CS5005: The Power of Media: Myth & Reality

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Preface

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Part I

PART 1 : LECTURES

1 Introduction to Media Effects

1.1 Types of Media Effects

MANY TYPES OF MEDIA EFFECTS

Today, media scholars understand **media effects** as being more complicated than either the magic bullet or the limited-effects view would imply. Depending on the message, the medium, the audience, and the type of effect focused on, researchers have found the effects of media to be either strong or weak. In one of the classic essays written on media effects, Jack McLeod and Byron Reeves outlined a number of ways to think about media effects.[26] Their analysis reveals that there is no simple answer to the question of whether the media affect people. It depends on what type of effect you may be talking about. According to McLeod and Reeves, media effects can be classified in many ways using some of the category schemes that follow. The appearance of their essay in 1980 signaled a major move toward conceptualizing media effects in a much more sophisticated way than had been typical only 20 years earlier. Today, research on media effects makes use of all the distinctions alluded to by McLeod and Reeves.

Micro-Level or Macro-Level Effects Micro-level effects involve effects on individual media consumers. Studies that rely on the experimental method are typically designed to uncover micro-level effects. Studies that monitor physiological arousal while viewers watch a horror movie are concerned with how media messages affect individual body physiology. On the other hand, research on **macro-level effects** might examine media impact on large communities. Some researchers are concerned that in an age of media mergers and large corporate ownership of media outlets, the quality of news coverage in a given area might suffer and communities might not have adequate exposure to certain issues. Researchers may want to investigate the

Figure 1.1: Excerpt Taken from the Course's Textbook

CS5005 covers the following media effects on...

1. **A Micro-Level**

   These deal with effects that affect individuals - for instance, arousal when watching shows.

2. **A Macro-level**

   These deal with effects that affect large communities.

2 Scientific Study of Media Research

2.1 Ways of Knowing

CS5005 outlines three main ways of knowing:

1. **Experience**

   One possible way to learn more about a subject is to experience it firsthand.

   Experience is good in that it allows a person to get up close with the topic. However, it is often messy and may result in different outcomes for different experiences.

2. **Authority**

   Which includes scientists, political leaders, religious leaders, community leaders, and elders.

   Authority is the easiest way of knowing, but authorities may sometimes have vested interests.

3. **Science**

   Science combines logic and empiricism with the thought of improving precision via observation.

2.2 Goals of Science

Science has three main goals:

1. **Prediction**

2. **Explanation**

3. **Understanding**

   This refers to knowing how a particular sequence of events might unfold in a given phenomenon.

2.3 Achieving the Goals of Science

Science is general and assumes that there is one "objective truth". Scientists adopt a skeptical attitude (which often leads to controversy).

Yet, science is unable to answer *all* questions.

2.4 Discovering Effects of Media Content

CS5005 lists three main ways:

2.4.1 Content Analysis

This is a research technique for objectively, systematically, and quantitatively describing content in communication media.

1. Type of movie (1 = Comedy; 2 = Action, 3 = Horror, 4 = Others)

2. Presence/Absence of smoking (1 = Absent; 2 = Present)

3. Length of smoking footage (in seconds)

4. Type of person smoking (1 = Antagonist, 2 = Protagonist, 3 = Others)

5. Portrayal of smoking (1 = Glamorous, 2 = Dirty, 3 = Everyday life)

Figure 2.1: A Sample Coding Category for a Smoking Study

For instance, researchers specify a set of rules for selecting media and "coding" them. A **coder** is a person who classifies content into categories - the system used by the coder is such that any other person who uses the system will also end up with the same result.

2.4.2 Surveys

There are two main kinds of studies covered in CS5005:

1. **Cross-Sectional Studies**

   These surveys are based on a sample at a single time. Most exploratory and descriptive studies are often cross-sectional.

2. **Longitudinal Studies**

   These can be broken down into three more kinds of (sub-)studies:
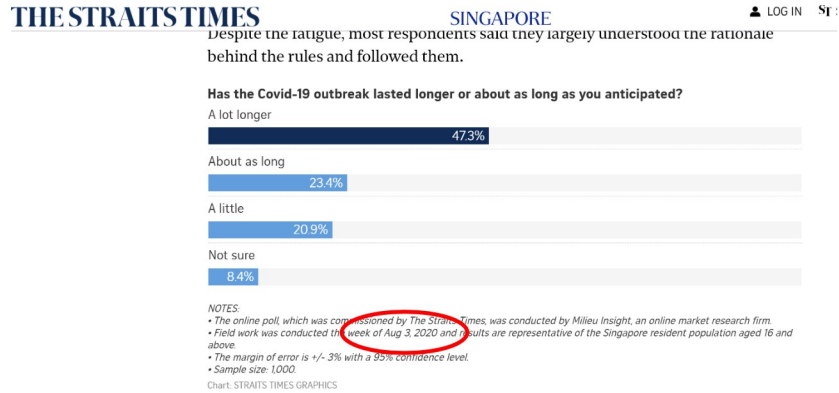
Figure 2.2: Cross-Sectional Study Conducted in the Straits Times

1. *Trend Studies*
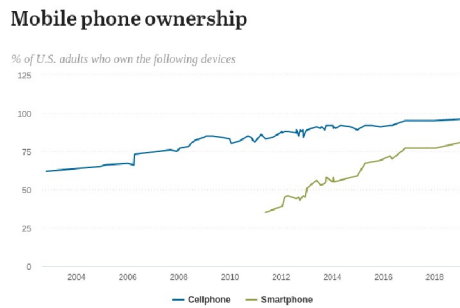
Figure 2.3: Trend of Mobile Phones over Time

   A trend is analyzed.

2. *Cohort Studies*

   One follows the same group over time. However, the same people may not be followed up on.

3. *Panel Studies*

   This kind of study surveys the same people over time.

2.4.3 Experiments

To perform an experiment, one identifies their independent and dependent variables (i.e., IVs and DVs). The IVs are manipulated.
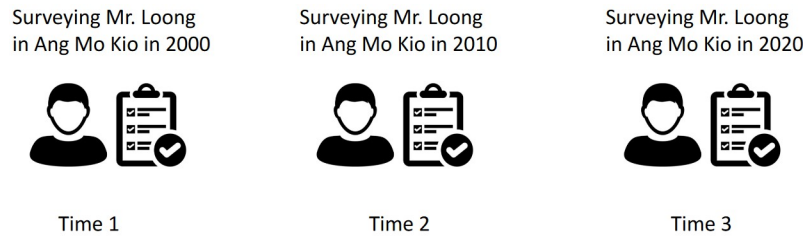
Figure 2.4: An Example of a Panel Study

Participants of the study also get randomly assigned to different conditions of the IV. The results obtained from the IVs should be compared against those with the control group.

2.4.3.1 Criteria for Determining Casual Relationships

There are three main conditions:

1. **Correlation**

   It must be statistically significant.

2. **Time order**

   The independent variables of a study *must* come before the dependent variable of a study.

3. **Non-spurious relationships**

   Spurious relationships can cause weird conclusions. Some examples of spurious relationships can be found here.

2.4.3.2 Types of Experiments

There are three main kinds covered in CS5005:

1. Pre-test and post-test design
2. Pre-test and a post-test with control[1]
3. Post-test-only design

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[1]A control is present here - subjects in the control also take the pre-test and post-test survey.

3 History of Media Effects and Time Spent with Media

Media was traditionally consumed **orally** or in **written** forms. In other terms, knowledge was transmitted via speech or in writing.

3.1 Mass Communication at Scale
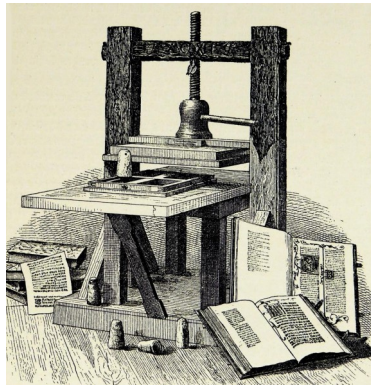
Figure 3.1: Sketch of the Printing Press

Johannes Gutenberg is associated with the invention of the printing press in 1452. The first book printed was the *Gutenberg bible*.

The press revolutionized communication in ways such as:

1. Facilitating the spread of knowledge and ideas in a way that was fast and economical.
2. Made it easier to access knowledge.
3. Starting the idea of "mass communication".
4. Accelerating the growth of social movements.

3.2 Key Moments in Media Effects

3.2.1 Media and War

Figure 3.2: The Yellow Kid and the Penny Press

The **penny press** is the ability to mass-produce papers at a low cost. Penny presses may also involve **yellow journalism**: articles that are sensanationalistic for the sake of increasing readership or sales.

Figure 3.3: The Yellow Kid and the Penny Press

Media can also be used as a platform to sell *anything* - including war (i.e., see above propaganda).

3.2.1.1 Experiments on Movies on World War 2

The American government noticed that the Germans were effectively using wartime scenarios in films - consequently, the government called upon Hollywood for its war efforts.

Frank Capra was called upon to make a film series titled *Why we Fight*. This series was shown to the public (particularly military members) to boost their morales and influence their public attitudes.
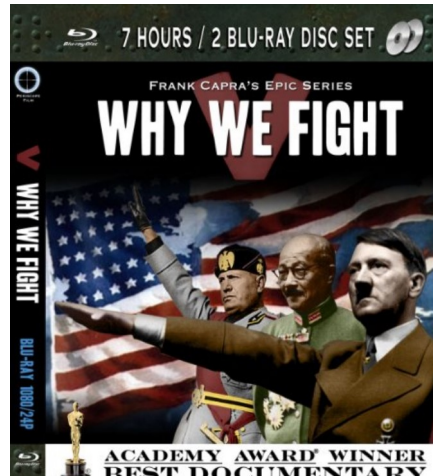
Figure 3.4: Frank Capra's *Why we Fight* Series

The American government also commissioned a team of researchers to find out how effective Capra's films were in influencing public opinion - they found out the following:

1. There were no profound effects.
2. There was evidence that there was a motivational change in soldiers.
3. Perhaps it could be due to a "ceiling effect"?

3.2.1.2 Payne Fund Studies

In 1928, there were concerns over the effects that movies had on children.

Hence, Edgar Dale studied 1500 films' contents and classified them. His work showed that more than 75% of the films he analyzed could be put into one of three categories: crime, love, and sex.

His findings were as follows:

1. **Physiological Responses**

   The children showed no physiological responses[1], but adolescents showed increase physiological responses.

2. **Behavioral Responses**

   Herbert Blumer administered questionnaires and interviews with children, adolescents, and young adults.

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[1]For instance, galvanic skin responses (i.e., sweat)

From this, the **theory of social learning** was developed: children are likelier to imitate characters who are rewarded for their behaviors and are seen as "attractive".

3.3 Media Effect Theories

CS5005 covers the following theories:

1. **Hypodermic Needle** (of mass communication)

   This is also known as the *magic bullet model*. This theory states that media is a powerful catalyst for change and influence.

   All media are powerful and people are vulnerable to their effects.

2. **Two-Step Flow of Communication**
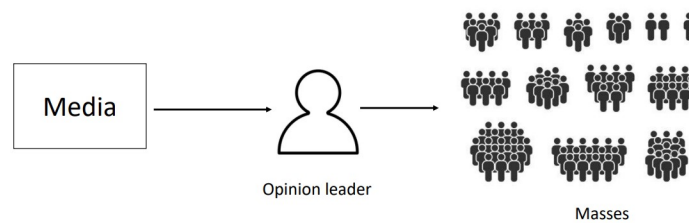
Figure 3.5: Diagrammatic Illustration of Two-Step Flow

   This theory states that media's effects are limited to a few people (i.e., people who have authority or opinion people) who in turn will influence others via interpersonal communications.

3. **Selective Exposure to Communication**

   This thoery states that people are motivated to expose themselves to messages that they agree with while avoiding messages that they don't agree with.

Note that media theories 2. and 3. are what as known as **limited effects models (or theories)**: theories or models that state that media effects are small to negligible.

3.4 Media Use and Gratifications

Individuals can use media for a variety of reasons, including but not limited to:

1. Learning
2. Habitual usage

3. Companionship (e.g., parasocial[2] relationships)
4. Arousal (e.g., sensation seeking)
5. Relaxation escapes
6. Passing time
7. Social interactions

3.5 Media as the Boogeyman

The **displacement hypothesis** states that media can displace the following:

1. **Important Activities**

   Including sleep, relationships, and academic learning or work.

2. **Public Health Problems**

   Including obesity, mental health issues, and body image dissatisfaction.

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[2]This is when a person develops a relationship with a TV character.

4 Media and Emotions

4.1 Scary Media and Children

Figure 4.1: Timelapse of a Cartoon Girl Growing Up

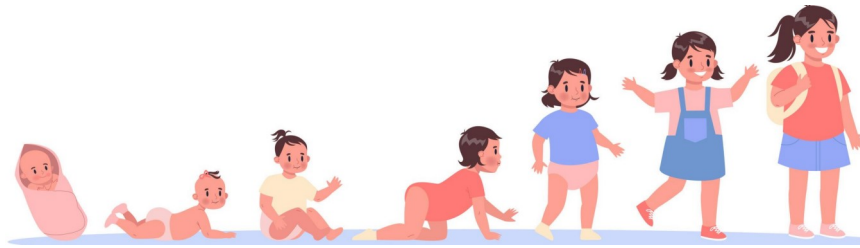Children who are between two to seven years old think **perceptually**: how things appear tend to dominate a child's interpretation and reaction to the world.

Children who are older than seven begin moving towards **conceptual** or **abstract thought**.

4.1.1 Incredible Hulk Story

Figure 4.2: The Hulk and his Human Form

50 participants from two pre-schools (three to five year olds) and 51 children (aged nine to eleven years old) in an elementary school partook in this study.
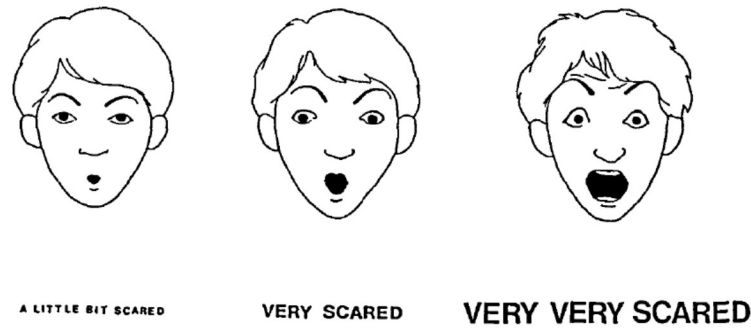
Figure 4.3: Visual Aids Used for Assessing Fear in Children

The participants were shown a clip of the Hulk transforming and saving somebody in the hospital before being asked how they felt.

Older children showed more fear during the clip's explosions and fires, only calming down when the Hulk appeared. Younger children were calmer at the beginning of the Hulk show and got upset when the Hulk appeared.

Hence, this study showed that different kinds of media have different fear responses among children of different ages. Older children would have felt a greater amount of fear the scene shown was a real possibility and the consequences are physically threatening.

4.2 Law of Apparent Reality

> "Emotions are elicited by events appraised as real, and their intensity corresponds to the degree to which this is the case".
>
> – Lecturing slides

Hence, the implication of the above blockquote is that a viewer who perceives content to be "real" will feel higher amounts of fear or another emotion.

4.3 Lingering Effects of Fear

There are two kinds of memories:

1. **Explicit Memories**

   These are memories that are stored in the hippocampus and are more susceptible to change and decay[1].

2. **Implicit Memories**

   These are memories that are stored in the amygdala and are recalled quickly. Such memories can also evoke the fight-or-flight response.

4.4 Coping with Fear and Media

Cognitive strategies are strategies that encourage children to think about what they know and relate their knowledge to the scary aspects of what they are watching.

Non-cognitive strategies involve distracting or avoiding the content in general.

Such strategies may involve:

1. **Restrictive parental mediation**

   This is where parents set strict rules about media.

2. **Active mediation**

   This is where parents instruct and explain to children on media usages.

3. **Co-Use**

   Parents and children use the same media together.

4.4.1 Behavioral Consequences

This sub-subsection examines several theories:

4.4.1.1 Theory of Excitation Transfer**

This states that arousal from any source can intensify an emotional experience and make it much more prominent that it typically would (i.e., minus the arousal).

In the context of fear, fear itself can become euphoria.

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[1]That is, explicit memories are easier forgotten.

4.4.1.2 Theory of Mood Management

This theory four components to it:

1. **Excitatory Potential**

   Media can influence physiological arousal.

2. **Absorption Potential**

   Media presentations can "absorb" the viewer into the content - this is also known as **flow theory** in academia.

3. **Semantic Affinity**

   Media content can be associated with people's positive and negative emotions.

4. **Hedonic Valence**

   This refers to the idea that media is capable of stirring people's emotions.

4.4.2 Limitations of Fear Appeals

Fear is an emotion that protects one against danger (or somethign else).

However, fear's effectiveness also depends on the event itself and the person.

5 Persuasion

This week's lecture discusses various aspects of persuasion.

5.1 Three Dimensions of Persuasion

The three dimensions are:

1. Change in Attitude
2. Change in Behavior
3. Persistent Change

5.2 Weapons of Influence

The assigned reading lists several:

1. **Reciprocity**

   If somebody does something for you, you will typically feel the need to reciprocate and do something in return.

2. **Commitment and Consistency**

   People strive for consistency in their behaviors, and this desire can sometimes be used against the person.

3. **Social Proof**

   When one is unsure how to act, they look to others around them for guidance.

4. **Authority**

   People tend to respond more readily to individuals who they view as authority figures.

5. **Scarcity**

   People tend to go after items that appear to be high demand.

5.2.1 Elaboration Likelihood Model (i.e., ELM)

This model states that individuals are motivated by two routes:

1. **Central Route to Persuasion**

   This is the highly cognitive route to persuasion (i.e., the route that uses facts and logic).

   This route kicks in when the message shown is counter-attudinal.

2. **Peripheral Route Persuasion**

   Certain cues in the message being shown lead people to accept the proposition with very little thought or scrutiny (e.g., emotional appeals, source credibilities, etc).

5.3 Cultivation Theory

Social media presents a view of social reality.

First order cultivation is a process whereby heavy viewers believe that the real world is like the TV world.

Second order cultivation is a result of viewers adopting a particular attitude as a result of their media exposures.

5.3.1 Mechanisms of Social Theory

Mainstreaming refers to the idea that differences across people's perceptions and / or attitudes across groups would be minimized as they are cultivated by the same media messages.

Resonance occurs when a person's real life environment strongly resembles environments depicted in media.

Some other theories include:

1. **Accessibility Principle**

   Information that comes first to somebody's mind.

2. **Drench Hypothesis**

   Critical images overwhelm stereotypical ones that appear regularly.

3. **Drip-drip-drip Hypothesis**

   These refer to effects that emerge after steady, long-term exposure.

In a study conducted by Doob and MacDonald, participants were examined for TV exposure and for their fear of criminal victimization in Toronto. The researchers found that heavy media viewers feared being victims of crime, while people living crime-ridden neighborhoods stayed home and watched more TV.

5.3.2 Criticisms of Cultivation Theory

No conclusive testing has been done on this theory; most research has only found effects in the short term (i.e., not the long term).

5.3.3 Landscape Theorem

> "When people watch a movie, their primary focus is on comprehending the story. What viewers cognitively do with different information in a movie — including brand placements — depends on the implications of the information for comprehending the movie."
>
> – Yang & Roskos-Ewoldsen

There are two kinds:

1. **Explicit Memory**

   In other terms, recall the brand.

2. **Implicit Memory**

   Respondents were asked to fill in the blanks after showing them word fragments.

In the study conducted by Yang & Roskos-Ewoldsen, 375 participants were assigned to any of the three conditions:

1. Product brands appeared in the background in an incidental way.
2. The product was used by the main character.
3. The product was centrally connected to the main story.

The highest level of recognition was observed when the product was tied in with the main story (e.g., Transformers).

Participants who saw the main character using the brand were lower on recognition as opposed to the third condition. However, it was still higher than the first condition.

5.4 Prospect Theory

Some key assumptions of this theory include:

1. People want to avoid losses and not gains (i.e., people are loss-averse).
2. People are risk averse when facing gains, but risk-seeking when faced with losses.

5.4.1 Message Framing

GAIN FRAME

There are many benefits, or good things, you may experience if you get tested for HIV. If you decide to get HIV tested, you may feel the peace of mind that comes with knowing about your health.

LOSS FRAME

There are many benefits, or good things, you may not experience if you do not get tested for HIV. If you decide not to get HIV tested, you will not feel the peace of mind that comes with knowing about your health.

Figure 5.1: An Example of a Gain and Loss-Framed Message

When individuals consider a behavior that involves some risk of an unwanted outcome (e.g., a health problem), *loss-framed* appeals tend to be more appealing.

> "Framing has theoretical roots in prospect theory, which states that presenting the sameinformation about risk in different ways alters people's perspectives, preferences and actions."
>
> – Kahneman & Tversky, 1979

However, when individuals consider an activity with a low-risk of an unwanted outcome, *gain-framed* appeals tend to be more effective.

5.4.2 Third Person Effect

This is the belief that media influence is stronger for others than it is for the individual.

6 Imapct of News Media

Journalists have numerous responsibilities - for instance:

1. Informing the public on matters and topics
2. Educating the public on and raising awareness on a certain topic
3. Nation building
4. Acting as a watchman

Furthermore, journalists are also influenced by external parties - for instance, the government, their managers (i.e., bosses), their family, their finances, advertises, and political figures to name a few!

6.1 Filters of Mass Media

According to the book *Manufacturing Consent*, there are five filters of mass media:

1. Media ownership
2. Advertising money (i.e., paying for the audience as a product)
3. Media elites (i.e., ensuring complicity)
4. Flack
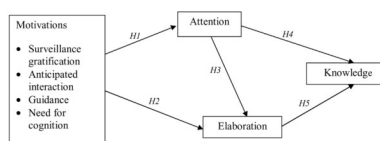5. Common enemy

6.2 Why Consume News?

Figure 6.1: The Cognitive Mediation Model

The above diagram lists several terms suggesting why it is that individuals consume news media:

1. **Surveillance Gratification**

   Individuals have a tendency to use news media as a way of gaining information about their social environments.

2. **Anticipated Interactions**

   Individuals use social media as a way of finding social resources for future conversations with others.

3. **Guidance**

   Individuals may use news media as a gauge for how they should behave and feel (about a certain topic).

4. **Need for Cognition**

   This is a need to understand and find meaning in an experimental world.

5. **Risk Perception**

   This refers to how seriously perceive a problem.

6.2.1 Passive Consumption

There are two general ways that individuals can passively consume news:

1. **Incidental Exposure**

   Individuals are coincidentally exposed to news media in spite of them not searching for it.

2. **"News-find-me" Phenomenon**

   This is the belief that important news will eventually find its way to the individual.

6.2.2 Agenda Setting Theory

This is the belief that although the press may not be able to tell what to think, it can still tell you what *to think about*.

6.3 Message Framing

> Framing has theoretical roots in prospect theory, which states that presenting the same information about risk in different ways alters people's perspectives, preferences and actions
>
> – Kahneman & Tversky, 1979

Message framing is an idea that utilizes emphasis, exclusion, elaboration, and selection to deliver content.

GAIN FRAME

There are many benefits, or good things, you may experience if you get tested for HIV. If you decide to get HIV tested, you may feel the peace of mind that comes with knowing about your health.

LOSS FRAME

There are many benefits, or good things, you may not experience if you do not get tested for HIV. If you decide not to get HIV tested, you will not feel the peace of mind that comes with knowing about your health.
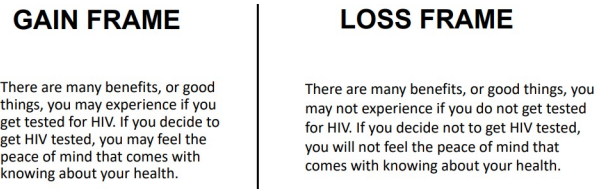
Figure 6.2: Examples of Gain-Framed and Loss-Framed Messages

People are generally risk-averse when it comes time to face losses and vice vesa.

6.4 Spiral of Silence

Opinion expressed as dominant by mass media

Interpersonal support for deviant opinion

Amount of people not openly expressing deviant opinion and/or changing from deviant to dominant opinion
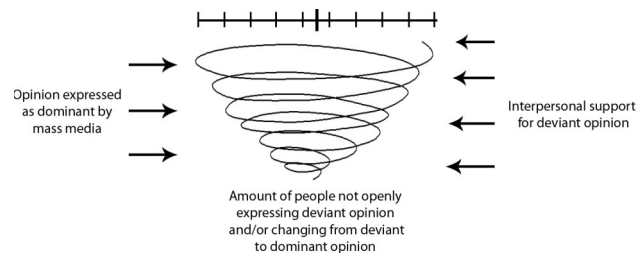
Figure 6.3: Spiral of Silence Illustration

The **spiral of silence** states that individuals do not feel comfortable speaking out for themselves if they feel that they are in the minority.

The above is due to the fear of isolation.

6.4.1 Some Assumptions

There are five general assumptions behind this theory:

1. Individuals' opinions are distributed according to some distribution.
2. One's willingness to expose their own views varies according to their expression in 1.
3. There is a positive correlation between present and future assessments.
4. If there is a divergence, how the individual expects things to unfold will determine whether or not they will speak out.

7 Media and the Amplification of Risk

Social activities often magnify the risks of events.

7.1 Technical Assessments of Risk

Some scholars have criticized the technical aspects of assessing risks:

1. **Narrow Definitions**

   In other terms, people have a "comprehensive conception of risk".

2. **Heuristics and Biases**

   Underlying cognitive patterns may influence how people perceive risks.

3. **Other Issues Not Covered by Risk Assessments**

   For instance, equity, circumstances, and the timeliness of management responses.

4. **Risk Impacts**

   Sometimes, the impact of risks may go beyond direct impacts (e.g., liabilities, insurance costs, loss of consumer trust in corporations, etc).
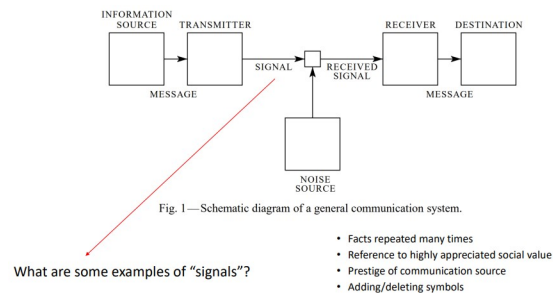
7.2 Risk Amplification

Figure 7.1: Examples of Signals During Information Trnasfer

Risk amplification is the intensifying or the attenuating of signals during information sharing from an information source through intermediary sources and finally, the receiver.
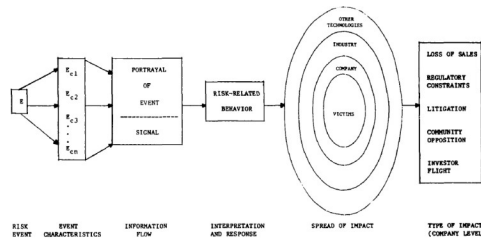
7.2.1 Social Amplification of Risks

Figure 7.2: Original Model for Social Amplification of Risks

Social amplification of risk is when institutional structures, social circles, and individual responses shape the perceived intensities of risks, hence contributing to consequences.

7.2.1.1 Social Amplification Stations

Stations generate and transmit information via communications channels (e.g., media, letters, telephones, etc).

7.2.2 Perspectives on Social Amplification of Risks

Misinformation refers to false or inaccurate information, while **disinformation** is misinformation with malicious intent.

There are numerous perspectives explored in CS5005:

1. Social media platforms should be blamed for amplifying risks.
2. Social media is a bogeyman or a convenient scapegoat.

Social media can also be used to understand the amplification of risks in the right way.

7.3 Infodemiology Frameworks

Infodemiology is the study of health information across different channels for the sake of monitoring population health.

There are two sources of information:

1. **Supply-Based Data Sources**

   This consists of postings from social media, blogs, discussion boards, websites, or any other sources that "supply" health information to the public.

2. **Demand Navigation-Based Data**

   This refers to information such as clicks or web searches that indicate the kind of content that people are seeking out.

7.3.1 Topic Modelling and Information Asymmetry

Topic modelling is a kind of unsupervised machine learning that allows researchers to find out which topics that a document discusses.

Information asymmetry is a phenomenon that happens when both parties do not have the same access to information

7.3.1.1 Study on Financial Bloggers and Informational Asymmetry

This study was done on the basis that financial blogs could close gaps in informational asymmetry.

The dependent variable was 90 day return of insider buying while the independent variable was the number of firm-specific blog posts.

Regression analysis showed that the number of firm-specific blog posts was negatively associated with the 90 day return of insider buying. Consequently, blogs and new media democratize financial returns.