the 2013 Pratt Fashion Show (designs were by Sam O'Brien, Jefferson Musanda,

Experimental studies in Management (example 2)

which was successfully used in previous research (Reinhard et al., 2009, Experiment 1). Participants completed an alleged intelligence test measuring innovative thinking. Then they were provided with bogus feedback about their own performance (positive vs. negative), as well as bogus feedback about the general performances of a high-status group and a low-status group (high-status group outperforms low-status group or vice versa). Participants were members of either the low-status group (i.e., women) or the high-status group (i.e., men). In Experiment 1, we assessed behavioral intentions by measuring risk attitude in several different domains as the main dependent variable, while in Experiment 2, we measured actual financial risk behavior. In both experiments, we also measured gender identification and state self-esteem (parallel to the studies by Reinhard et al., 2009).

Experiment 1

Method

Subjects and design. Participants included 143 students (76 women and 67 men) who were recruited on the campus of a German university (M_{age} = 21.95, SD = 3.34). They were randomly assigned to experimental conditions in a 2 (sex of participants) × 2 (individual performance: negative vs. positive) × 2 (relative gender performance: men better vs. women better) between-subjects factorial design. Additionally, we had a control group that did not include any performance feedback. The experiment was labeled "innovative thinking and decision making," and was conducted in single sessions. Participation in the study was voluntary and lasted roughly 30 minutes. Finally, all participants were paid €4.00 (approximately US$6.00).

Procedure and material. Participants arrived at the lab and were assigned to a computer by the experimenter. Participants were given a description that read that the experiment was about differences in innovative thinking and decision making. They were informed that the German Department for Research and Intelligence had recently developed a test as part of an assessment center method to measure abilities in innovative thinking (fictitious test: ATLG1), and that this new test had to be validated by a sample of 5,000 people. Subsequently, participants were instructed that they should perform the ATLG1 and that they would receive immediate feedback about their performance as well as some reference scores (consisting of average scores from fictitious norm populations). Finally, they were told that they would have to answer several questions about their personality.

The ATLG1 consisted of 10 matrices taken from the Advanced Progressive Matrices Intelligence Test (Raven, 1998). Raven's progressive matrices are nonverbal intelligence tests where in each test item, the task is to identify the missing element that completes a pattern, and where the patterns become progressively harder to complete.[1] Before starting the test, participants were informed that their performance would depend on the amount of correct answers and on their required time. After having completed the ATLG1, the participant's fictitious individual test score and the average test scores of women and men, in general, were displayed on the screen.

We manipulated participants' individual performance by displaying either a high individual score (75 out of 100 points) or a low individual score (55 points) on the screen. The group performances of women and men (i.e., relative gender performance) were manipulated by displaying either that women scored higher than men (women-better condition: 71 vs. 59 points), or that women scored lower than men (men-better condition: 59 vs. 71 points). For example, participants in the women-better condition who received poor individual feedback read the following information: "Your personal test score is: 55 points. Up to now, women received an average test score of: 71 points. Up to now, men received an average test score of: 59 points."[2] To ensure that participants paid close attention to this information, they were asked to ostensibly copy all scores from the screen to a response sheet, in

related constructs measured by self-report. A different approach was needed to capture the process underlying the observed effects.

Furthermore, we replicated previous findings on self-esteem (Reinhard et al., 2009): Negative feedback or perceived failure led to increases in state self-esteem if male participants received negative feedback about their performance on a test in which women, in general, were reported to outperform men (i.e., women-better condition) compared to a test in which men, in general, were reported to outperform women (i.e., men-better

Experiment 2

In Experiment 1, we focused on participants' risk attitude as the main dependent variable, and included several risk domains. It was shown that attitudes toward financial decision making were strongly affected by our manipulation. We now predict that the same pattern of results should occur for participants' actual risk behavior concerning financial decisions. Therefore, Experiment 2 investigates the effects of individual and relative gender performance feedback on

a risky investment decision in a gamble by female and male participants.

Method

Subjects and design. Participants in this experiment included 116 students of business administration (56 women and 60 men), recruited on the campus of a German university (M_{age} = 23.84, SD = 3.90). They were randomly assigned to experimental conditions in a 2 (sex of participants) × 2 (individual performance: negative vs. positive) × 2 (relative gender performance: men better vs. women better) between-subjects factorial design. The experiment was again labeled "innovative thinking and decision making," and was conducted in single sessions. Participation lasted approximately 30 min and was voluntary, and each participant received an actual payment between €0.00 and €35.00 (approximately US$45.00), depending on their investment and the outcome of the gamble. An equal number of females and males were assigned to each condition.

Procedure and material. The procedure and the manipulation were similar to those used in Experiment 1. After participants copied all scores from the screen to a response sheet, the dependent variables were assessed.

Measures. We measured gender identification (Cronbach's α = .87) and state self-esteem (Cronbach's α = .79) with the same items used in Experiment 1. To measure risk behavior, we adapted an investment decision of Gneezy and Potters (1997). After having completed the items on gender identification and state self-esteem, participants were informed that they would next play a game of dice, in which they would have the invested money multiplied by 3.5. If the dice landed not on one of two winning numbers, but on one of the other four numbers, the reward would amount only to the money not invested. Imagine, for example, Participant A invests €5.00 in the gamble and chooses the two winning numbers 2 and 4. Then he rolls the dice which lands on number 2, one of his winning numbers. So, his reward amounts to the sum of 22.50; that is, €5.00 (money not invested) plus €17.50 (money invested multiplied by 3.5).[5] This example was not given to participants in order to avoid anchor effects. Nevertheless, based on previous research on this investment decision (Charness & Gneezy, 2012), and given our elaborate introduction, we assumed that participants understood the gamble and the logic behind it.

After being introduced to the gamble, participants were asked to decide how much money they wanted to invest and were told that they could choose any amount from €0.00 to €10.00. Risk behavior was defined by the amount of money invested in the gamble. Then participants threw the dice (unless they invested nothing). Finally, they were thanked, paid, and fully debriefed by a research assistant.

Results

Overview. Unless noted otherwise, responses to all measures were analyzed using 2 (sex of participants) × 2 (individual performance) × 2 (relative gender performance) analyses of variance (ANOVAs). The cell means for the dependent variables are reported in Table 2.

According to our hypotheses, ANOVAs should reveal significant three-way interactions on risk behavior, gender identification, and state self-esteem. In the women-better condition, male

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Positivistic methodologies

3) Longitudinal studies

A longitudinal study is often, but not always, associated with a positivist methodology. It is a study, **over time**, of a variable or group of subjects.

The aim is to research the dynamics of the problem by investigating the same situation or people **several times**, or **continuously**, over the period in which the problem runs its course.

Repeated observations are taken with a view to revealing the **relative stability** of the phenomena under study.

For example: Primary or secondary data collected at regular intervals to reveal the relative stability of the phenomena under study using time series analysis

Positivistic methodologies

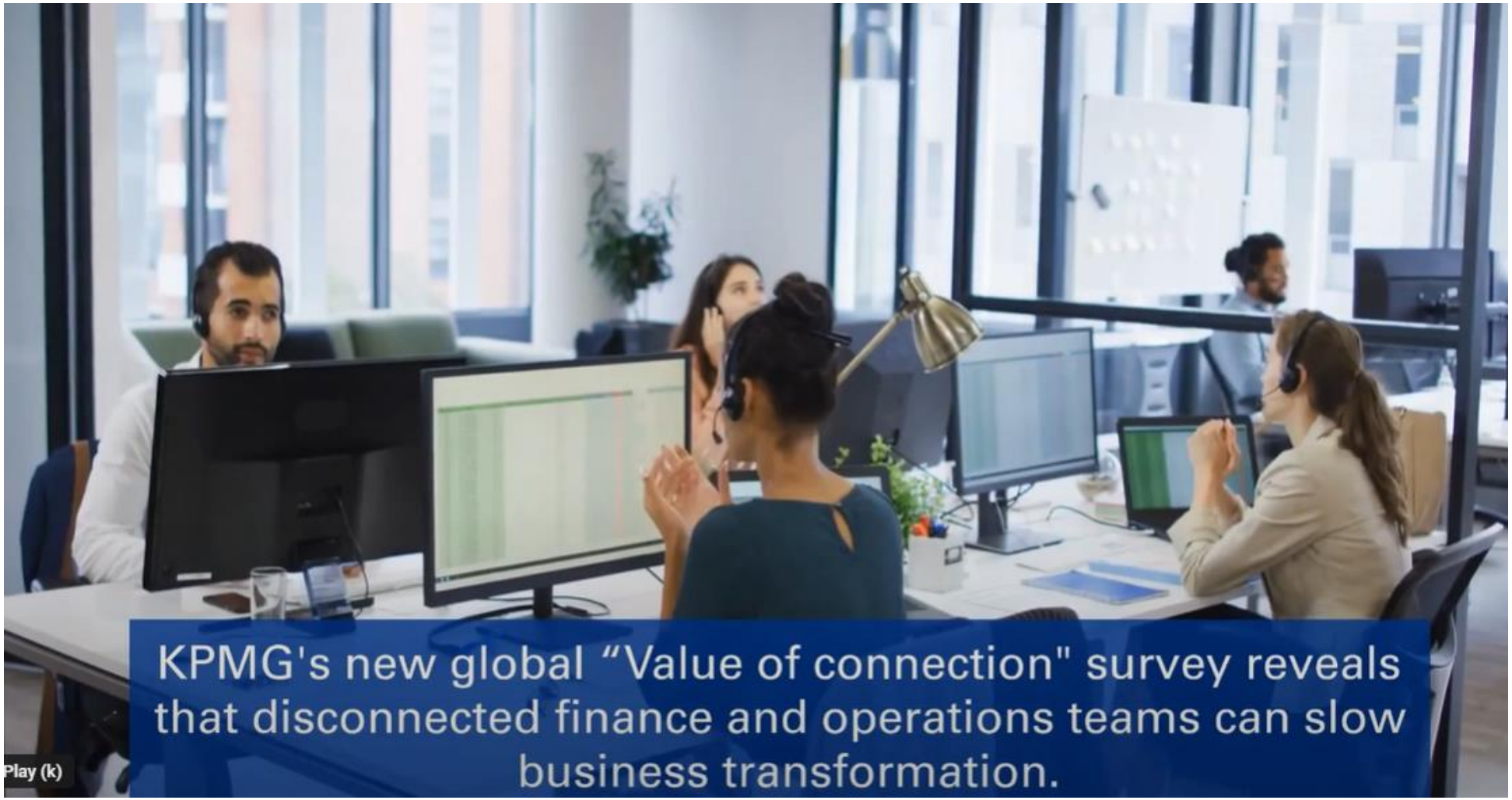
4) Survey

- A survey is a positivistic methodology whereby a sample of subjects is drawn from a population and studied to make inferences about the population.
  - A population is a precisely defined body of people or objects under consideration for statistical purposes
  - A sample is a subset of a population

- When the total population is small, it is normal to collect data about each member of the population.
- It is important to ensure that your **sample is not biased** and is representative of the population from which it is drawn.

For example: An analytical survey to investigate customer's views on service quality and test relationships between certain variables

EXAMPLE OF SURVEY METHOD



Methodologies associated with interpretivism

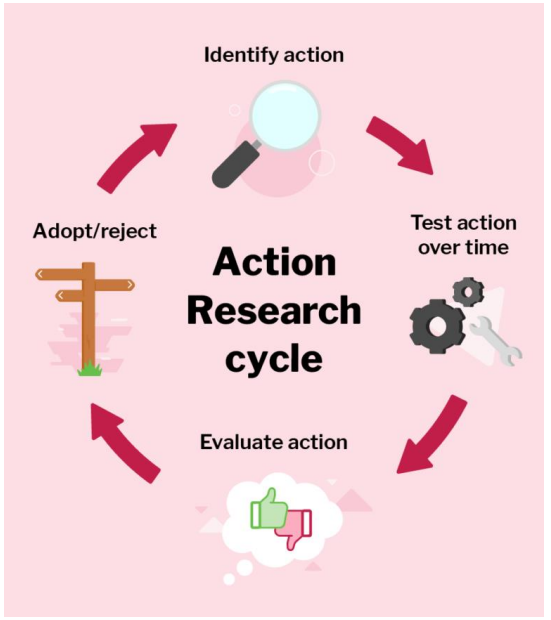
Diversity and equality studies are based on a number of different perspectives on social stratification, and focus on equal rights and treatment for all groups of people in society, for example

- Ethnicity studies are used to investigate the experiences of ethnic groups in society
- Gender studies are used to investigate the experiences of men and women in society
- Feminist studies are used to investigate and seek understanding of phenomena from a feminist perspective where the focus is on the role of women in society vis à vis men

Phenomenological methodologies

1) Action research

- It is an approach which assumes that the **social world is constantly changing**, and the researcher and the research itself are part of this change.
- The main aim of action research is to enter into a situation, attempt to bring about change and to monitor the results.
- The close collaboration required between the researcher and the client company poses a number of problems.



For example: A study aimed at improving communications between management and staff in a particular firm

Phenomenological methodologies

Sample Action Research Project

Research Question

- How do differences in grading policy (and not differences in student performance) influence student failure rates?

Method

- Faculty will examine identical student academic performance and provide a grade.

Analysis

- Similarities indicate consistency and fairness; dissimilarities indicate differences based on faculty decisions, not student performance.
- **Complete Learning Activity**

Type of data	Collection method	Competence it reflects	Operationalization
Research diary	Teacher-researchers' reflections; student remarks	Social competence	Overall effectivity or the learning unit.
Classroom action observations	Photos (by teacher)	Social competence; Entrepreneurial competence	Students working methods, process overview.
Student art journals	Photographed art journals	Entrepreneurial competence; Self-management competence	Students planning for the artworks, goal setting, reflective assignments, artistic skill development.
Student artworks	Photographed artworks	Entrepreneurial competence; Self-management competence	Student ideas and emotions and effort levels.

Phenomenological methodologies

2) Case study

- A case study is an extensive examination of a single instance of a phenomenon of interest and is an example of a phenomenological methodology.
- The importance of the **context** is essential
- Eisenhardt (1989) refers to the case study as ‘a research study which focuses on understanding the dynamics present within **single setting**’ (Eisenhardt, 1989, p. 534).

Phenomenological methodologies

2) Case study

- Yin (1994) identifies the following characteristics of case study research:
- The research aims not only to explore certain phenomena, but to understand them within a **particular context**
- The research does not commence with a set of questions and notions about the limits within which the study will take place
- The research uses multiple methods for collecting data which may be **both qualitative and quantitative**
- **The case may be a particular business, group of workers, event, process, person or other phenomenon**

According to Yin (2014), case study research is the preferred method if

1) Main research questions are ‘how ‘or ‘why’ questions
2) Researcher has little/no control over behavioural events
3) Focus of the study is a contemporary phenomenon

Example

Study 2: Semi-structured interviews

The results of our survey data support most of our hypotheses. However, a major limitation of this survey study is that it examines only the correlations between CEO temporal focus and succession planning, so we cannot determine the psychological processes involved. To check the robustness of the results of Study 1 and better understand the psychological processes involved in the relationship between CEO temporal focus and succession planning, we conducted semi-structured interviews. A qualitative research design was particularly appropriate for our research objective given the lack of studies and mechanisms to explain the relationship between CEO temporal focus and succession planning based on our focus on the "how" and "why" questions (Yin, 1994). To better understand under what conditions our survey results hold, we

Phenomenological methodologies

3)Ethnography

- Ethnography is a phenomenological methodology which stems from anthropology. Anthropology is the study of people, especially of their societies and customs.
- Ethnography is an approach in which the researcher uses socially acquired and shared knowledge to understand the **observed patterns** of **human activity**.
- The main method of collecting data is **participant observation** where the researcher becomes a full working member of the group being studied.
- Involves direct participation in the activities taking place and normally takes place over a long period of time
- Provides a full or partial description of a group of people, generally through participant observation (see in a natural setting

Ethnography Research Example

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Volunteer tourists as scientifically aware environmental citizens: citizen science within an Australian non-governmental organization

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ABSTRACT

It has been suggested that volunteer tourists (voluntourists) contribute to society in a variety of ways, although enthusiasm for such voluntourism is often tempered with an awareness of potentially less positive impacts. This article focuses on citizen-science conducted by voluntourists in an Australian conservation park, showing that such voluntourist-conducted conservation research is valued by participants, though challenges are identified, not least regarding the differing perceptions and expectations of the tours on offer. This is also potentially complicated by the often overlapping volunteer, tourist and researcher experiences, activities and identities. This study introduces a tentative typology of citizen-science activities that emerged during ethnographic fieldwork to help explore the voluntourists' engagement with citizen-science projects and their implications for broader citizenship awareness and behaviour.

KEYWORDS

Citizen science; citizenship; conservation research; voluntourism

Introduction

At a time of dramatic growth in the non-profit sector and increasing competition for volunteers (Randle and Dolnicar 2015), volunteer tourism (voluntourism) is often seen as a '"poster-child" for alternative tourism' (Lyons and Wearing 2008, 6), offering a 'more responsible' approach to travel (Andereck et al. 2012, 131) and an attractive form of volunteering, combining tourist and volunteer activities. It offers authenticity and sustainability within an industry (tourism) often seen as environmentally damaging (Carter et al. 2015). Voluntourism itself is not immune to criticism if organisations privilege voluntourists above host communities (the 'voluntoured') (McGehee 2012, 93), reduce local employment opportunities, commodify the volunteer experience (Wearing and McGehee 2013, 124) or exaggerate its benefits (Lyons et al. 2012). However, the types and resultant impacts of voluntourism are so varied that both criticisms and benefits are easily overgeneralised. This article investigates one particularly under-researched context, the role of voluntourism in conservation research.

This article draws from an ethnography of an Australian conservation organisation, Environment Protection Volunteers (EPV),[1] whose voluntourism activities contribute

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voluntourists and other stakeholders engaged on conservation-oriented research projects in an Australian conservation park, especially in relation to the potential relationship between citizen-science and active and environmental aspects of citizenship.

Methods

Ethnographic fieldwork was conducted for three years, investigating voluntourists' experiences with citizen science and the nature of scientific citizenship. This fieldwork involved participant observation of multiple projects ranging from one to five days in length. Participant observation requires direct engagement with activities and individuals, observing and participating in projects and interviewing participants to elicit personal accounts of the experience. This is similar to Grimm and Needham's (2012) fieldwork investigating a single reserve over a nine-week period, Pegg, Patterson, and Matsumotoa's (2012) study spanning two volunteer groups over two weeks and Harrison's (2007) two short fieldwork visits investigating eco-tourism in the Trinidadian village that he had researched more fully, 30 years earlier. Relatively short-term fieldwork could represent a methodological limitation, diluting the longer-term immersion normally associated with ethnography. However, the intensity of fieldwork over multiple project-tours, where participants live together 24 hours a day, enables an intensely immersive level of participation akin to fieldwork conducted 'part-time, discontinuously' (Smith 2007, 227). This also enabled the fieldworker to observe diverse groups of volunteers and team leaders, contributing to a robust sample.

The participant observation included innumerable interactions with participants, akin to informal unstructured interviews. The participants conducted research into the flora and fauna of an Australian conservation park (anonymised as Lyme Park). Table 1 provides an overview of the fieldwork, participants and interviewees. One-day projects also qualify as voluntours, as these included international residential volunteers (longer-term voluntourists) who could contribute over several weeks and multiple projects. All projects include one EPV team leader; any other participating EPV personnel are included in the table as 'O' or observers.

During the fieldwork, various EPV employees and voluntourists were interviewed more formally, as also shown in Table 1. Interviews were semi-structured, framed around questions about participants' experiences on particular projects. These were conducted both individually and in groups. The latter proved particularly valuable when discussing shared experiences from the day's volunteering (and leisure). There was also a more pragmatic rationale when it proved challenging to arrange post-project interviews. Some individuals participated in more than one project and/or type of interview. For example, Paul, an English visitor, participated in two trips to Lyme Park and volunteered at other EPV sites, while Sue, an international student-volunteer, participated in three weekend and two one-day Lyme Park projects during her two-month stay with EPV. In total, 57 volunteers (45 as a part of a group interview and 12 individually) and 10 employees were interviewed formally, although some did participate more than once (e.g. individually and as part of a group or within more than one group interview), so these numbers do not quite match the totals given in Table 2.

Ethnographic analysis requires rigorous, reflexive fieldwork records, informed by both fieldworker observations and participant voice. Interviews were transcribed and coded by

Phenomenological methodologies

3)Ground theory

- Grounded theory is ‘but one of the interpretive methods that share the common philosophy of phenomenology – that is, methods that are used to describe the world of the person or persons under study’ (Stern, 1994, p. 273).
- The methodology was conceived by Glaser and Strauss (1967) in the medical field, but has now been developed in many disciplines.
- The theoretical framework is developed by the researcher alternating between **inductive** and **deductive** thought.

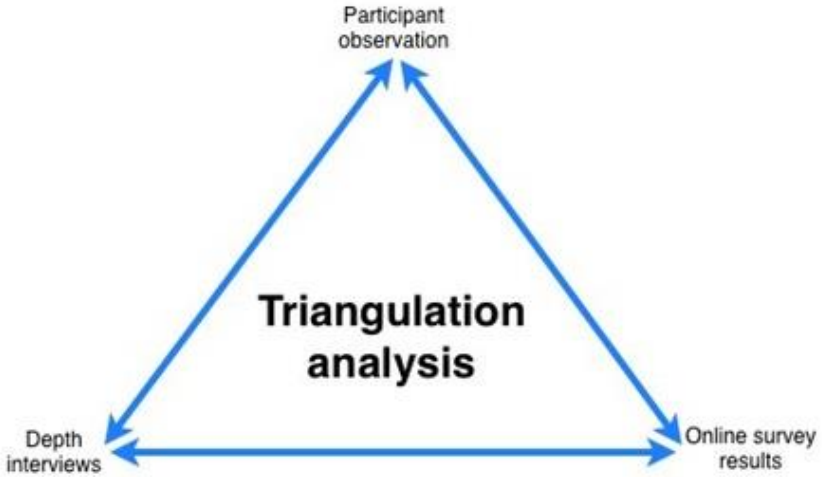
Phenomenological methodologies

3)Ground theory

- The overall features of grounded theory have been summarised by Silverman (1993, p. 46) into the following three stages:
    - 1) an initial attempt to develop categories which illuminate the data
    - 2) an attempt to ‘saturate’ these categories with many appropriate cases in order to demonstrate their importance
    - 3) developing these categories into more general analytic frameworks with relevance outside the setting.

Triangulation

- **Triangulation** is the use of multiple sources of data, different research methods and/or more than one researcher to investigate the same phenomena in a study
  - Term comes from surveying where several reference points are taken to check the location of an object
- Can reduce bias in data sources, methods and investigators (see Jick, 1979)



Main types of triangulation

- Triangulation of theories – A theory is taken from one discipline (eg psychology) and used to explain a phenomenon in another (eg marketing)
- Data triangulation – Data are collected at different times or from different sources in the same study
- Investigator triangulation – Different researchers independently collect data on the same phenomenon and compare the results
    - Can lead to greater validity and reliability if all the researchers reach the same conclusions (Denzin, 1978)
- Methodological triangulation – More than one method (from the same paradigm) is used to collect and/or analyse the data

(Easterby-Smith, Thorpe and Jackson, 2012)

Jargon alert

- It is important to draw a distinction between multiple methods and mixed methods research
- Use multiple methods to refer to the use of more than one method drawn from the *same paradigm* (as in methodological triangulation)
- Use mixed methods to refer to the use of more than one method drawn from *different paradigms* to collect, analyse and integrate qualitative and quantitative data in the same study (as advocated in pragmatism)

Example: Justifying your research design

- The manager of the firm in the previous scenario wants to commission the research and has confirmed that you will have access to the sources of data you need for either study
  - Positivism – Statistical analysis of secondary data (internal records) and primary data (staff questionnaire)
  - Interpretivism – Thematic analysis of primary data (semi-structured interviews with staff)
- In pairs, jot down the advantages and disadvantages of each of the proposed studies and make a recommendation

A research design example

- Topic: Gender issues in employment
- Research problem: Effect of the new career-break scheme in Firm A on the recruitment and retention of skilled staff
- Research question: How has the new career-break scheme contributed to employment in Firm A?
- Methodology: Case study
  - Positivism – Statistical analysis of secondary data (internal records) and primary data (staff questionnaire)
  - Interpretivism – Thematic analysis of primary data (semi-structured interviews with staff)

Examples of a cohesive research design

- Choose a methodology and methods that reflect your paradigm and enable you to answer your research questions

Research design	Positivism	Interpretivism
Methodology:	Survey	Case study
Sampling method:	Stratified random sample	Convenience sample
Method of data collection:	Self-completion questionnaire or content analysis	Semi-structured, face-to-face interviews
Method of data analysis:	Statistics to test hypotheses	Thematic analysis of interview transcripts

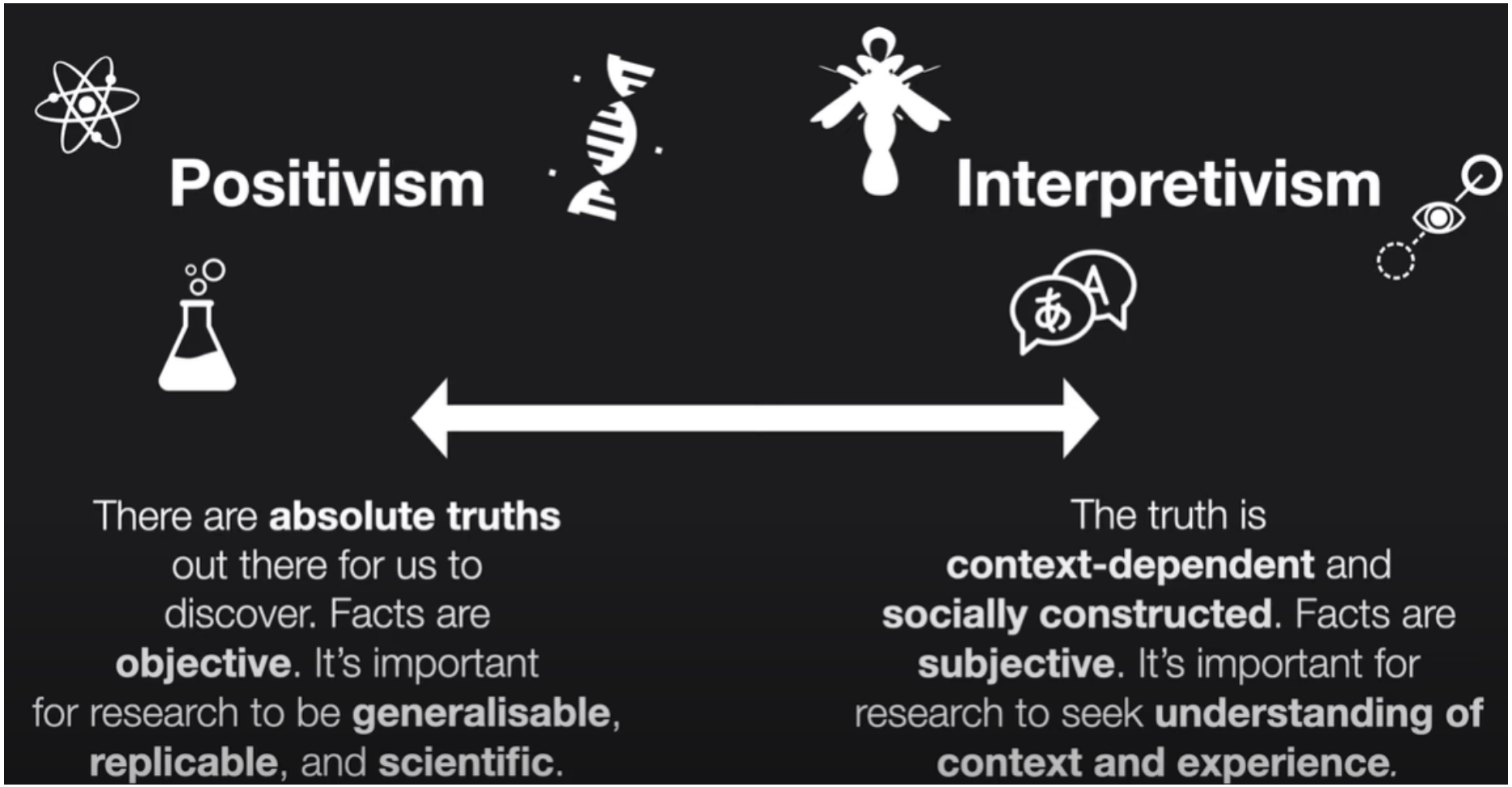
Summary

Identifying your paradigm at an early stage is important because it guides how your research should be conducted. This will lead you to a range of associated methods for collecting and analysing research data

Today, the two main paradigms can be loosely labelled as positivism and interpretivism

> They lie at the extremities of a continuum of paradigms, each based on different philosophical assumptions about reality and the nature of knowledge

REVIEW VIDEO



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