

PL3238 — SOCIAL COGNITION

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1 INTRODUCTION

Lecture 1
12th January 2023

Social psychology is the scientific study of the ways in which people's thoughts, feelings, and behaviours (ABCs) are influenced by the real or imagined presence of other people.

- In this field, people are deemed to always be in a *situation*, which may consist of the existing social situation, as well as our own experiences and stereotypes.
- People always have some form of motivation when we enter a social situation (e.g., motivation to avoid being prejudiced, motivation to not want to do sth, etc.).

On the other hand, **cognitive psychology** is the scientific study of mental processes such as perception, attention, memory, and thinking.

1.1 *Social cognition*

Social cognition utilizes cognitive psychological theories and methods to study social psychological questions. Specifically, it is the scientific study of how people perceive, represent, interpret, and remember information about themselves and other individuals and groups.

There are several differences in people and object perception:

- When we perceive people, they are likely to respond/react to us.
- People are also able to perceive us in return.
- Many critical features of people (e.g., personality, stereotypes, cognitions) cannot be observed.
- People are more likely to change over time.
- It is difficult to measure the accuracy in our perceptions of other people.
- There is more time pressure in perceiving people (since we are often motivated to interact with them soon after making our observations).

1.2 *Historical developments*

There were 3 main developments for cognition in experimental (data-driven) psychology:

1. **Trained introspection** (Wundt): believed that a systematic reflection of our own thoughts could enable us to achieve an understanding of our mental processes.

2. **Behaviorism** (Skinner): behaviourists accept mental processes as a black box, and focus on the stimulus and corresponding responses instead.
3. **Information processing** (Broadbent): treated human beings as computers, primarily interested in the steps that unfolds within the human mind as the stimulus takes place.

Cognition contributed to social psychology by giving rise to the concept of a *social thinker*, which suggested that individuals construct a **subjective social reality** based on their perceptions of objective reality (i.e., objective reality does not fully determine our behaviour).

Four perspectives on the social thinker include:

- **Consistency seekers:** we desire consistency between prior beliefs about the world and our interpretation of new situations.
- **Naïve scientists:** individuals gather relevant information unselectively, and construct social reality in an unbiased way.
- **Cognitive misers:** individuals always strive to simplify cognitive processes, especially when our mental capacity is diminished (e.g., under stress or time pressure).
- **Motivated tacticians:** individuals adopt different strategies based on the situation (e.g., important situation → naïve scientists, unimportant situation → cognitive misers).

1.3 Cognitive theories ↔ social questions

Several cognitive theories have been brought over and applied to social psychological questions:

- **Stroop effect** (Stroop, 1925): it is easier to name an ink color alone than in the presence of a conflicting color name.

Conclusion: we process the meaning of words automatically without any intention.

- Similarly, the Stroop effect can be seen in person perception (Karylowski et al., 2002), where people are faster in reading the ink color when the color and racial category label match, than when they mismatch.

Conclusion: racial categories come to mind automatically.

- **Visual search** (Treisman & Souther, 1985): people find a “Q” among “O”s more quickly than an “O” among “Q”s.

Conclusion: it is **easier to identify and process the presence of a feature** than the absence of a feature.

Cognitive methods can identify new ways to explain classic social psychological phenomena.

- Similarly, we are more likely to notice the presence of confirming evidence for stereotypes as opposed to the lack of evidence for stereotypes, which leads to the persistence of stereotypes.

1.4 *Building blocks of social cognition*

A **category** is a class of objects (or humans) which we deem to belong together.

On the other hand, **schemas** are mental representations of a category, which include attributes, theories about attribute connections, and exemplars. Even though schemas vary in accuracy, they are still widely employed by humans because they serve several functions:

1. **Classification:** we encounter people and behaviours as instances of particular schemas, enabling us to make sense of individual members of categories and intentions that may underlie behaviours.
2. **Inferring additional attributes:** we can use schemas to go beyond the information given (e.g., influence how we interpret certain words, such as “terminate” as an action taken by a CEO vs by a drug dealer).
3. **Guide attention and interpretation:**
 - Schemas help us make sense of incoming information and others’ behaviour, by providing information regarding what is normative in a particular situation.
 - Schemas cause us to focus on the broader meaning of behaviours rather than smaller details (e.g., “he is crying” vs “there are 69 drops of tears rolling out from his eyes”).
 - Schemas also help simplify cognitive processing, enabling us to juggle multiple tasks at the same time.
4. **Efficient communication:** schemas let us leave out many details when communicating (though this may lead to misunderstandings).
5. **Reasoning:** we can combine existing schemas to form new ideas (or generate new mental subcategories).

Balcetis & Dale (2003):

- **Method:** primed particular concepts (e.g., “woman”, “jazz”, etc.) using a scrambled sentence task (SST).
- **Results:** people who were primed with “woman” were more likely to see a woman, as compared to a jazz player, in an ambiguous image.



With multiple schemas available, which schema(s) get activated depends on:

1. **Stimulus features:** certain features are more likely to activate schemas.
2. **Salience:** people who are different from others on a dimension (e.g., an American in a group of Asians) will activate the dimension.
3. **Chronic accessibility:** concepts which are self-defining or particularly important tend to be more accessible.
4. **Goals:** motivation influences how quickly a schema would be applied to influence our perception.
5. **Priming:** certain experiences or procedures may bring a particular schema to mind (e.g., ads on a bus which we were previously riding).

Priming is different from *framing*.

Framing: involves two tasks which are supposed to be related.

Priming: involves two tasks which are supposed to be unrelated.

2 HEURISTICS

Lecture 2
19th January 2023

We use heuristics because:

- Our world is filled with uncertainty, especially with regards to judgments about social events.
- We are unable to spontaneously employ probabilistic/statistical reasoning (it is mentally taxing and does not come naturally to us).

While they can lead to faulty reasoning, heuristics tend to be efficient and correct most of the time.

Three main heuristics used by people include:

1. **Representativeness heuristic:** involves *classifying things* according to *how similar they are* to the typical case.
 - This heuristic occurs because people ignore prior probabilities (i.e., *base rates*) in the population.
 - Examples:
 - “The cure should resemble the disease”: e.g., frog’s legs for swimmers, bats for people with vision problems.
 - “You are what you eat”: e.g., description of Chondrians as turtle-eaters vs boar-eaters → rated as more irritable and aggressive when described as boar-eaters, rated as living longer and better swimmers when described as turtle-eaters.
 - **Conjunction fallacy:** failure to recognize that the co-occurrence of two outcomes cannot be greater than the probability of each outcome alone.
2. **Availability heuristic:** *making judgments* (about the frequency, likelihood, or extremity of an event) based on *the ease* of retrieving examples.

Ease of retrieval has been found to impact probability estimates, stereotyping, health risk assessments, attitudes, attitude strength, and self-judgments.

- How we attribute the experience of ease does moderate the relationship between ease and self-assertiveness ratings (Schwartz et al., 1991).
 - When ease was attributed to internal factors, greater ease led to higher self-assertiveness ratings.
 - When ease was attributed to external factors, there is no relationship between ease and self-assertiveness ratings.
- Ease of retrieval (EOR) is also found to be more likely to occur under high thinking (e.g., when making important decisions) than low thinking conditions (e.g., when the outcome of a decision is less relevant), due to **thought confidence** (Tormala et al., 2002). Their research also expanded upon how EOR unfolds:

I remember X easily → I am sure about X → X must be true

i.e., EOR influences our *thought confidence*, which in turn influences our subjective judgments.

3. **Anchoring-and-adjustment heuristic:** people start off with an initial idea (i.e., the *anchor*), and adjust their beliefs based on this starting point.

- In reality, whether people adjust or confirm depends on whether the anchor is external or internal (Epley & Gilovich, 2001).
 - When the anchor is external (e.g., provided by an experimenter), people engage in confirmation.
 - When the anchor is internal (e.g., self-generated), people engage in adjustment.
- While anchors merely serve as heuristics when people are under *high cognitive load*, they may lead to biased processing when people are under *low cognitive load* (Blankenship et al., 2008).

Additionally, anchors estimates are generally:

- More stable,
- More resistant to change, and
- Less likely to be susceptible to priming effects.

Lecture 3
26th January 2023

thought confidence: confidence in one's thoughts can increase or decrease persuasion depending on the nature of the thoughts people generate.

When anchors are self-generated, motor movements (e.g., nodding/shaking of head) affects the extent of adjustment from the initial self-generated anchor.

3 HYPOTHESIS TESTING

Lecture 4
2nd February 2023

There are many questions which we may want to answer in our uncertain world, and we tend to form hypotheses for them based on our **expectations** (induced by other people's comments), **stereotypes**, and **goals**.

Ideally, we should look at all the available information when testing hypotheses, i.e.:

- The number of times X happened, and
- The number of times X did not happen.

positive-test strategy: testing a hypothesis by seeking out the cases that match the hypothesis, and neglecting evidence which disproves/does not match the hypothesis.

However, we rarely conduct such information search and instead adopt a **positive-test strategy**. Specifically,

- If we can find evidence that matches the hypothesis, we conclude that the hypothesis is true.
- If we cannot find evidence that matches the hypothesis, we conclude that the hypothesis is false.

However, this strategy is biased in favor of confirming our hypotheses.

- Snyder & Cantor (1979) found evidence for the positive-test strategy:
 1. Study 1 results: participants remembered more *hypothesis-consistent facts* than hypothesis-inconsistent facts → evidence of **biased memory** in hypothesis confirmation.
 2. Study 2 results: participants overwhelmingly chose questions that matched their hypotheses → evidence of **biased evidence search** in hypothesis confirmation.
- Kunda et al. (1993) also found evidence for hypothesis confirmation regarding the self.
 - Results: participants which were asked if they were *happy* with their social life rated themselves as happier than those asked if they were *unhappy* with their social life.

Note: this happens only if participants are able to retrieve mixed examples (i.e., both +ve and -ve) → participants will focus on the hypothesis-consistent examples.

Self-serving motivations can also influence which beliefs and rules are tested by us (Ditto & Lopez, 1992).

- Method: all participants were told that they tested “positive” for a fictional enzyme, and told that person-specific factors (e.g., sleep irregularities, diet, stress, etc.) can affect test accuracy.
- Results:
 - Told enzyme good → fewer test-affecting irregularities mentioned post-diagnosis.
 - Told enzyme bad → more test-affected irregularities mentioned post-diagnosis.

3.1 Covariation detection

Much of social perception is based on examining relationships between two variables, e.g., covariation between:

- Group membership and behaviour.
- Behaviour in multiple situations.
- Opinions of two different people.

Statistically, covariation is accessed using a 2x2 matrix enumerating the total number of occurrences of each pair of events (e.g., <lawyer, aggressive>). However, even with the full set of data, we may not always correctly detect covariation because:

Due to our *positive-test strategy*, we typically only use 2 out of all 4 cells.

- Social data unfolds over time.
- Social data can be influenced by errors in memory.
- Much social data is mixed (i.e., there could be other unobserved explanations for human behaviour).
- People are able to detect extremely strong correlations, but tend to underestimate correlations with $r \leq .7$ (Jennings et al., 1982).
 - This is particularly true for correlations which are based on social perception.

Estimates of covariation can be accurate when:

- We are familiar with the domain (e.g., group of close friends).
- The data in question is easy to code (e.g., academic/athletic ability).

3.1.1 Illusory correlations

Illusory correlations occur when expectations lead us to see correlations that are not present in the data.

- This happens because we use positive-test strategies: if we expect a correlation, we pay more attention to cases that indicate that correlation.
- Outcome: overestimation of the frequency of rare behaviour of members in minority groups.

∴ distinctive examples
→ more memorable →
greater accessibility.

3.1.2 Explanation-based judgments

Typically, judgments utilize causal reasoning that link single pieces of data together. Specifically, explanation-based judgments must have **explanatory coherence**, i.e.:

1. **Explanatory breadth**: the explanation should explain multiple pieces of information.

2. **Simplicity:** few additional hypotheses are required to account for all information.
3. **Consistency** with other pieces of information.

3.2 Counterfactuals

Counterfactuals are outcomes that run contrary to what actually happened. There are two main types of counterfactuals:

- **Upward/Positive counterfactuals:** imagining how things could have gone better.
- **Downward/Negative counterfactuals:** imagining how things could have gone worse.

Generally, events that are **easier to mentally undo** produce *more* counterfactuals than events that are not easily undone. More formally, the determinants of counterfactual thought are:

1. **Closeness** of the counterfactual to the actual event (i.e., in terms of time, distance, or proximity to some goal).
2. **Exception vs routine:** exceptional events are easier to mentally undo → seen as more regrettable.
3. **Controllability:** people attempt to undo actions that are under the control of the individual they focus on (and presuppose the actions of other people in the situation).
4. **Action:** action is more regrettable than inaction.
 - This does not apply when we are thinking about long-term actions (e.g., whether to go to a university).
5. **Ease of replicating:** events are perceived as more normal when we can imagine other ways in which the same event might have happened.

Counterfactuals serve several functions:

- Help us prepare for future misfortune (e.g., preparing ourselves to not miss the bus next time).
- Provoke us to get rid of the cause of a negative event.
- Help us to feel better in bad situations (sometimes).
- Help create a sense of meaning.

Kray et al. (2010):

- **Background:** for various reasons, we all want to find meaning in our lives. However, how do we go about finding meaning?

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- **RQ:** can counterfactual thinking increase meaning?
 - **Conclusions:**
 - Counterfactual thinking can increase perceptions that life is meaningful.
 - This relationship is caused by (1) perceptions of fate (i.e., “it was meant to be”) and (2) the recognition of positive consequences.
 - Regardless of the valence of the event, counterfactual thinking increased (1) downward counterfactuals and (2) perceptions of meaningfulness.

4 MEMORY

There are two main memory processes:

1. **Retrieval:** recovering information so that we are aware of it.
2. **Encoding:** transforming information (e.g., personal interpretation, characterization, selective attention) so that it can be entered into memory.

Errors may be present during both processes:

- Errors in **source monitoring** include:
 1. False memory.
 2. Misinformation.
 3. Source confusion.
 4. Sleeper effect.
- Errors in encoding may arise due to:
 1. Expectancies.
 2. Goals.
 3. Event significance.

source monitoring error: memory error where the source of a memory is incorrectly attributed to some specific recollected experience.

4.1 *Source monitoring errors*

4.1.1 False memory

False memories can be implanted easily (Hyman, Husband & Billings, 1995).

- **Method:** participants were interviewed 3 times (with 1 day between each interview), and asked about 3-5 childhood events (with 1 false event).
- **Results:** recall of true events improved over the interviews; however, more participants also reported memory of the false event over the 3 interviews.

Lindsay et al. (2004):

- **Motivation:** use of old photos by therapists to cue suspected repressed memories of sexual abuse.
- **RQ:** does reviewing an old photo encourage false memories?
- **Conclusion:**
 - Reviewing an old photo encourages false memories. This might be due to:
 - * Photo added authoritativeness to the suggestive story.
 - * Photo encouraged people to embellish the suggestive story.
 - * Photo allowed for the blending of true details.

4.1.2 Misinformation

The **misinformation effect** describes memory distortion, where existing memories are altered by misleading information at the time of retrieval.

Loftus & Palmer (1974):

- **Results:** description of two cars as “smashed” into each other vs “hit” each other affected participants’ memory of how fast the cars were.
- **Conclusion:** poorer detection of discrepancy between misinformation and memory of the original event \Rightarrow greater misinformation effect.

This study gave birth to the **discrepancy detection principle**: recollections are more likely to change if a person does not immediately detect the discrepancies between misinformation and the memory of the original event.

Specifically, discrepancy detection is less likely when:

1. **Longer time** between misinformation and original event.
 - \therefore higher likelihood of disrupting memory of original event.
2. **Shorter time** between misinformation and test.
 - \therefore less time for processing misinformation.
3. **Temporary states:** e.g., drunk.
 - \therefore cause people to be less confident of their memory.
4. **Warning after** misinformation.
 - If we have already fallen for the misinformation effect, it is harder for us to correct it.
 - However, if we were warned beforehand, we will be more vigilant for misinformation and will not easily trust misinformation.

4.1.3 Source confusion

Source confusion describes our tendency to misattribute statements to people who are similar to the original source (e.g., in terms of race, age, etc.)

- However, the similarity has to be meaningful (e.g., not merely due to wearing the same shirt) for source confusion to take place.

4.1.4 Sleeper effect

The **sleeper effect** describes the situation where attitude change that occurs after discredited communication is greater after a delay.

For example:

1. Initially, after listening to a convincing speech by X, Y develops a positive attitude towards smoking.
2. Then, Y was told that X works for tobacco companies, and thus develops a negative attitude towards smoking.
3. Some time later, Y forgets that X has been discredited, and his new attitude is replaced by his old attitude (e.g., “smoking is not that bad”).

In other words, we may remember the initial communication, but are prone to forgetting that the source is not trustworthy.

4.2 *Encoding errors*

4.2.1 Expectancies

Expectancies can influence our attention and subsequently, our judgments (Darley & Gross, 1983).

- **Method:**

1. Participants were told to evaluate a girl name Hannah.
2. Half of them were told that Hannah came from a high SES background, the other half were told that she had a low SES background.

- **Results:**

- When no performance was viewed, expectancy did not influence judgments.
- When Hannah was seen performing an action, participants who were told that Hannah had high SES thought that she did better, than people who thought that Hannah had low SES.

This also applies to socially sensitive topics (e.g., race) (Okonofua & Eberhardt, 2015).

- **Method:** kindergarten teachers were told to evaluate a student with a stereotypical Black or White name.
- **Results:**
 - When shown the first infraction, there was no relationship between race and participants' evaluations of the students.
 - After reading the second infraction, participants had an escalation in judgment, determined by the racial category of the target.
 - * Specifically, the teachers thought that the Black student was more likely to be a troublemaker, and are more likely to say that the Black student should be disciplined (as compared to the White student).

infraction: violation of class rules.

Do we remember expectancy-congruent or incongruent information best?

- *Less motivated* to be accurate → devote less mental effort → *remember expectancy-congruent information better* (since such information is easier to fit into existing schemas).
 - This is in line with the **positive test strategy**.
- *Highly motivated* to be accurate → devote more mental effort → *remember expectancy-incongruent information better* (since unexpected events are more memorable).
 - This may explain **illusory correlations**.

4.2.2 Goals

Goals we bring with us to a social interaction will influence the way we attend to and process information, and thus our memory of the interaction.

Hamilton, Katz, & Leirer (1980):

- **Method:**
 1. Participants were instructed to have different processing goals:
 - **Impression formation goal:** participants were asked to not be concerned with memorization, and to instead form an overall impression of the person in question.
 - **Memory goal:** participants were asked to remember the exact wording of each description.
 2. They then read about 16 behaviors from 4 distinct categories, and had to complete a free recall task.

-
- **Results:** participants who were given the *impression-formation goal* remembered more statements, because they tended to categorize information better (i.e., by clustering the events into groups).

4.2.3 Event significance

Flashbulb memories are vivid and detailed memories arising from an important news event (e.g., 9/11, assassinations, etc.).

Neisser & Harsch (1992):

- **Method:** students were asked to describe where they were when they found out about the Challenger explosion on (1) the day after, and (2) 2.5 years later.
- **Results:**
 - In terms of accuracy, people were not able to remember the details of flashbulb memories well (half of them were wrong about 2/3 of what they recalled).
 - However, there was no correlation between confidence and accuracy; everybody was pretty confident of their memories.Participants' overconfidence may be due to:
 - * **Repeated rehearsal and retrieval:** the fact that they had shared and repeated the information multiple times makes them very confident about it.
 - * **Vivid imagery** of the event.
 - * **Using schemas** to fill in the blanks.

5 STEREOTYPES

Lecture 7
9th March 2023

Early conceptualizations of stereotypes include:

- “Pictures in our heads” (Lippman).
- “Exaggerated beliefs associated with a category” (Allport).

In modern times, the definitions of **stereotypes** have been refined as:

- Cognitive structures that contain out knowledge, beliefs, and expectations about a social group (Hamilton & Sherman, 1994).
- Cognitive components of prejudice (Aronson, Wilson, & Akert, 2010).

We are interested to learn about stereotypes from the perspective of perceivers and targets.

5.1 *Perceiver's perspective*

Q: Is stereotype activation effortless or effortful? (Gilbert & Hixon, 1991)

- **RQ:** do people automatically activate stereotypes on their own in the presence of category members?

1. Experiment 1:

- **Method:** participants were either [IV₁: put under cognitive load or were not] and had to do a word completion task (e.g., “s_ort”), where the assistant turning over cards was [IV₂: Asian or White].
- **Results:** participants under high cognitive load showed decreased activation of Asian stereotypes than participants under low cognitive load.
- **Conclusion:** stereotype **activation** is effortful.

2. Experiment 2:

- **Method:** similar to experiment 1, but participants were tasked to rate the assistant on 9 trait dimensions instead of completing a word completion task.
- **Results:** participants who were under high cognitive load during the rating task made more stereotypical ratings of the Asian assistant than participants under low cognitive load.
- **Conclusion:** stereotype **activation** is effortful, but stereotype **application** is effortless.

Q: Can different stereotypes be applied to the same target? (Macrae, Bodenhausen, & Milne, 1995)

- **RQ:** is the activation of a stereotype associated with a target inhibited when another stereotype associated with the same target is activated?
- **Method:** participants were shown a videotape of an Asian-American woman either:
 1. Putting on lipstick (female prime).
 2. Eating with chopsticks (Asian prime).
 3. No video (control condition).

Then, they had to complete a lexical decision task (i.e., accessing words vs non-words) consisting of 16 words and 16 non-words, where 4 words were stereotypical traits of women and another 4 were stereotypical traits of Asians.

- **Results:**
 - Control condition: participants responded to different words with equal speeds.

- Makeup condition: participants were faster to identify female-stereotyped words, and slower to identify Asian-stereotyped words (compared to the control condition).
- Chopstick condition: participants were faster to identify Asian-stereotyped words, and slower to identify female-stereotyped words.
- **Conclusion:** the activation of one stereotype inhibits the activation of the other stereotype.
 - It is not necessary for the word to be in a category competing with the prime (e.g., male-stereotyped words) for it to be inhibited.

5.2 *Target's perspective*

Self-fulfilling prophecies occur in the following manner:

1. Perceiver has expectations about the target.
2. Perceiver behaves according to his/her expectations towards the target.
3. Target responds in kind to the perceiver's behaviour.
4. Perceiver notes the target's response as proof that his/her initial expectations were accurate.

Q: Is a target's behaviour affected by the perceiver's stereotyping? (**Word, Zanna, & Cooper, 1974**)

1. Experiment 1:

- **Method:** White subjects were asked to act as interviewers of job candidates who were [IV: Black or White]. The seating distance, length of interview, and number of speech errors while talking were objectively coded.
- **Results:** generally, the White interviewers:
 - Sat further away from Black candidates than White candidates.
 - Had shorter interview times with Black candidates than with White candidates.
 - Had higher speech error rates with Black candidates than with White candidates.

2. Experiment 2:

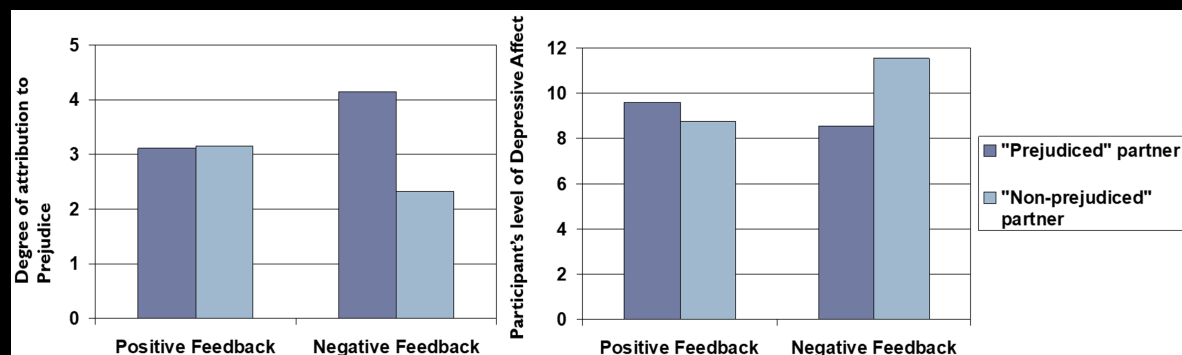
- **Method:** White confederates were assigned to be interviewers, and asked to mimic the interviewing style of the participants in the previous study. Participants were assigned to either [IV: distant style or neutral style] interviewers.
- **Results:** participants assigned to the distant style interviewer performed worse than those assigned to the neutral style interviewer.
- **Conclusion:** a target's behaviour can be influenced due to SFP.

Distant style: corresponding to interviews on Black candidates.

Neutral style: corresponding to interviews on White candidates.

Q: Are a target's emotions affected by the perceiver's stereotyping? (Crocker, Voelkl, Testa, & Major, 1991)

- **Method:** female college students were tasked to fill out questionnaires (which will be shared with a male "partner") and write an essay to be critiqued by the "partner".
 - IV₁: the partner was either prejudiced towards women or not.
 - IV₂: the partner gave positive or negative feedback about the essay.
- **Results:**
 - In the negative feedback condition, participants who thought that the partner was prejudiced towards women believed that their partner's feedback was due to his prejudice, and showed lower levels of depressive affect.
 - In the negative feedback condition, participants who thought that the partner was not prejudiced believed more strongly that their partner's feedback was not prejudiced, and had greater levels of depressive affect.
 - In the positive feedback condition, participants who thought that the partner was prejudiced were not happier than those who thought that the partner was not prejudiced, despite seeing that their partner had positive feedback for them.



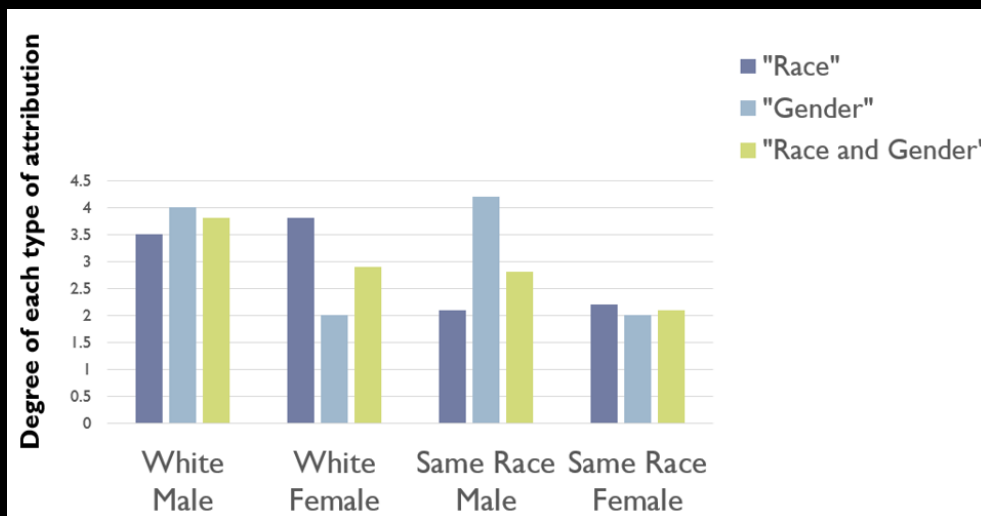
- **Conclusion:** a target's emotions are affected by perceivers' stereotyping, and it is not beneficial to be a target of prejudice in the long run, because it may prevent individuals from improving themselves.

Q: How does a target respond to "positive" stereotypes? (Remedios, Seiff, & Hinzman, 2020)

- **Method:** women of color were tasked to imagine that their project partner said negative things about their contribution in a group project.
 - IV₁: the partner was either Black or White.
 - IV₂: the partner was either male or female.
 - DV: race, gender, or compound attribution.

- **Results:**

- When participants imagined White partners, they made **stronger race attributions** than gender attributions.
- When participants imagined same race partners, they made **stronger gender attributions** than race attributions.
- When participants imagined male partners, they made **stronger gender attributions** than race attributions.
- When participants imagined female partners, they made **stronger race attributions** than gender attributions.



The same pattern occurred when the scenario involved losing out on a job instead of being spoken about negatively.

- **Conclusion:** women of color attribute rejection to sexism more than racism when men are involved, and they attribute rejection to racism more than sexism when Whites are involved.
- **Implication:**
 - Women of color do not make the same attributions across different situations.
 - Instead, their attributions (i.e., whether they were discriminated based on color or race) differ according to the group dimension that is made salient by the situational cue.

6 AUTOMATIC PROCESSING

Lecture 8
16th March 2023

Automatic processing	Controlled processing
We rely on it when we are not motivated and/or able to think.	We rely on it when we are motivated and/or able to think.
Outside of conscious awareness: we are not aware that our behaviour is <i>being influenced</i> by an external stimulus, even though we may be aware of the stimulus and our own behaviour.	Conscious.
Unintentional: we do not need to plan in order to perform the processing.	Intentional.
Uncontrollable: we may not be able to stop the processing even if we want to.	Voluntary/Controllable.
Efficient/Effortless: it requires little mental effort and can be performed simultaneously with other tasks.	Effortful.

Devine (1989)'s stereotype dissociation study:

1. Experiment 1:

- **Method:**
 - (a) Participants were either [IV₁: low vs high] in prejudice, and were primed with either [IV₂: 80% or 20%] stereotypical words.
 - (b) Participants then read ambiguous information about a person named Donald, and rated how aggressive Donald was.
- **Results:** regardless of prejudice, participants rated Donald as more aggressive when primed with more stereotype-related words.
- **Conclusion:**
 - Since the findings occurred independently of participants' level of prejudice, this implies that stereotype **activation** is **automatic**.
 - If stereotype activation was controlled, low prejudice individuals should have been successful in avoiding the activation of the African American stereotype, and would not have rated Donald as aggressive.

2. Experiment 2:

- **Method:** participants had to list thoughts about African Americans.

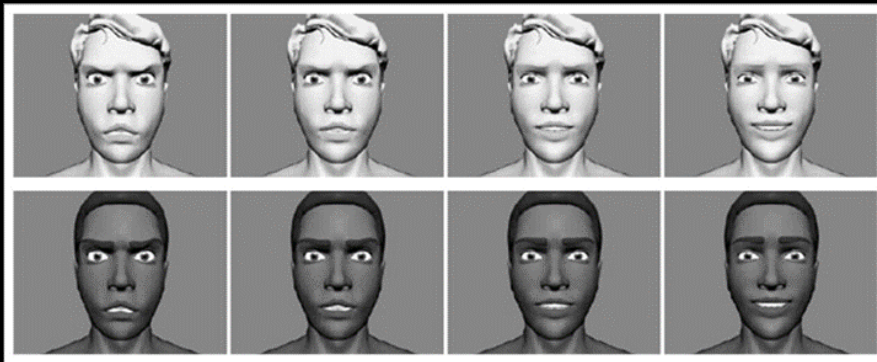
e.g., jazz and basketball are often associated with Blacks, but we may not be aware that these words can influence us.

more specifically, words which were stereotypical of Blacks.

- **Results:**
 - High prejudice participants listed more negative thoughts than positive thoughts.
 - Low prejudice participants listed more positive thoughts than negative thoughts.
- **Conclusion:** stereotype endorsement is controlled.

Aside from stereotype activation, automatic processing can occur in many other areas, e.g.:

- Perception (of anger dissipation) (**Hugenberg & Bodenhausen, 2003**):
 - **Method:**
 1. Participants were presented with video clips of changing faces, and had to press the space bar when the face no longer shows its initial emotions.



2. Participants then completed a “feeling thermometer” for Caucasians and African Americans, and an IAT to assess their prejudice.
- **Results:** higher scores on the IAT predict longer response latencies for people to detect the offset of anger for Black faces.
 - **Conclusion:** this suggests that there are automatic effects of stereotypes on perception, especially on the perception of others’ emotions.
- Social judgment (**Bargh & Pietromonaco, 1982**):
 - **Method:**
 1. “Vigilance task”: words were flashed on a screen for 100ms, followed by a mask. Either [IV: 0%, 20%, or 80%] of words were related to hostility.
 2. Participants read an ambiguous passage about Donald, and had to make judgments about him.
 - **Results:** the greater the percentage of hostile words during priming, the more negatively the participants rated Donald.

- Behaviour.
 - **Behavioural assimilation** describes the eventual matching of behaviors displayed by cooperating or competing group members.
 - * A recent formulation is the **perception-behaviour link**, which involves:
 1. Perception of/Thinking about behaviour.
 2. Activation of mental representation of behaviour.
 3. Automatic initiation of the behaviour.
 - Some experiments have demonstrated the perception-behaviour link, in terms of:
 - * **Traits:** e.g.,
 - **Bargh et al. (1996):** participants in the rude primes condition took less time to interrupt the experimenter.
 - * **Group stereotypes:** e.g.,
 - **Dijksterhuis & van Knippenberg (2000):** participants in the politician primes condition wrote longer essays than those in the neutral primes condition.
 - **Bargh et al., (1996):** participants who were shown Black faces subsequently displayed more hostile behaviour.
 - **Bargh, Chen, & Burrows (1996):** participants in the elderly prime condition displayed slower walking paces.
 - **Cesario, Plaks, & Higgins (2006):** behavioural assimilation depends on target's attitudes.
 - * **Method:**
 1. Participants were primed using the procedure in **Bargh et al. (1996)**.
 2. Participants' attitudes towards the elderly were then measured using an IAT.
 3. Participants were then tasked to walk down a hall.
 - * **Results:** participants who had positive attitudes toward the elderly walked slower, whereas participants with negative attitudes toward the elderly walked faster.
 - * **Conclusion:**
 - Behavioural assimilation is a *preparation to interact*.
 - As such, our evaluations of targets can change what behaviour is automatically initiated.
- Goal pursuit.
 - **Chartrand & Bargh (1999)** observed the same effect as in **Hamilton, Katz, & Leirer (1980)**, when goals were primed via a scrambled sentence task with words related to *impression formation* or *memorization*.
 - **Gollwitzer (1999):**
 - * **Goal intentions** specify a certain desired performance or outcome.

When we think about politicians, the construct of being long-winded gets activated.

The results of this study could not be replicated, but this could be due to reasons such as (1) failure to replicate the experiment exactly, and/or (2) hidden moderators in the replication.

- * **Implementation intentions** specify the when, where, and how that will lead to goal attainment.
 - They increase the accessibility of goal-directed behaviour.
 - They also automatize actions in response to distracting situations.
- * In their study, 66% of people with implementation intentions were able to complete a difficult task over winter break, as opposed to 25% who did not have implementation intentions.

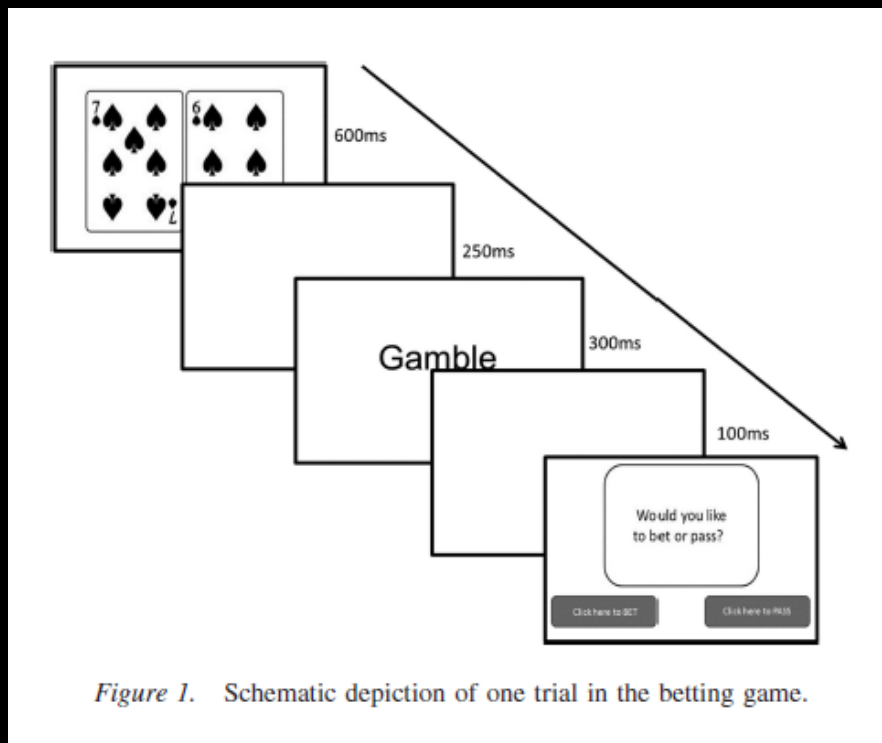
6.1 Priming

The **situated inference model** states that primes influence our behaviour because it makes associated thoughts and feelings more accessible, and these thoughts/feelings are attributed to our own responses.

Payne et al. (2016):

- **Hypothesis:** primes would influence behaviour when a player's hand was moderately strong, but not when the hand was weak or strong.
- **Method:**
 1. Participants were given [IV: weak, moderate, or strong] hands across different trials.
 2. Participants were asked to ignore the prime (i.e., "bet" or "pass").

When the hand is moderately strong, there is greater ambiguity.



- **Results:** participants were more likely to bet after a “bet” prime than a “pass” prime when their hand was moderate, than when their hand was weak or strong.
- **Conclusion:** participants were more likely to be influenced by primes when there is more potential for the information made accessible by the prime to be misattributed to one’s own response to the situation.

6.2 Variability in automatic effects

Lecture 9
23rd March 2023

The effects of automatic processing may vary due to:

- Inhibitory cues and competing goals (**Macrae & Johnston, 1998**):
 - **Method:**
 1. Participants were primed with [IV₁: helping vs neutral] words.
 - 2a. In study 1, the experimenter drops [IV₂: leaky or clean] pens (i.e., *inhibitory cue*).
 - 2b. In study 2, a confederate drops pens, and the experiment was [IV₂: either running late or on time] (i.e., *competing goal*).
 - **Results:** helping prime influenced behaviour when pens were clean and the experiment was on time, but not when pens were messy or the experiment was late.
- Individual differences in circadian rhythms (**Bodenhausen, 1990**):
 - **Method:**
 1. Participants who are [IV₁: morning larks vs night owls] participated in the experiment at different times of the day [IV₂: 9am, 3pm, or 8pm].
 2. Participants read about student misconduct that involved:
 - * Cheating (i.e., an athlete stereotype): involving either a “well-known athletic star” or not.
 - * Physically attacking another student (i.e., a Hispanic stereotype): involving either *Robert Garner* or *Roberto Garcia* (i.e., a Hispanic name).
 - * Selling drugs (i.e., a Black stereotype): involving either *Mark Washburn* or *Marcus Washington* (i.e., a Black name).
 where stereotype activation would be [IV₃: present or absent].
 3. Participants were then presented information that was inconclusive about guilt.
 - **Results:**
 - * For morning larks, guilt ratings were influenced by the activation of stereotypes at later times of the day.
 - * For night owls, guilt ratings were influenced by the activation of stereotypes at earlier times of the day.

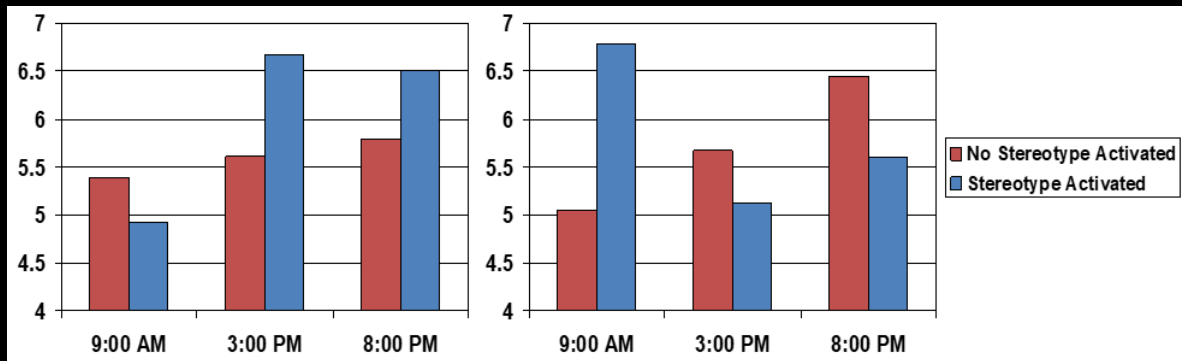


Figure 1: Left: morning larks; Right: night owls.

- **Conclusion:** individual differences in circadian rhythms can influence automatic activation of stereotypes.

6.3 Interactions between automatic and controlled processing

Past research has shown that more time is needed to influence controlled processing than automatic processing (Ranganath & Nosek, 2008).

• Method:

1. Session 1:

- Participants were tasked to read information about some induction targets, e.g.:
 - “Reemolap visited a sick friend in the hospital.”
 - “Vabbenif parked a space reserved for the handicapped.”
- Subsequently, they were told that Reemolap is part of a group called *Laapians*, whereas Vabbenif is part of a group called *Niffians*.
- Then, they read neutral information about new people, e.g.:
 - “Ibbonif, who is a *Laapian*, is kind and thoughtful but tends to be slightly greedy.”
 - “Bossalap, who is a *Niffian*, is warm and considerate but tends to be slightly dishonest.”
- Finally, they were randomly assigned to complete implicit and explicit attitude measures about the original people and the new people.

2. Session 2: 10 days later, they were randomly assigned to complete implicit and explicit attitude measures about the people again.

• Results:

- The new target that belonged to the same group as the negative target (i.e., *Niffians*) was more negatively evaluated.

- * The fact that there was a difference between the ratings of the new targets, due solely to one target belonging to the same group as the previous negative target, illustrates that there is prejudice due to group membership.
- In session 1,
 - * The effect size for explicit measures for the new targets was smaller, which suggests that there is some resistance to explicit attitude generalization.
 - * The effect sizes for implicit measures for both new and old targets were rather equal, which implies that implicit attitude generalization occurred.
- In session 2,
 - * The effect sizes of both explicit and implicit measures were similar, which suggests that there was less resistance and greater explicit attitude generalization, as well as maintenance of implicit attitude generalization.
- **Conclusion:**
 - Implicit attitude generalization occurs immediately, and is maintained after a delay.
 - Explicit attitude generalization takes time, and there will be some initial resistance.

6.3.1 Stereotypes

Ironical suppression describes the tendency for a target to be even more accessible when we try to inhibit thoughts of the target (e.g., we are more likely to think about polar bears when told not to do so, than when nothing was mentioned). **Wegner (1994)** suggests an explanation for this occurrence:

- When we are trying to suppress an unwanted target, both the automatic and controlled systems are involved.
 - The automatic system tries to search for the unwanted target/thought (to suppress it).
 - At the same time, the controlled system tries to find something that can distract us from the unwanted thought.
- Under cognitive load, the controlled process is undermined, but the automatic process is still able to continue searching for the unwanted target → unwanted target becomes more salient.
- E.g., ironical suppression in stereotyping (**Macrae et al., 1994**):
 - **Method:**
 1. Participants are shown a picture of a skinhead named Ian.

2. Then, they had to tell a story about a day in the life of Ian.
3. Subsequently, participants were told that they will be meeting Ian, and [IV: nothing else, or that they should suppress their stereotypes about skinheads].
4. They were then led into a room with chairs, one of which had a leather jacket on it.

– **Results:**

- * Participants who had to suppress their stereotypes sat further away from the leather jacket.
- * This suggests that participants who were told to suppress their stereotypes were thinking about those stereotypes, and making them more accessible.

6.3.2 Attributions

Fundamental attribution error (FAE), also known as *correspondence bias*, states that people tend to overestimate the extent to which others' actions are due to underlying dispositions/traits and underestimate the power of the situation.

Correction models suggest that FAE occurs because:

- Dispositional inferences are made automatically, whereas
- Situational information is processed in a separate, resource-dependent stage following attribution of behaviour to corresponding dispositions.

Therefore, disruptions or distractions should interfere with one's ability to take situational influences into account.

For instance, Gilbert's 3-stage model claims that attributions are made in 3 distinct stages:

1. **Categorization of behaviour.**
2. **Characterization of the individual.**
3. **Correction for the situation.**

The first two steps are **automatic**, whereas correction is **controlled**.

Gilbert, Krull, & Pelham (1988):

• **Method:**

1. After being told that the target was asked [IV: happy or sad] questions, subjects were tasked to tell the experimenters "what kind of person the woman in the video is, not how she is acting".

2. Subjects then watched 7 silent video clips of a woman being interviewed about her childhood, and she looks sad in 5 of the clips.
 - (a) During the target's responses, all subjects saw common one-syllable words (e.g., tree, chair) flash on the screen, move to the center, and then disappear.
 - (b) All subjects were told: "in another condition of this experiment, subjects will be asked to learn a list of words while watching the video".
 - (c) Then, they were told either:
 - **Unregulated condition:** "don't concern yourself with the words, since they are not relevant to the condition you are in, you can ignore them".
 - **Self-regulated condition:** "do not under any circumstances look at the words" → heavier mental load.
- **Results:**
 - In the self-regulated condition, participants simply rated the person as being sad.
 - For the unregulated condition, when the target was supposed to be answering happy questions, participants rated the target as dispositionally sad (i.e., she is sad even though she is asked happy questions → she must be a sad person).
 - Subsequent tests found no memory differences regarding the scene ⇒ cognitive load impairs one's ability to correct for the situation, but not one's ability to recognize it.

There are exceptions to FAE, e.g., in **Sekaquaptewa & Espinoza (2004)**:

- **Results:** inferences that are stereotype-consistent are made spontaneously, e.g.,:
 - STEM setbacks (e.g., losing a research assistant job) for women = dispositional attributions.
 - STEM setbacks for men = situational attributions.
- **Conclusion:** we tend to make dispositional inferences, but especially so when it is stereotype-consistent.

7 MOTIVATION & AFFECT

Lecture 10
30th March 2023

Hot cognition is a hypothesis on motivated reasoning in which a person's thinking is influenced by their emotional state (i.e., desires, feelings, goals, motivations, and moods).

Cold cognition implies cognitive processing of information that is independent of emotional involvement.

Given a choice between pro-attitudinal (i.e., information which is in line with one's attitudes) and counter-attitudinal information, we prefer to seek out for the former.

- **Sawicki et al. (2011):**

- **Hypothesis:** when people are unsure about their attitudes, they want to boost their certainty regarding their attitudes.

- * Underlying assumption: when it comes to the role of motivation in cognitive processes, one of our basic motivations is to feel that our opinions are validated by others/more certain about our opinions.

- **Method:**

1. Participants were asked whether they were [IV₁: in favor or against] nuclear plants, and [IV₂: how sure were they about their attitude] towards nuclear plants.
2. Participants were then provided 4 headlines, 2 which were in favor of nuclear plants, and 2 which were against nuclear plants.

- **Results:**

- * Participants who were unsure about their attitudes had a tendency to seek out pro-attitudinal information, especially when the pro-attitudinal information is novel to them.
 - This is likely because new information can better bolster attitude certainty than old information.
 - It provides us with more arguments supporting our stance, and prepares us for arguments against our stance.
 - * Participants who were certain about their attitudes will seek out pro-attitudinal information which is familiar to them.
 - They are using certainty as a signal to themselves to determine which type of information should be correct.
 - Being presented with familiar information enhances this tendency, because such information has greater potential to inform them that they are correct.

- **Conclusion:**

- * Generally, we like to seek validation for our attitudes.
 - * When we are unsure/uncertain about our attitudes, we will seek out for information which will bolster our certainty and validate our attitudes (i.e., pro-attitudinal, novel information).
 - * When we are sure/certain about our attitudes, we will seek out information which will ascertain that we are correct.

7.1 *Motivation & cognition*

Humans have a natural instinct for survival, yet at the same time, we are aware of our inevitable death. Despite this potential for death anxiety, we have a lot of coping mechanisms for dealing with it.

According to the **terror management theory (TMT)**, death anxiety drives people to adopt worldviews that protect their self-esteem, worthiness, and sustainability and allow them to believe that they play an important role in a meaningful world. Specifically, people experience the following process when facing death anxiety:

1. Reminders of death.
2. Proximal defense: e.g., “I am healthy”, “I am still young”.
3. Low salience of mortality.
4. Relax proximal defense.
5. High salience of mortality.
6. High salience of worldview (i.e., worldview defense).
 - Anything that can fight back against the threat of mortality can be seen as our worldview defense.
 - If our worldview is threatened, we will derogate people who are threatening our worldview.

Greenberg, Solomon, & Pyszczynski (1997):

1. Experiment 1:
 - **Method:** participants either [IV₁: had their mortality made salient or not], and was asked whether they would enjoy working with a [IV₂: Jew or Christian] target.
 - **Results:**
 - For people who were high in mortality salience, they preferred the Christian target over the Jewish target.
 - For control participants, there was no such distinction between liking for the Christian vs the Jewish target.
 - **Conclusion:** in dealing with death anxiety, we might exhibit prejudice against people whose worldview is different from ours.
2. Experiment 2:
 - **Method:** similar to the previous study, but now the target was either [IV₂: attitudinally similar or dissimilar] with the participant, and participants were judged to be either [IV₃: high or low in authoritarianism].
 - **Results:**

- High authoritarians tend to dislike people who are dissimilar from them, especially when the threat of mortality was made salient.
- If the target was similar to them, they would not dislike them.
- Low authoritarians exhibited less disliking for dissimilar individuals as compared to high authoritarians.

3. Experiment 3:

- **Method:** participants either [IV₁: had their mortality made salient or not] before reading an essay with [IV₂: negative, mixed, or positive reviews] that was presumably written by [IV₃: a communist or Harvard professor], and were asked whether they would like to meet with X.
- **Results:**
 - In the negative comments condition, liking is significantly lower in the mortality salient participants than the control participants.
 - Whether X was a Harvard professor or a communist did not matter.

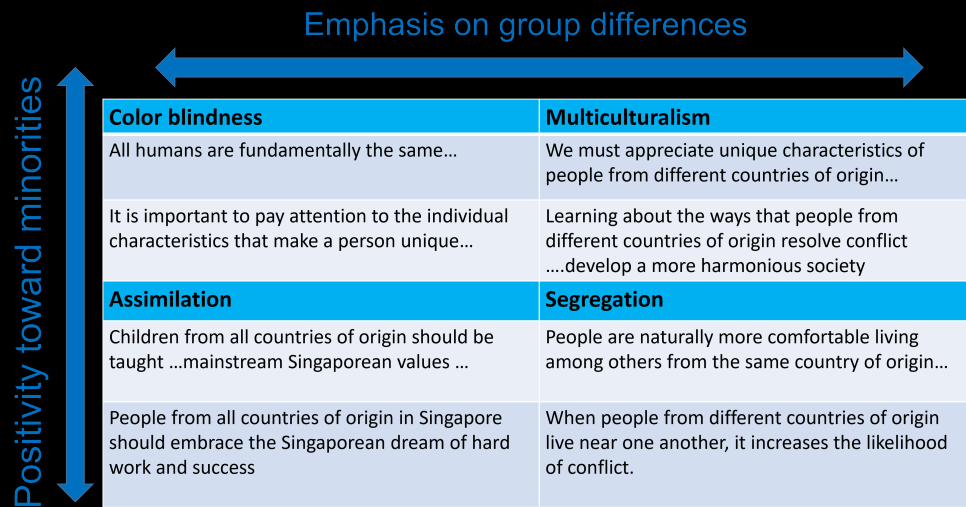
Note that the study was not conducted in Harvard.

Global orientation: some people are very comfortable with globalization and immigration (i.e., people who are high on **multicultural acquisition**, and low on **ethnic protection**).

- Generally, there is a default tendency for people who are high in global orientation to be more comfortable with foreigners.
- Current research:
 - **Method:**
 - * Singapore citizens were randomly assigned to COVID-19 salience [IV₁: absent vs present] conditions.
 - * These people were measured on their global orientation, either [IV₂: high or low], along a continuous scale.
 - **Results:**
 - * In the control condition, people with high global orientation were more willing to interact with people from China, as compared to people with lower global orientations.
 - * This tendency was even stronger in the mortality/COVID-19 salient condition.

People who were in the salient condition were exposed to discussions about COVID-19, and had higher death anxiety.

Cultural ideologies can be categorized along two dimensions:



- Current research:
 - **Results:**
 - * In general, people prefer colorblindness and multiculturalism.
 - * People with COVID-19 salience had increased preference for assimilation, to the extent that it was favored as much as colorblindness.
 - **Conclusion:** death anxiety does not reduce support for multiculturalism, but rather it increases support for assimilation.

7.2 Mood & cognition

People often use feelings as a basis for judgment (i.e., the “how do I feel about it?” heuristic).

- While this may be informative, it can also be misleading, since mood can be produced by numerous factors other than the target of judgment.
- Schwarz & Clore (1983, 1986):
 - **Method:**
 1. Participants were phoned on a sunny or cloud day.
 2. The experimenter (allegedly calling from a different city) either [IV: did or did not ask about the weather].
 3. Participants were then asked about their life satisfaction and current mood.
 - **Results:**
 - * Generally, people were happier on sunny than rainy days.

- * Weather only affects life satisfaction judgments when participants were not reminded of the source of their mood.
- **Conclusion:** our mood can influence our judgments, as long as the source of our mood is not highlighted.

Many objective factors can make people happier (e.g., wealth, health, supportive marriage, lack of trauma). However, they only account for 8-15% of the variability in happiness.

Lyubomirsky & Ross (1997):

- **RQ:** do happy and unhappy people differ in their cognitive processes (i.e., how they process the same situation)?
- **Hypothesis:** happy people will use social comparison strategically to self-enhance, but unhappy people will not.
- **Method:**
 1. Participants did some initial self-ratings, including present mood and ability to solve anagrams.
 2. They were then tasked to solve as many anagrams as possible in 20 minutes, in the same room as a confederate who is either [IV: 50% faster or slower] than the participant.
- **Results:**
 - Both happy and unhappy people in the slow peer condition felt that they were pretty good at solving anagrams.
 - Happy people in the fast peer condition still felt that they were pretty good at solving anagrams.
 - Unhappy people in the fast peer condition felt that they were bad at solving anagrams.
- **Conclusion:**
 - Happy people do not use downward social comparison strategically.
 - Instead, unhappy people use social comparison in a detrimental fashion, whereas happy people do not.

Happy people's happiness may act as a buffer against low mood as a result of social comparison.

Lecture 11
13th April 2023

Tugging at heartstrings (Tan & See, 2022):

- **Background:**
 - Past research has led to the conclusion that better partner knowledge/understanding (i.e., agreement between partner and self perceptions) corresponds to better relationship outcomes.
 - People have subjective perceptions about their affective-cognitive attitudes (i.e., **meta-bases**), and these perceptions are manifested in observable behaviors.

- * Example of meta-base: “to what extent do you think your attitudes toward X (i.e., some object) are driven by emotions?”
- **Hypothesis:** given a partner with highly affective meta-bases, greater agreement between one’s rating of the partner’s affective meta-bases and the partner’s own self-ratings (i.e., partner’s knowledge) would predict greater use of emotional appeal.
- **Method:**
 1. Participants are queried w.r.t. their (1) attitudes on various topics, (2) meta-bases (i.e., extent to which they see themselves as emotional), and (3) perceptions of partner’s affective-cognitive bases.
 2. They were then informed about disagreement in attitudes on 2 topics, and presented with 2 messages for each topic to present to their partner.
 - One of the message is cognitively-based, whereas the other is affectively-based.
- **Results:**
 - People who rated themselves as highly affective: choice of message is affected by their partner’s perceived affective meta-bases.
 - People who rated themselves as less affective: choice of message is not affected by their partner’s perceived affective meta-bases.

8 CROSS-CULTURAL COGNITION

There are several cross-cultural differences in:

- Emotional reliance.
- Attitude polarization.
- Thinking styles.

8.1 *Emotional reliance*

One of the most important schemas we have is the **self-schema/concept/construal**.

- Self-construals can be either **independent** or **interdependent**.
 - In Western cultures, the self is viewed as **independent**. There is greater emphasis on attending to the self, and appreciation of one’s differences with others.
 - In Eastern cultures, the self is viewed as **interdependent**. There is greater emphasis on fitting in with others, and attending to the needs and work of others.

- Self-construals can affect one's emotional reliance (**Hong & Chang, 2015**).
 - **RQ:** do independent and interdependent self-construals lead to different extents of emotional reliance?
 - **Hypotheses:**
 - * Independent self-construal → emphasis on own satisfaction → greater reliance on feelings/emotions.
 - * Interdependent self-construal → emphasis on one's need to justify to others → greater reliance on cognition.
1. Experiment 1:
 - **Method:** participants recruited identified with either an [IV: independent or interdependent self], and were asked about their preference for either an affectively-superior (e.g., nice views but inconvenient) or cognitively-superior (e.g., spacious, near to MRT station, but subpar window view) apartment.
 - **Results:**
 - * People with independent self-construals picked the affectively and cognitively-superior apartments to the same extent.
 - * People with interdependent self-construals picked the cognitively-superior apartment to a greater extent.
 2. Experiment 2:
 - **Method:** participants were similarly identified as having [IV₁: independent or interdependent self-construals], and were asked about their intention to rent a room (similar to the ones above) given their current mood (i.e., [IV₂: positive or negative]).
 - **Results:**
 - * People with independent self-construals were more likely to rent the room when they were in a positive mood.
 - * People with interdependent self-construals were equally likely to rent the room regardless of their mood.
 3. Experiment 5:
 - **Method:** participants were similarly identified as having [IV₁: independent or interdependent self-construals], and were asked regarding their intention to rent a room, while being told [IV₂: whether there was a need to justify their decision to others].
 - **Results:**
 - * For people with independent self-construals, their intention to rent the affectively-superior apartment is lower when they had to justify their decision to others.
 - * For people with interdependent self-construals, their intention to rent the cognitively-superior apartment remains constant regardless of whether they needed to justify their decision.

8.2 Attitude polarization

When people have to make a choice between two equally attractive options, they would initially feel some discomfort (i.e., cognitive dissonance), and they will try to address their discomfort.

Brehm (1956):

- **Method:**
 1. Participants were asked to rate various appliances and gadgets.
 2. Then, participants were given an opportunity to choose between two appliances which they had rated to be similarly attractive (e.g., their 5th and 6th choices).
 3. After their decision, about 20 minutes later, participants had to re-rate the appliances.
- **Results:** participants rated the appliance which they chose more favorably than the appliance that they did not choose, and more favorably than before.
- **Conclusion:** when choosing between two **similar options**, we experience dissonance, and we try to reduce dissonance by polarizing our attitudes toward the options.

If the options are not similar, cognitive dissonance would not take effect.

Why do we try to reduce dissonance?

- Dissonance reduction is part of **self-image maintenance**.
- ⇒ Cross-cultural differences in self-concept should have an impact on how people reduce dissonance.
- **Hoshino-Browne et al. (2005):**
 1. Experiment 1:
 - **Method:** participants were either [IV₁: European or Asian Canadians], and they had to make a choice for [IV₂: themselves or a friend].
 - **Results:**
 - * European Canadians exhibited a spread of alternatives when they made a choice for themselves, but not when they made a choice for their friends.
 - * Asian Canadians exhibited a spread of alternatives when they made a choice for their friends, but not when they made a choice for themselves.
 2. Experiment 3:
 - **Method:**
 - (a) Asian Canadian participants were randomly assigned to a group for the [IV: self-affirmation manipulation], which was masked as a “separate study”.

- i. **Independent prime:** “choose a value that is personally important, how does it uniquely describe you?”
 - ii. **Interdependent prime:** “choose a value that is important to you and your family, why do you and your family share this value?”
 - iii. **Control condition.**
 - (b) They were then asked about their identification with Asian culture.
 - (c) Afterwards, participants performed a ranking/rating task similar to above.
 - (d) Finally, they were asked to make a choice between the 5th and 6th lunch coupons for their friend.
 - **Results:** participants in the control and independent self-affirmation condition showed more spread of alternatives than participants in the interdependent self-affirmation condition.
 - * For the no self-affirmation and independent self-affirmation conditions, participants reduced their dissonance by having a greater spread of alternatives.
- This was to determine whether they were mono-cultural or bicultural.
3. Experiment 4:
- **Method:** Asian Canadian participants were asked about their identification with Canadian culture [IV₁: low vs high], and were either provided with [IV₂: no or independent affirmation].
 - **Results:**
 - * Monocultural participants showed equally high spread of alternatives regardless of the self-affirmation condition.
 - * Bicultural participants showed higher spread of alternatives when there was no self-affirmation + lower spread of alternatives in the independent self-affirmation condition.

8.3 *Thinking styles*

Culture and contradiction:

- East Asians often think that two opposite propositions can be true, but Westerners are more likely to think that between two opposite propositions, only one can be true (**Peng & Nisbett, 1999**).
- **Method:** participants were presented with only statement A, only statement B, or both statements.
- **Results:**
 - * Chinese participants gave equal plausibility ratings for A and B in the both statements condition.
 - * US participants gave different plausibility ratings for A and B in the both statements condition.

- East Asians often expect that change is constant and fluctuating, whereas Westerners expect that change is static or linear (Ji et al., 2001).

- **Method:**

1. Participants were presented with graphs depicting different events over time (e.g., world GDP, death rate for cancer, etc.).
2. They were asked to predict the probabilities that the trend would continue, reverse, or stay the same.

- **Results:**

- * Chinese participants gave higher probabilities for trend reversal than US participants.
- * US participants gave higher probabilities for trend continuation than Chinese participants.

Culture and attention:

- Asians pay more attention to the background/context than Westerners.
 - **Masuda & Nisbett (2001):** Japanese participants were much more likely to mention context and have context-related memory of scenes than US participants.
 - **Masuda & Nisbett (2006):** Japanese participants were much more likely to detect changes in the context than US participants; US participants were more likely to detect focal changes than Japanese participants.
- East Asians take more overall information into account when explaining an event (Choi et al., 2003).
 - **Method:** participants were told that a student stabbed a professor, and were given over 100 potential factors that may have contributed to the event.
 - **Results:** Korean participants kept track of more potential causes than US participants.

In general, Asians are more likely to engage in **holistic thinking**, whereas Western individuals are more likely to engage in **analytic thinking**.

Analytic thinking	Holistic thinking
Two contradictory statements cannot be true at the same time.	Two contradictory statements can be true at the same time.
Change is linear.	Change is cyclical.
Attention to parts/figure.	Attention to whole/context.
Any event has a few potential causes.	Any event has many potential causes.

In their study, Choi et al. (2007) found that differences in analytic and holistic thinking cannot be attributed to differences in individualism vs collectivism.

A EXPERIMENTS

Schwartz et al. (1991)

1. Experiment 1:

- **RQ:** Does the availability heuristic occur due to the content of the recall or the experience of the recall?
- **Method:** participants had to give [IV₁: 6 vs 12] examples of [IV₂: assertive vs unassertive] behaviour, and rate their assertiveness.
- **Results:**
 - Recalling *fewer* examples led to judgments of greater extremity than recalling more examples.
 - We rely on the availability heuristic due to the **ease** of which examples come to mind.

2. Experiment 2:

- **RQ:** Does it matter how we attribute the experience of ease?
Were the findings due to the content of the recall becoming lower in quality/less rich in detail?
- **Method:** same as before, with an additional factor, **diagnosticity**.
 - Low diagnosticity \implies EOR is due to target.
 - High diagnosticity \implies EOR not due to target, but reasons external to the target (e.g., saying that “many other participants say that they have exhibited such actions too”).The quality of examples were also carefully noted.
- **Results:**
 - The last two examples of the 12-example conditions were not lower in quality than the last two examples of the 6-example conditions \implies content of recall was not a moderating factor.

3. Experiment 3:

- **Method:** similar steps, but diagnosticity was now operationalized differently. Participants were initially told either of the following:
 - “Music facilitates recall of assertiveness”.
 - “Music facilitates recall of insecurity”.before the recall task was carried out.
 - Low diagnosticity: given statement matches participants’ behaviour.
 - High diagnosticity: given statement contradicts participants’ behaviour (e.g., “music facilitates recall of assertiveness”, but participants found it hard to recall when they were assertive).
- **Conclusions:**
 - How we attribute the experience of ease does moderate the relationship between ease and self-assertiveness ratings.

- * When ease was attributed to self-assertiveness, greater ease led to higher self-assertiveness ratings.
- * When ease was attributed to an external factor, there is no relationship between ease and self-assertiveness.

Tormala et al. (2002)

1. Experiment 1:

- **RQ:** is EOR more likely to occur under high thinking or low thinking conditions?
- **Method:**
 - (a) Participants were first asked to rate some statements according to how characteristic or uncharacteristic it is of them, to determine their *need for cognition*:
 - “I prefer simple to complex problems”.
 - “Thinking is not my idea of fun”.
 - (b) Participants then had to give [IV₁: 2 vs 8] counterarguments against an exam proposal.
- **Results:**
 - EOR is more likely to occur under high thinking than low thinking conditions.
 - * Among high NC individuals, those who generated 2 thoughts against the exam proposal were more negative than those who generated 8 thoughts.
 - * Among low NC individuals, those who generated 8 thoughts against the exam proposal were more negative than those who generated 2 thoughts.

need for cognition, e.g.: the extent to which individuals are inclined towards effortful cognitive activities.

2. Experiment 2:

- **Method:** similar to experiment 1, but need for cognition is replaced with personal relevance and accountability.
 - High personal relevance & accountability → ↑ mental effort.
 - Low personal relevance & accountability → ↓ mental effort.
- **Results:**
 - EOR is more likely to occur under high thinking than low thinking conditions.
 - * Among high thinking participants, those who generated 2 thoughts for the exam proposal were more positive than those who generated 10 thoughts.
 - * Among low thinking participants, no such differences occurred.

3. Experiment 3:

- **RQ:** Are the EOR effects under high thinking conditions due to **thought confidence**?

-
- **Method:** similar as before, but with the accountability factor removed.
 - **Conclusion:** EOR is more likely to occur under high thinking due to thought confidence.

Bargh et al. (1996)

- **Method:**
 1. [IV: Black or White] faces were flashed outside of participants' awareness (i.e., 20ms) before each trial.
 2. After the 300th trial, participants saw a message informing them that the system failed to save their results, and they had to start over with the experiment.
- **Results:** participants who were flashed Black faces were more hostile, as compared to those who were presented with White faces.

Bargh, Chen, & Burrows (1996)

- **Method:**
 1. Participants performed a scrambled sentence task with [IV: neutral words or words related to the elderly] (e.g., old, grey, Florida, etc.).
 2. Then, they were asked to walk down a hall to get to the next part of the experiment.
- **Results:** participants who were primed with words related to the elderly walked more slowly than participants in the control condition.

B TUTORIALS

Blankenship et al. (2008):

Credits to TA Ryan Chua for his comprehensive slides.

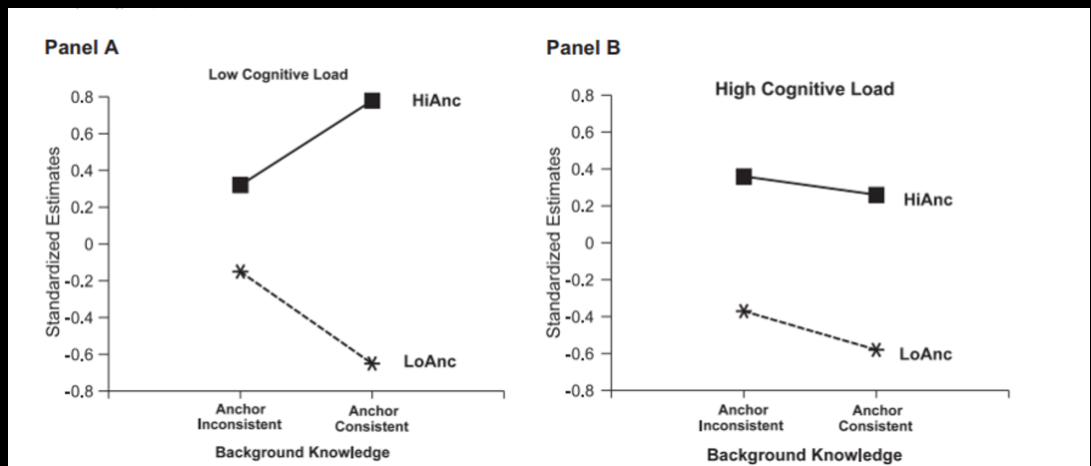
- **RQ:**
 - Can numerical anchoring occur in both thoughtful and non-thoughtful conditions?
 - Does numerical anchoring in the thoughtful condition result in judgments that are more persistent and resistant?

1. Experiment 1:

- **Method:**
 - (a) Ps read passages (i.e., background information, some which were relevant to the subsequent anchoring task).
 - (b) Filler task was given: high cognitive load (i.e., answer MCQs + see how many letters were vowels in a series of letters) vs low cognitive load (i.e., only answering MCQs).

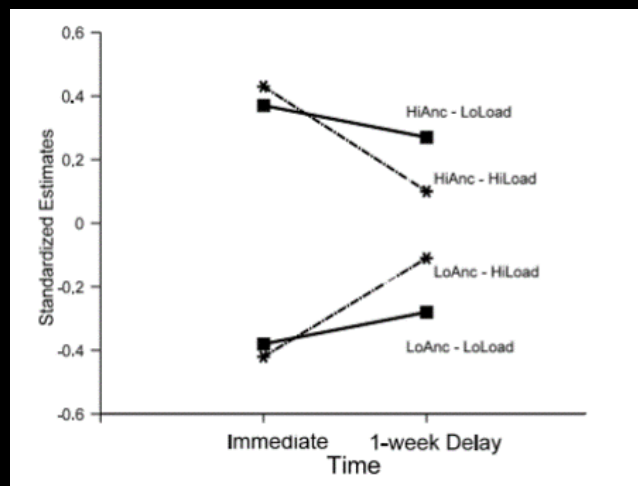
(c) Asked to anchor is higher or lower, and estimate value.

- **Results:** relevant (i.e., anchor consistent) background knowledge influences judgments to a greater extent when cognitive load was low (i.e., thoughtfulness was high) rather than high.



2. Experiment 2:

- **Method:**
 - Repeat steps 1-3 in experiment 1.
 - Ps asked again to estimate the value after a 1-week delay.
- **Results:** anchored judgments *last longer* when formed under conditions of low rather than high cognitive load.

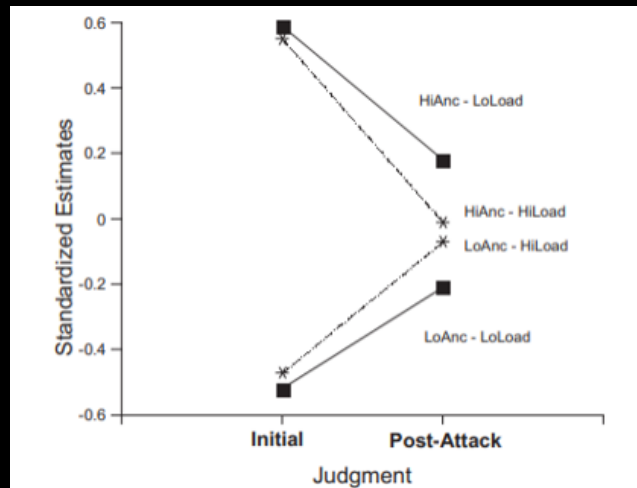


3. Experiment 3:

- **Method:**
 - Repeat steps 1-3 in experiment 1.
 - Post attack: told that 10% of previous participants gave either much higher (for low anchor condition) or lower estimates (for high anchor condition).

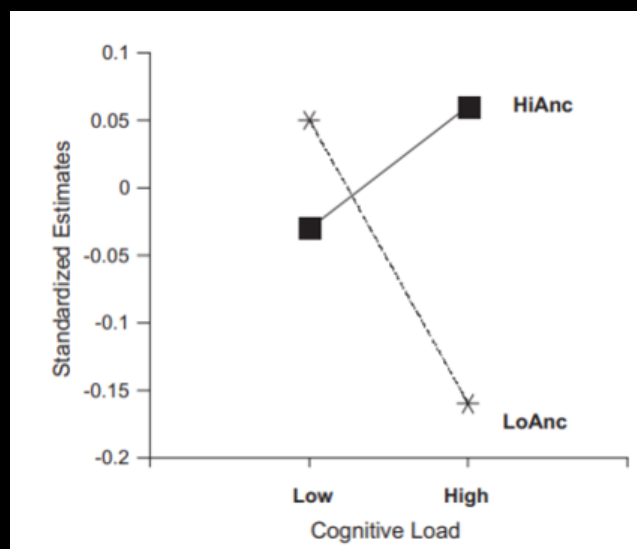
(c) Ps were asked again for an estimate.

- **Results:** anchored judgments *better resist social influence* when formed under conditions of low rather than high cognitive load.



4. Experiment 4:

- **Method:**
 - (a) Ps read passages with background information that were irrelevant to the subsequent anchoring task.
 - (b) Repeated steps 2-3 in experiment 1.
- **Results:** numeric priming is more likely to create anchoring effects when ability to think about target judgments is relatively low.



B.1 Attitudes

Attitudes are evaluations of people, objects, and ideas.

- **Explicit attitudes:** attitudes that we *deliberately* think about and report; measured by self-reports.
- **Implicit attitudes:** attitudes that occur *outside of our conscious awareness & control*; measured by the Implicit Association Test (IAT).
 - Implicit attitudes are formed through repeated experiences and associations that are processed automatically → able to unconsciously influence spontaneous behaviour.
 - Implicit attitudes can predict controlled behaviour when implicit and explicit attitudes converge, which occurs under high thought conditions.
 - * When a person has a personal connection or investment in a specific topic, they are likely to think more deeply about the topic → have greater awareness about their implicit attitudes and modify these attitudes to match their personal beliefs and values → predict controlled behaviour.
 - * For example, an activist for racial equality may be more motivated to engage in introspection/self-reflection on their racial attitudes and behavior. The increase in thinking of the topic on racial equality may increase the accessibility of their implicit attitudes. In other words, their implicit attitude can become conscious/explicit. From there, they may realize that they had an underlying negative attitude that blacks are dangerous. This may prompt the activist to change the said attitude to become more congruent with their personal value → that we shouldn't judge someone based on the color of the skin. By modifying their attitude that "not all blacks are dangerous" → predict their controlled behavior (e.g., will no longer be scared of sharing the same lift with a black person).

Implicit Association Test (IAT):

- The IAT is based on the idea that people's implicit attitudes or biases can influence their judgments and behaviour, even if they are not consciously aware of them.
- It measures the strength of automatic association between 2 concepts (or a target + evaluation).
- If two concepts are strongly associated with each other, there will be faster response times.

Example of a series of steps taken during IAT:

1. Participants are tasked to categorize as quickly as possible by pressing the designated key when they see the target category stimuli (e.g., 'E' for Whites and 'I' for Blacks).
2. Likewise, participants must quickly categorize positive and negative stimuli by pressing 'E' and 'I' respectively.
 - In the congruent trial, positive words and Whites are paired with the same key, and negative words and Blacks are paired with the same key.
 - In the incongruent trial, positive words and Blacks are paired, whereas negative words and Whites are paired.
- A **faster response time for a specific pairing** indicates a stronger unconscious association between the categories.
 - If there is no significant difference in response time between congruent and incongruent trials, then there is no unconscious preference for either race.
- Participants who have an implicit preference for Whites over Blacks may also make **more mistakes in the incongruent trials**.
 - This is because they have to override their personal strong associations of White-good and Black-bad, and they may not be successful in overriding such tendencies all the time.

Advantages of IAT over self-reports:

- Resistant to familiarity.
- Resistant to faking: it taps on automatic responses *to* great for measuring attitudes towards socially sensitive topics.
 - However, when participants were explicitly told to slow down their responses to the IAT, they were able to produce fake scores.

B.2 Misc

Schultz & Maddox (2013):

- To reduce evaluative backlash against Black communicators communicating about racial bias, they need to consider making *high quality* explanations, especially against an audience with *meritocratic beliefs*.

This is because racial claims threaten meritocratic beliefs.

Ordabayeva & Fernandes (2017):

- Similarity focus can increase support for redistributive policies.

- Similarity focus → people are similar in how hard they work → people don't always get what they deserve → current distribution is unfair → increase taxation for the rich.
- To convince people to support redistributive policies, we can use dispositional attributions to make people think about the similarities between them and the lower classes.
- How can stereotypes lower support for redistribution in high racial fragmented areas? (availability heuristic + illusory correlation → salience).

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