

The psychological environment

A2

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Read first: [Research methods](#), [The physical environment](#)

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What you need to know

This is the second Consumer psychology topic (Papers 3 and 4). It covers how shoppers find their way and move round shops, how a menu steers what diners order, and how people react when others come too close. You should be able to describe and evaluate:

1. **Wayfinding in shopping malls:** what helps shoppers find their way, such as **signs** and **you-are-here maps**, with a study such as **Dogu and Erkip (2000)**.
2. **Shopper spatial movement:** the four **types of trip** (**short, round, central, wave**), the five **spatial behaviour patterns** (**specialist, native, tourist, explorer, raider**), and how **CCTV tracking** is used to study them, with a study such as **Gil et al. (2009)**.
3. **Menu design:** features of a menu that help or harm it, and ways to study menus, including **eye-tracking**, with a source such as **Pavesic (2005)**.
4. **Primacy, recency and position:** how where an item sits on a menu changes how often it is chosen, with a study such as **Dayan and Bar-Hillel (2011)**.
5. **Food names:** how what a dish is called changes how often it is chosen, with a study such as **Lockyer (2006)**.
6. **Personal space at restaurant tables:** **Hall's four zones**, and the functions of personal space (**overload, arousal and behaviour constraint**), through the key study **Robson et al. (2011)** on table spacing.
7. **Defending a place in a queue:** the **nature** and **number of intrusions**, the **social structure** of a queue and how people in it **respond**, with a study such as **Milgram et al. (1986)**.
8. **The issues the syllabus names** for these areas: reductionism versus holism, idiographic versus nomothetic, questionnaires, generalisations from findings, reliability, application to everyday life, field experiments, objective and subjective data, validity, individual and situational explanations, cultural differences, observations, quantitative and qualitative data, and ethics.

Studies marked "such as" are examples, so another suitable study is credited; Robson et al. is the one **key study**, so learn it in full. Questions before 2024 also asked about **cognitive maps** and **crowding**, summarised at the end of "Understand it".

Understand it

Wayfinding in shopping malls

Wayfinding means working out where you are, picking a route to where you want to be, and following it. If shoppers cannot find a shop, they cannot buy from it.

What helps:

- **A you-are-here map.** A marker shows the spot where the reader is standing. The shopper matches the marker to their own position, then traces a path from it to the shop they are looking for. Without the marker, a map shows where the shops are but not how to reach them from here.
- **Where the map goes:** somewhere easy to see and reach, such as the entrance most people use.
- **What is on the map:** shops numbered, or coloured by type, and **landmarks** such as a fountain or the food court, so the map links to things the shopper can see. A **directory** of shops and cafés next to the map.
- **Signage** around the mall.

The study. The syllabus gives **Dogu and Erkip (2000)** as an example of a wayfinding study in a shopping mall. No past paper has yet asked about its details. The one wayfinding question so far (March 2026) asked for map features and why each helps, so know the features above and be able to say **how** each one makes the route easier to plan or follow.

Evaluating wayfinding research: **questionnaires** reach many shoppers, but people may not admit getting lost. One mall may not **generalise** to others, and answers may change from day to day (**reliability**). Testing one feature at a time is **reductionist**, and rules for most shoppers (**nomothetic**) can miss a first-time visitor's needs (**idiographic**).

Shopper movement patterns: Gil et al. (2009)

Aim: to find out how shoppers move round a supermarket, and whether they fall into distinct types.

Method: 480 shoppers in a **UK** supermarket took part. On entering, each was interviewed briefly, gave personal details and agreed to be tracked. Each was given a **coloured tag** so researchers could follow them on **CCTV**. On leaving, each had a longer **face-to-face, structured** interview about this trip (its purpose, use of a shopping list, satisfaction, money spent) and their usual habits, such as how often they come. The recordings gave trip length, walking speed, time spent with products, which parts of the store were visited, how far in people went, and the share of sections visited more than once.

Four types of trip (the **route** through the store):

Trip	Route
Short	a brief visit to only a small part of the store
Round	begins in the top corridor and the aisles off it (fresh produce and bread are met first), then returns via the main corridor, dipping into some aisles; tends to leave near the produce section

Trip	Route
Central	uses the main corridor as a spine, in and back out, turning into aisles from it: mostly the top aisles going in and the bottom aisles coming back
Wave	works through the store in one direction along the main corridor, weaving in and out of the aisles in turn; most leave at the far end

Five spatial behaviour patterns (the kind of **shopper**):

Shopper	How they behave
Specialist	targets a handful of items and lingers over them, without necessarily buying; typical of topping up or buying non-food goods
Native	a lengthy visit confined to the sections relevant to them , generally followed by buying
Tourist	a quick visit that keeps near the way in , with buying in mind
Explorer	the most extensive trips: unhurried, covers every aisle , returns to areas already seen, handles products at length and spends heavily
Raider	in and out at speed , choosing at a glance, such as grabbing what is needed for this evening's meal

Of the explorers, **82%** were on a main shopping trip, **62%** were women shopping alone and **87%** used a trolley. Men were more likely to be raiders. The researchers did not find any type of person who made one trip type more than the others.

Keep the two lists apart. **Trip types** describe the **route**; **behaviour patterns** describe the **shopper**. When a question asks for one, the other earns no marks.

Conclusion and use: shoppers fall into fairly predictable types, so a store can plan its layout and where products go around the routes people take.

Evaluating it:

- **CCTV: objective** recordings that more than one observer can code (**reliability**). But fixed cameras miss shoppers who move out of shot, and show **what** people did, not **why**; the exit interview filled that gap.
- **Interviews:** structured questions let all 480 be compared, but answers about spending may reflect **social desirability**.
- **Ethics: consent** to tracking on entry, the chance to **withdraw** at the exit interview, and **no deception**.
- **Generalisations and reliability:** one supermarket in one Western country; where people shop at markets, movement may differ. The same person may be a raider on a quick trip and an explorer on a weekly shop, and five boxes simplify shoppers who mix types (**reductionism**).

Menu design: what helps and what harms

A menu carries the restaurant's **image**, should suit its décor and style, and can steer diners towards the dishes it makes **best** or earns **most** from.

Pavesic (2005) is a **review** of menu design advice, not an experiment with results:

- Diners **scan** a menu rather than reading it from start to finish, spending about **109 seconds** on it on average.
- **Eye magnets** are anything that pulls the eye to an item: a **box** round it, a different **font, colour** or size, bold print, a picture. Used on a few items, they get those items noticed, and so ordered; items not worth pushing can be played down.
- **Main courses first**, since most diners order one.
- **Common mistakes**: menus that are **hard to read** (small or fancy fonts, dark ink on dark paper), **crowded** pages, too much attention on **prices**, a **monotonous** layout and menus **too big** to handle.

Eye-tracking records where a diner's eyes stop, for how long and in what order (the scan path). It is **objective, quantitative** and precise. But looking at a dish is not **choosing** it, and it gives no **reasons**, so an interview (**qualitative** data) is often added.

Primacy, recency and menu position: Dayan and Bar-Hillel (2011)

Primacy means items at the **start** of a list are noticed and remembered best; **recency** means the same for items at the **end**. On a menu, a dish may be ordered just because it is **first** (or **last**) in its section.

Aim: to see whether **position** on a menu changes what people order. The authors point out that this could steer diners towards **healthier** choices.

Study 1 (laboratory study)

- **Sample**: **240** students at the **Hebrew University** in Jerusalem, aged **19–35**, **52%** female and **48%** male, recruited one by one around the campus (an **opportunity** sample).
- **Procedure**: each chose what they would order from a menu split into categories. The **same** items appeared in **four orders**, and each participant was **randomly allocated** to one:
 - **Baseline**: a starting order picked arbitrarily.
 - **Mirror**: the baseline turned upside down within each category.
 - **Inside-out base**: split each category of the baseline into an upper and a lower half, and flip the order inside each half. Middle items now sit at the ends, and end items move to the middle.
 - **Inside-out mirror**: the same flip applied to the mirror menu.

Position	Baseline	Mirror	Inside-out base	Inside-out mirror
1	A	F	C	D
2	B	E	B	E
3	C	D	A	F
4	D	C	F	A
5	E	B	E	B
6	F	A	D	C

 edge position (start or end of the list)

- **Results:** items at the **start or end** of their category had about a **56%** advantage over the same items in the middle, even **unpopular** items (about **54%**). The top was not favoured over the bottom: what mattered was being at an **edge**.

Study 2 (field experiment)

- **Setting:** a small **café in Tel Aviv** whose customers were mainly students and young professionals.
- **IV:** the café's own **base** menu or an **inside-out** version, switched over **15 days**, for twenty items in **three categories** (alcoholic coffee drinks, soft drinks, desserts). One older mark scheme gives the length as 30 days.
- **DV:** how often each item was ordered, recorded by the **waiters: 459** from the base menu and **492** from the inside-out menu.
- **Results:** an item at the **start or end** of its category was up to **twice** as popular as in the middle, supporting Study 1. A move from the exact middle to an end gave about a **55%** gain, but a move from next to the middle to next to an end only about **51%**, which was not significant. Items also gained in the **top half** of a category (about **59%**).

Application: put **healthier** items at the **top and bottom** of each category. The studies counted **which items** were chosen; they did **not** measure spending.

Evaluating it: Study 1 was artificial (nothing to eat or pay for), so **ecological validity** is low; Study 2 used real customers unaware of the study, so it is high, and the two agree. Study 1 participants were unlikely to guess the aim was **position** (few **demand characteristics**). Only the order changed, with **random allocation**. Waiters recorded orders (less bias): **objective, quantitative**, but no reasons. **Generalisations:** young students and one Israeli café.

Food names: Lockyer (2006)

Names can appeal to the **senses** ("crisp", "slow-roasted"), a **place** ("Sicilian") or **nostalgia** ("Grandma's"). **Wansink et al. (2005)**, a **six-week** study in a cafeteria with **140** customers, found the **same** dish got more positive comments and was rated more appealing, tastier and higher in calories with a descriptive name than with a plain one.

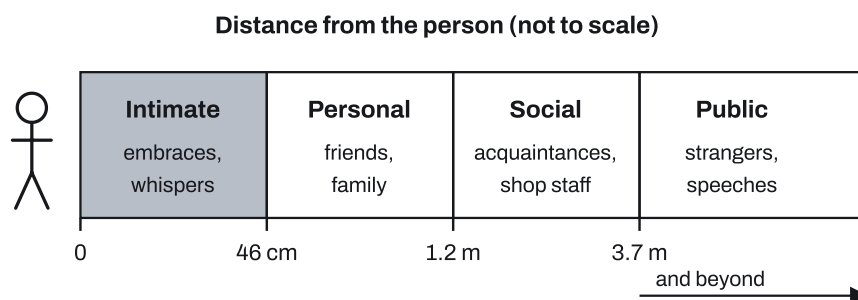
Lockyer (2006)

- **Aim:** how the **wording** of menu items affects which items people choose.
- **Part 1:** **four** focus groups (**48** self-selected participants) in **Hamilton, New Zealand** discussed **five** menus with **identical items** worded in different styles, including **French**, **seasonal** and **elaborate**, and what they would choose for four occasions (a romantic meal, a business meal, a meal with a mother-in-law, a family reunion). The talk was analysed by computer **content analysis**.
- **Part 2:** a survey built from the focus group findings was handed out at random locally; **200** people rated how **appealing** each item was (closed questions) and said **why** (open questions).
- **Results:** large **individual differences**. The **seasonal** menu appealed most and the **French** menu least; the **occasion** changed choices; people wanted dishes they **would not cook at home**; words such as **tender**, **golden** and **natural** had a "**mouth-watering**" pull. The survey group preferred the **elaborate** menu ("delicious", "flavourful").

Evaluating it: the survey checked the focus group findings (**validity**) and mixed **qualitative** reasons with **quantitative** ratings. But both are **self-report**, open to **social desirability**; a **field experiment** would count real orders. Ratings are fairly objective; focus group talk is **subjective**. One city and more women than men limit **generalisations**. It is easy to **apply**, though it could **exploit** customers.

Personal space and Hall's four zones

Personal space is the area round your body that you treat as your own; when someone you do not know well comes inside it, you feel uncomfortable. **Hall** described four zones:



Zone	Distance	Used for
Intimate	0 to about 46 cm (18 inches)	touching, embracing, whispering; very close relationships
Personal	about 46 cm to 1.2 m (18 inches to 4 feet)	talking with family and close friends
Social	about 1.2 m to 3.7 m (4 to 12 feet)	acquaintances, business, shop staff
Public	about 3.7 m (12 feet) and beyond	strangers; public speaking

At restaurant tables: diners expect strangers at the next table to stay at **social** distance or further. When tables are pushed close, the next diners are inside the **personal** zone, kept for friends and family, so diners feel overheard and watched even though nobody touches anyone.

Three functions of personal space (and what goes wrong when it is invaded):

- **Overload:** keeping people at a distance limits how much **information** we have to deal with. A stranger close by brings voice, smell, movement and perhaps touch that we cannot shut out. Shops already demand a lot of attention (products, prices, finding the way), so shoppers keep their distance from others; too much input, with no control over it, causes **stress**.
- **Arousal:** someone too close raises our **arousal** (alertness, heart rate), and the **situation** decides how it feels: exciting at a party, unpleasant when a stranger is close during a quiet dinner for two. A salesperson who stands too close can annoy a customer into walking out without buying.
- **Behaviour constraint:** when others crowd in, we lose **control** over what we can do: browse, reach the shelves, move on, talk privately. People may get it back by leaving, or by becoming **aggressive**, as at a crowded sale. A diner who cannot move away from a close neighbour may feel resentful.

The key study: Robson et al. (2011), consumers' responses to table spacing

Aim: to find out how comfortable people would feel at tables set different distances from the next table, whether this depends on the kind of meal, and whether they would accept the table or ask to move.

Method: a **web-based (online) questionnaire**, **not** done in a restaurant and **not** a field experiment. Independent measures, with **random allocation** to conditions.

Sample: **1013** adults in the **USA** who volunteered online: **461** men, **537** women and **15** who did not give their gender; about **81%** white, with a wide age range and a mix of rural, suburban and urban homes.

The questionnaire had two parts:

1. **About the participant:** age, gender, ethnicity, where they lived, **how often they eat out**, and whether they had ever **worked in a restaurant**.
2. **Reactions to one table setting:** a picture of **tables for two** set **6, 12 or 24 inches** apart (about 15, 30 or 60 cm), imagined for one of **three occasions**: a **romantic** meal, a meal with a **friend**, or a **business** lunch. That is $3 \times 3 = 9$ conditions, one per participant. They rated **32 statements** on their feelings, intentions and expected behaviour at that table.

The rating scale: a **Likert-type scale** from **1 (strongly disagree)** to **7 (strongly agree)**, with "neither agree nor disagree" in the middle. Stress was measured with items from the **Stress Arousal Checklist**.

Examples of the statements:

- Sitting at this table, I would ... **be overheard** by other diners; **disturb the next table if I had to get up**; **feel like I was being watched**; **feel exposed**; **feel like a VIP**; **feel like the restaurant cares about me**; **have the kind of experience I want**; **have an exciting meal experience**.
- Sitting at this table would make me feel ... **crowded**, **comfortable**, **contented**, **tense**, **uptight**, **worried**, **distressed**, **in control**, **lively**, **passive**.
- **It would be fine with me if I sat at this table.**
- **If the host showed me to this table, I would ask to sit somewhere else.**

Results:

- At **6 inches**, people expected to feel more **crowded**, have **less privacy**, be more **dissatisfied** with the table and have a **less positive** meal; they worried about being **overheard** and **disturbing** the next table.
- **The occasion mattered**: the **romantic** meal gave the strongest reactions at 6 inches (most **stress** and discomfort, least **control**), a meal with a **friend** came next, and the **business** lunch was hardly affected apart from feeling **less comfortable** at 6 inches.
- **Gender and age**: **women** reported more discomfort and stress and less control than men, and women and people **over 50** were the most uncomfortable at 6 inches. Men reported more **arousal** than women at all three distances.

Conclusion: diners feel negative about closely spaced tables (uncomfortable, crowded, less positive about the restaurant), especially on a romantic occasion. In theory terms, the next diners are inside the **personal** zone: being overheard and watched is **overload**, feeling tense is unpleasant **arousal**, and being unable to get up or talk freely is **behaviour constraint**.

Evaluating it:

- **Self-report**: online, over 1000 people answered easily, perhaps more honestly with no researcher present. But what people **say** they would feel may not match what they **do** (many eat happily at crowded tables if the food is good and cheap), 32 statements may tire people, and some were vague ("an exciting meal experience").
- **Rating scales**: fixed answers are quick and easy to compare, and 7 points allow finer shades of opinion than 3 or 5. But the neutral middle lets people **opt out**, and a number cannot say **why** someone felt watched: only **quantitative** data were collected.
- **Ecological validity**: participants **imagined** a meal from a picture, with no real noise, smells or neighbours.
- **Sample and cultural differences**: large and varied, but all American, mostly white, and only internet users who volunteered. Hall said the **distances** vary between cultures, but the zones themselves exist everywhere; where people often sit close together to eat, 6 inches might feel normal, though business diners may still want room.
- **Individual and situational explanations**: the **situation** (distance, occasion) mattered, but so did **individual** factors (gender, age).
- **Ethics**: volunteers, confidential, nobody crowded. **Application**: wider gaps for couples.

Defending a place in a queue: Milgram et al. (1986)

A queue has a **social structure**: the people in it share the understanding that order of arrival decides order of service, and each place belongs to whoever holds it. Pushing in breaks that rule, so a queue works like a small **social system** that its members defend.

Method: a **field experiment** on **129** naturally occurring queues in **New York City**, at places such as a train station and betting shops.

- **Nature of the intrusion**: a confederate pushed in between the **third and fourth** person.
- **Number of intrusions**: **one** intruder, or **two**.

- **Buffers**: in some conditions another confederate, posing as an ordinary queuer, stood between the intruder and the real queuers.
- **Observers** coded the queuers' reactions and noted anything said to the intruders or buffers.

Results: **physical** objections happened **10%** of the time, **verbal** ones **21.7%** and **non-verbal** ones **14.7%**. **Two** intruders provoked more reaction than **one**, and **buffers** reduced it.

Conclusion: queues behave as social systems. Who reacts depends on position: the people standing just behind the spot where the intruder cut in, who lose out directly, are the ones most likely to object.

Evaluating it: **ethics** is the main debate: no consent, deception and stress, against brief, small harm in an everyday event and a possible debrief. Real queues give high **ecological validity** but little control.

Observations were coded into categories (a second observer would check **reliability**); percentages are **quantitative**, what queuers said adds **qualitative** detail. One city's queuing norms may not suit other **cultures**. Buffers and intruder numbers are **situational**; confidence is **individual**.

Older syllabus content (2021–2023 questions only)

- **Cognitive maps of retail locations** (no longer on the syllabus): a **cognitive map** is a mental picture of where places are. **Mackay and Olshavsky (1975)** took **78** shoppers from **8** supermarkets in **Indiana, USA**, asked which supermarkets they preferred and why, and had them draw a map from their **departure point** to each one. Preferences matched their **cognitive maps** rather than the real map.
- **Crowding in retail environments**: now in the physical environment topic.

Key facts and formulas

There is no formula list in the 9990 exam. "Learn it" means you must remember it.

Fact	Status
Wayfinding aids: you-are-here map, map at the main entrance, landmarks, directory, signage, numbered or colour-coded shops	Learn it
Gil et al. (2009): 480 shoppers, UK supermarket, coloured tags, CCTV, entry and exit interviews	Learn it
Trip types (route): short, round, central, wave. Behaviour patterns (shopper): specialist, native, tourist, explorer, raider	Learn it
Pavesic (2005): review; eye magnets; about 109 seconds on a menu	Learn it
Primacy = start of a list; recency = end of a list	Learn it
Dayan and Bar-Hillel (2011): 240 students, 4 menu orders; Tel Aviv café, 15 days; edges up to twice as popular	Learn it

Fact	Status
Lockyer (2006): Hamilton NZ; 4 focus groups (48), 5 menus, survey of 200; seasonal best, French worst	Learn it
Hall's zones: intimate 0–46 cm, personal 46 cm–1.2 m, social 1.2–3.7 m, public 3.7 m+	Learn it
Overload (too much information), arousal (alertness, good or bad by situation), behaviour constraint (loss of freedom)	Learn it
Robson et al. (2011): online, 1013 US adults; 6, 12, 24 inches × 3 occasions = 9 conditions; 32 statements, 1–7 scale	Learn it
Milgram et al. (1986): 129 New York queues; intrusion between 3rd and 4th person; 2 intruders up, buffers down	Learn it

How to do it

We have tagged 43 questions on this topic, from 2021 to 2026 (Papers 3 and 4; 30 different questions, as variants repeat them). 16 of them have parts of more than one type, so the counts add up to 63.

Question type	Questions
Evaluate a method or explain a problem with the research	16
Recall details of a named study	11
Describe and evaluate an area or key study (essay)	9
Plan or design a study	9
Apply the topic to a scenario	7
"To what extent do you agree" essay	6
Outline a concept	5

1. Evaluate a method or explain a problem with the research (16 questions)

Usually 2 marks a point: state the point (1), then apply it to the study or context (1). A point that never mentions shoppers, diners or queuers earns 1 at most. Take the points from the evaluations under each study above.

- **"Explain one problem psychologists may have when investigating ..."** (2 marks):
 - *Personal space*: it is hard to know the **real reason** a customer acted (leaving a crowded store may be escaping the crowd, or just having somewhere to be). Reactions are often **unconscious**, so customers cannot report them. Zone sizes differ (**individual differences**).
 - *Spatial patterns*: shoppers who know they are watched may change their behaviour (**demand characteristics**). One shopper may show **several types**, or a different type in another store, so findings may not be representative. Observing without **consent** is an ethical problem.

- *Food names*: findings from one restaurant or culture may not **generalise**. With **repeated measures**, diners who see both names may guess the aim. A **laboratory** rating is not the same as ordering. Using names to push sales may **exploit** customers.
- **Laboratory studies of menus**: control (same items and order) against artificiality (not hungry, no sight or smell of food) and demand characteristics.
- **Strengths or validity of Dayan and Bar-Hillel** (6 marks, levels): two points explained in detail, each with a detail from Study 1 or Study 2 (control, waiters recording orders, real customers, the studies agreeing; ecological and population validity).
- **"Discuss ... with a conclusion"** (5 marks): two strengths and two weaknesses about this topic (CCTV of shoppers, laboratory studies of menu order), 1 mark each, then a **conclusion** that **decides** something, for example "CCTV is still the best way to record routes, as long as interviews supply the reasons". A summary of your points scores 0.
- **Another way to collect table-spacing data**: an **observation** with **behavioural categories** (leaning away, talking quietly, eating quickly, asking to move) at tables set at different distances; or an **interview** or questionnaire with open questions about the spacing. "Do an observation" alone scores 0: say **how**.
- **Inside Gil et al.**: an **ethical guideline** (consent, withdrawal, no deception); a **feature of the interviews** (**face-to-face**; **structured**) and its strength here (shoppers' answers can be compared; non-verbal cues noticed). "Unstructured" scores 0.
- **Dayan and Bar-Hillel's sample: opportunity** (recruited around the campus); strengths 240 people and a near-equal gender split, weaknesses only students aged 19–35. **Random allocation**: an equal chance of any of the four menu orders (name them for the second mark), spreading tastes across them.

2. Recall details of a named study (11 questions)

Exact details from the study sections above earn the marks.

- **Robson et al.**: the **two parts** of the questionnaire, 2 marks each when described fully; **statements** written as phrases ("I would feel exposed", not just "exposed"); the **scale** (Likert-type, 1–7, strongly disagree to strongly agree).
- **Dayan and Bar-Hillel**: the **four orders**. For **Study 2**: the location and sample (1), the procedure, including **how long it ran**, the two menus and the DV (2), and a **result** (1). Full marks need the result; the aim earns nothing. For "two results", give one from each study, with percentages if you know them.
- **Gil et al.**: "other than short trip" wants round, central or wave, each with its route for the extra marks. Use Gil, not another study.

3. Describe and evaluate an area or key study (essay) (9 questions)

Paper 3 Section B: (a) **describe** [6] (8 before 2024), then (b) **evaluate** [10] with a **named issue**.

1. **(a)**: cover **every** bullet in the question; describing only one of two caps (a) at 4.
 - *Personal space*: Hall's four zones, **linked to restaurant tables** (needed for the top level), the three functions, and Robson et al. briefly.

- *Menu design*: positive and negative features, eye-tracking and eye magnets (Pavesic), plus food names (Lockyer).
 - *Robson et al. as the whole question*: aim, sample, the online questionnaire and its two parts, table spacings, occasions, results, conclusion. Calling it a field experiment caps the answer at 5.
2. **(b)**: go issue by issue, **named issue first** and in most depth (self-reports, cultural differences, generalisations, ecological validity). Back each point with evidence from (a) and say why it is a strength or a weakness; then reach a judgement.

4. Plan or design a study (9 questions)

Paper 4. Since 2024: (a) a plan [10] using a **set method** with **named features** (for example DV, type of data, sampling technique); (b)(i) the psychological knowledge behind it [4]; (b)(ii) how **two features** of that knowledge shaped your plan [4]; (c) a reason, a weakness and a reason for your named choices, 2 marks each (the point, then applied to **your** plan). Before 2024: a design [10] and its psychological **and** methodological evidence [8]; giving only one kind caps it at 5. The research-methods note lists each method's features.

1. **Use the method named**, with its own features. A **questionnaire**: postal, online or paper; open and closed questions with **examples**; how answers are scored; how many questions. No IV or DV. A **field experiment**: IV with its levels, an operationalised DV, the design, controls, a real setting.
2. **Cover every named feature** in detail, then the general ones: aim, sample, ethics, procedure, data and analysis.
3. **(b)(i)**: describe the study the plan rests on: **Lockyer** for food names, **Gil** for shopper types, **Dayan and Bar-Hillel** for position, **Pavesic** for eye magnets, **Robson** or the three functions for personal space.
4. **(b)(ii)**: name a feature of that study and say **how you used or changed it** ("Lockyer's descriptive words such as golden and tender became the wording of my descriptive menu").
5. **(c)**: reasons for **quantitative** data (easy to compare conditions) or **qualitative** data (reasons for a choice); weaknesses (numbers give no reasons; qualitative data must be interpreted); sampling (random: equal chance, but people may refuse; opportunity: quick, but researcher bias; volunteer: willing, but demand characteristics); a reason for the **DV** (dishes ordered, counted from the till, are objective and comparable). Always tie the point to the plan.

5. Apply the topic to a scenario (7 questions)

Paper 3, 2–4 marks a part. Give **separate suggestions**, each with what to do (1) and **why it works** here (1), drawn from a study or theory and aimed at the scenario's goal.

- **Map features for wayfinding**: a you-are-here marker, shops numbered or colour-coded, landmarks shown on the map, a directory beside it, the map at the main entrance. Building a new landmark is not a map feature. For the "why": the shopper can see where they are, so they can plan a route from there.
- **Diners at close tables** (from Robson): couples on a date feel crowded, overheard, stressed and less private, and are unlikely to come back. Business diners are hardly bothered: they still feel in control and not over-aroused. If you say business diners worry about being overheard, give the reason: their talk may be confidential. Use the distance in the question, and don't make both groups react the same way.

- **Classifying shoppers:** visits every aisle on a main shop = **explorer** (or native); a quick visit to a few aisles = **tourist** or **raider**. Then describe a clearly **different** type.
- **Selling one dish:** an **eye magnet** on it; put it **first or last** in its section; give it a **descriptive** name. General changes (a smaller menu, a new font) earn nothing unless you say why they sell **that** dish.

6. "To what extent do you agree" essay (6 questions)

Old Paper 4, 12 marks: argue **both sides** with named research, then give a **reasoned judgement**. Organise by side, not by retelling one study.

- **"Close tables always cause overload, arousal and behaviour constraint":** agree (personal zones invaded; Robson's 6-inch results). Disagree with "always" (some like closeness, business diners hardly affected, good food outweighs discomfort, culture).
- **"Shopper movement patterns are no use":** useful (Gil's predictable types guide layout and product placement). Limited (types change with trip and store, impulse buying, atmosphere, other countries).
- **"No need for qualitative data on menu position":** order counts and eye-tracking are objective and comparable; only qualitative data says **why**.
- **"Queue studies are unethical":** no consent, deception and stress, against little harm, a brief everyday event and a debrief.

7. Outline a concept (5 questions)

2 marks: the meaning (1), then linked to consumers (1). Full marks need the consumer link.

- **Primacy:** items at the start of a list are best remembered (1); diners order a dish simply because it is the first they see (1).
- **Overload:** personal space limits how much information we must handle (1); shops are full of things to attend to, so shoppers keep others at a distance to process less (1).
- **Behaviour constraint:** people crowding in stop us acting freely (1); a shopper cannot browse or reach products, and may leave or become aggressive (1).
- **Individual and situational explanations:** behaviour caused by the person's own traits or personality (1); behaviour caused by the setting they are in (1). "Situational means due to the situation" earns 0.
- **Why overload supports the situational side:** overload is stress from too much input when personal space is invaded (1), and that input (others' smell, noise, touch) comes from the setting, not from the person's personality (1).

Worked examples

Example 1

A mobile phone shop trains its sales staff to stand right beside each customer from the moment they walk in.

(a) Explain the difference between the **arousal** and **overload** explanations of personal space, using these customers as the example. [2]

(b) Explain **two** ways this staff behaviour could affect customers' shopping, using theories of personal space. [4]

(a) **Arousal** is about the body's reaction. The assistant standing inside the customer's personal zone makes them alert and tense, and with a stranger in a shop this feels unpleasant, so the customer becomes irritated (**B1**). **Overload** is about information. The assistant's voice and movements are extra input the customer cannot shut out while also weighing up phones and prices, so the stress comes from having too much to process (**B1**).

(b) **Behaviour constraint**: with an assistant at their elbow, customers lose the freedom to browse at their own pace or pick up phones to compare (**B1**), so many will cut the visit short and leave without buying, which defeats the shop's aim (**B1**).

Arousal: having a stranger so close feels unpleasant in a shop (**B1**), so the customer links that discomfort with this shop and is less likely to come back, even if they buy today (**B1**).

Example 2

A juice bar lists seven smoothies. Its new spinach-and-apple smoothie is fourth on the list, called "Green Smoothie", and sells badly.

(a) Using research into menu design, explain **two** reasons why the smoothie's current place on the list and its name are holding back its sales. [4]

(b) The owner plans to move and rename the smoothie, and to judge this only by counting its sales for one week before and one week after. Explain **one** problem with this. [2]

(a) **Position**: fourth of seven is the exact middle of the list, the weakest place (**B1**). Dayan and Bar-Hillel found items at the start or end of a category were chosen up to twice as often as the same items in the middle, so customers scanning the list tend to settle on a smoothie at either end before they notice this one (**B1**).

Name: "Green Smoothie" is plain and gives only its colour, not what is in it or how it tastes (**B1**). Lockyer found that descriptive words such as "tender" and "golden" made items more appealing, so a bare label gives customers no "mouth-watering" reason to pick it (**B1**).

(b) Other things change between the two weeks, such as the **weather** or a nearby event (**B1**). A rise in sales might come from a hot week rather than the menu, and because both changes are made at once, the owner cannot tell which one worked (**B1**).

Example 3

(a) Plan a study using a **structured observation** to investigate the trip types shoppers make in a garden centre. Your plan must include details about:

- behavioural categories
- sampling technique. [10]

(b)(i) Describe the psychological knowledge on which your plan is based. [4]

(a) Aim: to find which trip types shoppers make in a garden centre. **Method:** a **structured, non-participant observation** of the centre's **CCTV** recordings, so shoppers behave naturally. **Behavioural categories**, coded on a floor plan with numbered sections:

- **short trip:** two or fewer sections near the entrance, under 10 minutes;
- **round trip:** the outer path first, then back along the main path, turning into sections;
- **central trip:** in and out along the main path, turning into side sections both ways;
- **wave trip:** steadily from the entrance to the far end, weaving into sections, leaving at the far end.

Sampling technique: an **opportunity sample** of every shopper who enters during six one-hour slots spread across the week (weekday and weekend, morning and afternoon), about 200 shoppers. Two observers code every route independently (**inter-rater reliability**). **Ethics:** entrance signs say CCTV is used for research; no names recorded. **Data:** **quantitative**, the percentage making each trip type.

(b)(i) Gil et al. (2009) studied **480** shoppers in a UK supermarket (**B1**). Each was interviewed on entering, given a coloured tag and followed on **CCTV**, then interviewed again on leaving about the trip's purpose, list use, satisfaction and spending (**B1**). From the recordings they identified four **trip types** (short, round, central and wave), which describe the route (**B1**), and five kinds of shopper; explorers, for example, made the longest trips, visiting all the aisles and buying a lot (**B1**).

Common mistakes

- **Putting Robson et al. in a restaurant.** It was an **online questionnaire** about pictures of tables. Calling it a field experiment, or praising its ecological validity because it was "in a real restaurant", earns little (March 2021 and March 2025 reports). It collected **quantitative**, not qualitative, data (March 2025 report).
- **Treating Pavesic as an experiment.** Pavesic is a review with advice, not a study with results (June 2021 report).
- **Blending Dayan and Bar-Hillel's two studies** into one, or saying **spending** went up: the studies counted which items were chosen, not money spent (June 2021 report). Many candidates could not recall the four menu orders (June 2022 report) or a result from Study 2 (June 2023 report).
- **Generic method points.** Points about laboratory experiments or CCTV that never mention menus or shoppers get partial marks: "CCTV has a limited view" needs "so some shopper behaviour may be missed" (June 2022 and June 2023 reports).
- **Gil's interviews:** calling them unstructured, or writing about interviews in general, often scored 0 (June 2023 report).
- **Wayfinding answers with no "why".** Naming a feature with no reason it helps, or suggesting things that are not part of a map when a map is asked about, such as building a landmark (March 2026 report).

- **Plans that drift from the named method:** an IV and DV added to a questionnaire (June 2021 report), or three methods in one plan, none in detail (June 2022 report). Mixing up primacy and recency (November 2022 report).
- **Describing knowledge without using it** in a plan (June 2021 and November 2022 reports).
- **Anecdotes or vague points instead of research** in "to what extent" essays (November 2021 and November 2022 reports).

How to get the marks

- **Every point needs the consumer in it.** Whatever the command word, the second mark is for applying the point to the shopper, diner, menu or queue in the question; the mark schemes give only 1 for a general point.
- **Results earn marks.** A study description without a finding rarely reaches full marks; the aim alone earns nothing.
- **Applications:** for Dayan and Bar-Hillel, the authors' own use is putting **healthier** items at the edges, which is a better point than "more profit" (June 2021 report).
- **Stick to the question's bullets and method.** Cover every area an essay names, and use only the method a plan names.

Quick check

1. Hall's zones: a waiter leans in to take an order with his face 30 cm from a diner's. Which zone is this? A shop assistant stands 2 m away. Which zone?
2. A menu section lists eight items A to H. Write the **inside-out base** order Dayan and Bar-Hillel would make from it.
3. Name the shopper type: (a) dashes in for three ingredients for tonight's dinner and is out in minutes; (b) spends 20 minutes comparing four brands of coffee and buys one; (c) walks just inside the door, picks up the one thing they came for and leaves.
4. Robson et al. crossed three table distances with three dining occasions. How many conditions is that, and if 1013 participants were split as evenly as possible, about how many would be in each?
5. In Milgram et al.'s queue study, which queuers were most likely to defend their place, and what effect did a buffer have?

Answers

1. 30 cm is under 46 cm, so it is the **intimate** zone, which is why it feels intrusive. 2 m is between 1.2 m and 3.7 m, so it is the **social** zone, normal for shop staff.
2. Reverse the top half (A B C D becomes D C B A) and the bottom half (E F G H becomes H G F E): **D C B A H G F E**. The middle items D and E are now at the edges.
3. (a) **Raider**. (b) **Specialist**. (c) **Tourist**.
4. $3 \times 3 = 9$ conditions. $1013 \div 9 \approx 112.6$, so about **113** (some conditions 112) in each.
5. Those **closest** to the point where the intruder pushed in, with the intruder directly **in front** of them. A **buffer** standing between the intruder and the real queuers **reduced** their reaction.

Past questions to try

- [9990/32/O/N/25 Q7](#): using food names on a new menu, and a problem with research on them.
- [9990/42/F/M/24 Q4](#): primacy, another menu feature, and laboratory studies of menu choice.
- [9990/42/M/J/23 Q2](#): Gil et al.'s CCTV study: ethics, trip types and interviews.
- [9990/32/F/M/22 Q3](#): overload, Robson et al. and its strengths and weaknesses.