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PRECISION JOURNALISM –
RHETORIC IN WESTERN EUROPE: BRITAIN

Since binary code also allows more data to be compressed into the broadcasting spectrum, it multiplies again the number of stations that can take to the air. On the → Internet, meanwhile, *streaming* enables new operators to reach small but global audiences, and *podcasting* pushes radio further in the direction of personalized listening (→ Digital Media, History of).

As in the past, however, new technology has a paradoxical influence. Authors such as Douglas (1999) rightly acknowledge radio's continued "technical insurgency": its protean ability – via the "radio hams" of the 1920s, the pirates of the 1980s, and the bedroom deejays of the Internet age – to be an alternative medium, to evade full rationalization by corporate interests (→ Alternative Journalism). Others suggest that ever since stations first hooked up to each other via phone lines in the 1920s, "networking" – whether analogue or digital – has created an increasingly professionalized, *standardized industry*. The current pervasiveness of technology capable of delivering centrally produced programs to every station owned by a single chain, and of "automated" play-out systems that replace human beings in each studio, hints at a rather more mechanized, *im*personal future, where the "infinite" choice offered by "unique" formats is largely illusory.

SEE ALSO: ▶ Alternative Journalism   ▶ BBC   ▶ Communication Technology Standards ▶ Digital Media, History of   ▶ Information and Communication Technology, Development of   ▶ Internet   ▶ Media Conglomerates   ▶ Public Broadcasting, History of   ▶ Radio Broadcasting, Regulation of   ▶ Radio Networks   ▶ Radio: Social History   ▶ Technology, Social Construction of   ▶ Telegraph, History of   ▶ Television   ▶ Television: Social History

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Rating Methods

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A rating, as the term is most often used in media industries, is an estimate of the size and demographic composition of a radio, television, or Internet audience. Such metrics are of enormous importance to advertiser-supported media because they set the value of the time used to run commercial messages. The larger and more desirable the audience, the more the media can charge advertisers. Ratings are typically measures of exposure to media based on surveys of various target populations conducted by "third-party" firms

independent of the sales transaction. The practice of ratings research emerged in the United States in the 1930s, and has since been refined and adopted worldwide (→ Nielsen Ratings). However, new technologies that allow people to consume a wide range of media anywhere, at any time, coupled with the desire of advertisers to reach ever-more narrowly drawn markets, have strained current systems of audience measurement. Ratings companies have responded by developing new methods to keep pace with the demands of their client industries (→ People-Meter).

Audience ratings are most often based on some form of probability sampling, and as such are subject to the same kinds of non-response and sampling error that occur in any survey research (→ Survey; Sampling, Random). In dozens of countries, ratings companies provide commercial and government clients with estimates of national audiences. In a subset of those countries, including the US and China, firms provide more localized measurement of cities and regions. Two factors are pressing sample sizes to their limit. The increasing abundance of new media delivery systems, including broadband delivery systems and video-on-demand, has fragmented audiences, reducing the size of any one outlet's audience. Concurrently, advertisers are more apt to be concerned with tightly defined target audiences. Under such circumstances, even large national samples are quickly whittled down to a very small number of respondents in the audience of interest, producing unacceptably high levels of sampling error. To address this problem, ratings firms are devising strategies to increase sample sizes, or basing their estimates on technologies that afford census-like numbers of respondents.

MEASURES OF EXPOSURE

The methods used to measure media exposure are, in large part, what set ratings apart from other forms of survey research. As US radio grew into an advertiser-supported medium in the late 1920s, it became essential to quantify its audience. The first such effort, launched in 1930, used telephone recall techniques to ascertain listening in the previous 24 hours. A few years later, "telephone coincidental" techniques, which asked respondents what they were listening to at the time of the call, were introduced in an effort to reduce response errors attributable to faulty memories. Telephones are still used in ratings research today, though usually in support of other methods that provide more copious data on exposure.

Diaries are inexpensive paper booklets that require a respondent to make a written log of their radio listening or television viewing, usually for one week. Diary formats vary by medium, but all offer some sort of grid that divides each day into quarter hours or broader "dayparts." In television measurement, a diary is assigned to each set in the sample household. In radio, each individual in the sample carries a diary. At the end of the survey week, the diaries are mailed to a processing center where they are coded, checked for logical errors and omissions, and ultimately turned into ratings reports.

If they are properly filled out, diaries provide a wealth of information, including audience demographics, at relatively low cost. Nonetheless, although they are, at this writing, in widespread use, they suffer from a number of problems that make them increasingly problematic for audience measurement. Diaries necessarily require some literacy. They suffer from relatively low response rates that, even with financial incentives,

sometimes dip below 30 percent. Data collection is slow, and prone to a variety of processing and response errors. Most importantly, the new media environment, with remote controls, hundreds of channels, and various recording and delivery devices, simply overwhelms the ability of even conscientious diary-keepers to produce an accurate, contemporaneous record of their media use.

Meters, devices attached to receivers and producing a continuous paper record of tuning behavior, were introduced in radio measurement in the early 1940s by Arthur C. Nielsen. These were "household" meters that could record when sets were on, and the station to which they were tuned, but were incapable of identifying who within the household was listening. In the 1950s, household meters were adapted to television measurement. Such meters eventually made an electronic record of set use that could be retrieved over telephone lines to produce "overnight" ratings. They were the principal method of national television measurement in the US until the late 1980s, and continue to be used in some local markets.

Household meters have a number of advantages. They are fast, relatively unobtrusive, require no literacy, and produce vast amounts of accurate set-tuning data over long periods of time. Compared with diaries, however, they are expensive. Their cost is justified only in larger markets (e.g., nations and major cities). Moreover, household meters produce no demographic information, so they must typically be used in conjunction with diaries.

A new generation of meters called *people-meters*, introduced in the late 1980s, provided a means to quickly gather demographic information. They work much like household meters, but feature a set-top box and/or hand-held devices that allow respondents to press a button signaling their presence in front of the set. People-meters are currently the preferred way to measure television audiences around the world. They do require some effort on the part of respondents, however, and so are more obtrusive and prone to respondent fatigue and error than is ideal. Newer generations of more passive, portable devices are being introduced.

All the aforementioned techniques gather data from samples. Even large national panels, which might exceed 10,000 households, can be insufficient to estimate the audience for a very small network, or to assess the behaviors of a narrowly defined market segment. Media industries are now studying the possibility of harnessing the data created by *digital set-top boxes*. These are analogous to household meters operating in millions of homes, and might provide a way to study highly fragmented digital media consumption. There are, however, at least three problems with this approach. First, it presents obvious concerns about privacy. Second, not all homes subscribe to digital cable or satellites, and even those that do won't necessarily have all their sets attached to the service. Hence, it is impossible to determine the total audience for all channels. Third, like all household meters, the technology provides no "people data," though mathematical models can approximate demographic composition.

Internet audience measurement has also presented some relatively new opportunities to measure user behaviors. One approach, sometimes labeled "user-centric," mirrors conventional ratings research. Here a probability sample of users is recruited to provide information. However, since Internet access is gained via a computer, it is a relatively simple and inexpensive proposition to install a piece of software on the user's machine that records and reports the URLs the user visits. This, in effect, turns each computer into

a metering device, and allows research firms to create much larger panels than would be economically viable with conventional metering. Alternatively, a "server-centric" approach takes advantage of the fact that all Internet traffic is managed by computers called servers. They can record the total number of times information is requested and fed to users. This goes beyond sampling and represents a census of use. Unfortunately, server "hits" can be difficult to decipher. While there are techniques to differentiate returning versus new visitors, or identify their place of origin, this approach cannot provide reliable demographic information about Internet audiences. It can, however, be combined with user-centric data to provide highly detailed estimates of exposure, including the use of media streamed over the Internet.

MEASURES OF ENGAGEMENT

Another consequence of newer media that allow people to see what they want when they want it is some erosion in the value of simple exposure as the metric upon which media time is bought and sold. DVRs and other on-demand technologies make it relatively simple for audiences to avoid commercials. Increasingly, advertisers are demanding some measure of the extent to which audiences are involved or engaged with the media they consume. The general theory is that engaged audience members will be less inclined to look away, more receptive to advertising, and better able to recall brand messages.

"Qualitative" ratings are nothing new. In some countries with strong traditions of public service broadcasting, finding out how much people like or learn from programming is an ongoing practice. Historically, in the more commercially oriented US, qualitative ratings have foundered. Current definitions of engagement include various affects, attentiveness, recall, intentions, and behaviors. For these factors to constitute an ongoing system of ratings, the industry must reach some consensus on the definition of engagement, valid measures of the construct, and whether the value of such supplemental ratings ultimately justifies the cost.

RATINGS QUALITY

Ratings are subject to various sources of error, including sampling, response, non-response, and processing error. The first three are familiar to survey researchers. The last speaks to the fact that ratings are a complex product manufactured from various inputs, including different measures of behavior as well as program and advertising information. All such forms of error have relatively objective meanings and can generally be ameliorated with the application of sufficient resources.

However, there are more subjective criteria that affect the quality of ratings data. Take, for example, something as fundamental as the definition of exposure to television. Should the audience for a program include those who watched the show in real time as well as those who recorded it? If the latter, does their inclusion depend upon how quickly they replayed the program? Is a delay of a few minutes, or hours, or days acceptable? There are no objectively right answers, but the resolution can have profound consequences for different ratings consumers. As a consequence, ratings are inevitably the product of an ongoing process of negotiation among different industry and government players, often

with competing interests. That very tension is probably the best guarantee that ratings maintain a reasonable degree of quality.

SEE ALSO: ▶ Advertising   ▶ Audience Research   ▶ Audience Segmentation   ▶ Exposure to Television   ▶ Media Marketing   ▶ Nielsen Ratings   ▶ People-Meter   ▶ Sampling, Random   ▶ Survey

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Readership Research

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Readership research employs empirical methods to investigate print media usage, focusing mainly on → magazines and → newspapers that appear periodically. Of primary importance in this context are readership analyses that ascertain findings on print-media coverage (reach or cumulative audience) and readership structure (composition of readership to describe print-media target groups). These methods are supplemented by reception analyses, which investigate reading habits in a more general sense.

A distinction can be drawn here between readership research as *media advertising research*, which deals with the performance of a print medium as an advertising medium, and as *editorial readership research*, which is aimed at optimizing newspaper and magazine content and/or layout. The lion's share of applied readership research focuses on optimizing media planning for advertising purposes (→ Advertisement Campaign Management; Advertising Effectiveness, Measurement of) as well as optimizing the content and layout of print products. In comparison, academic reception research, which is designed to ascertain more fundamental insights into readership, plays a relatively minor role. The dominance of media advertising research in practice can be explained by its far-reaching economic significance (→ Advertising, Economics of; Cost and Revenue Structures in the Media).

HISTORICAL DEVELOPMENT

The origins of systematic readership research based on empirical methods go back a very long way. In the US, for example, standardized questionnaires ($\rightarrow$ Interview, Standardized) were already being used in the early 1920s to conduct commercially motivated mass surveys among newspaper readers (to help publications respond to readers' interests and thus increase circulation, to provide evidence of readers' interest levels and purchasing power, and thus increase advertising revenues). In 1921 George Hotchkiss conducted a written survey among wealthy and well-educated New York residents to investigate their newspaper-reading habits. His self-administered survey method was further developed by Ralph O. Nafziger and his students at the University of Wisconsin. During the same period, George Gallup was working on a different approach at the University of Iowa. Gallup developed the face-to-face survey method based on interviews with a representative cross-section of readers, a method he first employed in 1927 to conduct copy tests to establish whether particular articles were read in full, merely glanced through or paid no attention at all ($\rightarrow$ Survey).

The *widening spectrum of print media* available, for example the ever-increasing number of new general-interest and special-interest magazine titles, has brought with it an increasing necessity for comparative readership coverage and readership-structure findings upon which commercial advertisers and advertising agencies can base their media-planning decisions. Investigations funded jointly by several publishers have in the meantime been superseded by syndicated national readership surveys in many countries. If readership surveys are to obtain accurate findings, above all for titles with a small circulation and low coverage, they require very large samples, which also means very large research budgets. The need to raise substantial funding led to *joint industry surveys* commissioned by a great number of publishing houses and conducted by large market-research companies. These surveys are often overseen by technical advisory commissions that serve to lend the findings a legitimate, "quasi-official" status, thus raising general acceptance levels. Typical examples of such joint industry readership surveys include: the MRI in the US, the NRS survey in the UK, the media analyses (MA) in Germany, or the AMPS in South Africa.

In his "Summary of current readership research" for the Worldwide Readership Symposium 2005 in Prague, Erhard Meier reported on 91 readership surveys from 71 countries, a fact that reflects both the centralization and the globalization of research companies today. Multinational organizations such as Ipsos, AC Nielsen, Milward Brown, or TNS each presently conduct national readership surveys in 10 or more different countries. Sample sizes range from 1000 (Bahrain and Zambia) to about 250,000 respondents (India).

BASIC DEFINITIONS AND METHODS

Newspaper or magazine circulation says little in itself about the number of people a print medium actually reaches. The reality of the situation is far more complex: many copies are printed but distributed free of charge rather than sold or are not distributed at all, other copies are sold but are not read and, above all, a great number of copies are used by

more than just one person, e.g., at home, at work, or in a doctor's waiting room. Despite the fact that data supplied by publishing houses is verified by so-called *Audit Bureaus of Circulation* in many countries to prevent manipulation, the question of how many readers a print medium actually reaches remains unanswered.

What is a "Reader"?

Because circulation data fails to paint the complete picture, it is necessary to conduct readership surveys based on broad samples. In order to do this, it is necessary to *define exactly who qualifies as a reader*. Should only people who read a publication from cover to cover very carefully be counted or do people who just flick through a publication, stopping only to read a few headlines or glance at a few pictures also qualify as readers? What if a publication is read more than once: do all reading events count? Does it only count if a publication is read on one specific day or does it count if it was read at any time within the issue period or even well beyond the issue period, e.g., at some time in the last three months? Clear definitions of who counts as a reader are essential as they provide the buyers (advertisers and advertising agencies) as well as the sellers (publishing houses) of advertising space with what equates to a mutually acceptable currency.

The most common of such currencies is *Average Issue Readership (AIR)*, i.e., the number of people who have read or looked at some or all of the average issue of a publication. Just flicking through is enough: it is not necessary to have read a publication through carefully to have come into contact with an advertisement placed there. *Average Readers per Copy (ARPC)* can be calculated by dividing average-issue readership by average circulation. There are many different ways of measuring average-issue readership. The four main techniques are described here, namely: "Through-the-Book," "Recent Reading," "First Reading Yesterday," and "Readership Diaries."

Through-the-Book Technique

The oldest of these methods is the *Through-the-Book (TTB)* technique, which was first used in 1936 to estimate the readership of Life Magazine. It is the only one of the four approaches described here to employ recognition of a specific issue to estimate readership. Respondents are shown actual full issues of publications; stripped or skeletonized issues are often used to reduce the burden on both respondents and interviewers when a great number of publications are presented in one interview. Bill Simmons and Alfred Politz are pioneers of the TTB approach. Empirical tests have shown that TTB estimates are prone to both overclaims (e.g., caused by perceived social desirability or prestige effects) and under-claims (e.g., caused by forgetfulness), as well as to frequent confusion of similar print titles with the same kind of content. To prevent confusion, similar titles are often presented together in a group. The age of the issues presented also has a major influence on findings. If the issue is too old, there is a danger that respondents will have forgotten about having read it, whereas if the issue is very recent it may not yet have accumulated its full audience.

The most common method for measuring readership today is the *Recent Reading (RR)* technique, which was brought into use by the Institute of Practitioners in Advertising in 1952. In Europe, it is also known as the IPA technique. There are two fundamental

differences between RR and TTB. First, respondents are not asked whether they came into contact with one specific issue of a newspaper or magazine, but about contact with any issue. "The readership estimate depends not on the respondent's ability to *recognize* a specific issue as one they have previously read, but on their accurate *recall* of when it was that they last came into contact with the publication in question" (Brown 1999, 65). Second, the question mainly used to estimate readership in this technique is: "When did you last read or look at any copy of . . . (title)," and it is posed either as an open question or with response categories, e.g., "yesterday"/"within the last seven days"/"between one week and one month ago," and so on. Even in this case, where the information requested seems to be so simple, there is still a danger that respondents may not provide reliable answers from memory. In particular, if the most recent reading event is already quite some time ago, a telescoping effect is often observed, i.e., respondents believe something happened more recently than it actually did.

Intensive methodology research has uncovered two further phenomena limiting the accuracy of the RR technique. The first is *replicated readership*, which comes about when people spread their readership of a given issue over more than one issue period, leading to overestimation. The second is *parallel readership*, which occurs when two or more issues of the same publication are read in the same period, leading to an underestimation of average-issue readership. Although these two sources of error cancel each other out to a certain extent, empirical tests indicate that the net effect tends to be understatement.

Many readership surveys supplement the main recent-reading question by asking about *frequency of reading*. A distinction can be drawn here between questions using verbal scales (e.g., "almost always," "quite often," or "only occasionally"), questions using numerical scales (e.g., "How many out of twelve issues of magazine XYZ have you read in the past 12 months?"), and questions that employ a combination of verbal and numerical scales. However, these frequency questions also depend on an ability to remember events to such a degree of accuracy that many respondents are likely to struggle to respond reliably. In order to increase recall accuracy in particular, and to eliminate biases caused by replicated reading, readership researchers have experimented with ways to reduce the recall period, e.g., by including questions about First Reading Yesterday (FRY).

A further method referred to earlier for estimating readership data is *Readership Diaries*. Households selected at random are asked to regularly record all the newspapers and magazines they read during a specified period of time (e.g., 1 month) in a diary, including additional details on which issue was read, how much was read, whether the issue in question was being read for the first time, etc. Researchers face serious methodological problems when using the readership diaries method; recruiting a representative cross-section of panel members, for instance, and ensuring they continue to participate reliably over time can prove extremely difficult. A further drawback of diaries is the tendency of respondents to behave unnaturally (conditioning effect).

Methodological Problems

All of the methods employed to estimate print-media readership described so far suffer from *one common weakness*, in that they all rely exclusively on statements provided by respondents, who may fail to recall past events correctly or filter responses according to

social norms, e.g., social desirability. The accuracy of readership estimates ascertained using these methods therefore depends on the number and type of visual aids employed or the length of time that has elapsed since the reading event took place. Alternative approaches to ascertaining readership data involve *technical measurement techniques* designed to gather data independently of replies provided by respondents ("measurements not responses"). Examples of this type of approach are: the use of *eye cameras* to track reading, electromagnetic sensors fitted to wristwatches to register page contacts, portable bar-code scanners to register publication details, or hidden cameras to validate page-contact findings. However, these methods have so far not progressed beyond laboratory tests conducted under unrealistic conditions.

Erhard Meier's review of methodological observations referred to above shows that most national readership surveys continue to be based on face-to-face interviews with broad samples of the population. Of the 91 national readership studies conducted around the world during the review period, 71 used face-to-face interviews, of which the majority (63) were conducted with pen and paper, 5 as computer-assisted personal interviews (CAPI), and 3 as double screen CAPI interviews. A total of 10 national studies used self-completion questionnaires and 7 used computer-assisted telephone interviews (CATI). There are a few countries where a mix of methods is used, e.g., telephone interviews combined with self-completion (Norway), face-to-face interviews with pen and paper supplemented by subsamples conducted using CATI, or (in the Netherlands and Germany) subsamples using computer-assisted self-interviews (CASI).

Because large national readership surveys often include several hundred different newspaper and magazine titles, it is common practice to pose *screening questions* at the beginning of interviews to reduce the title load per respondent by excluding those titles respondents "only know by name," or titles that are completely "unknown" to them. Subsequent questions, usually beginning with the frequency question followed by the recency question, are only posed on the remaining publications. *Logo cards*, either in black and white or in color, are the main form of visual aid employed in face-to-face readership interviews to assist respondents' recall, as well as to help avoid title confusion. Print titles and categories (dailies, weeklies, fortnightlies, monthlies, etc.) are often rotated to counterbalance possible order effects. In many readership surveys, respondents are then posed a number of supplementary questions to establish, for example, how long, where, and on how many days reading took place, or to ascertain their "relationship" with the publication read, e.g., by asking about the amount read ("all/nearly all," "over half," "about half," "less than half," etc.). In order to establish reader "involvement," respondents are also often asked to gauge how much they would "miss" a publication if it were no longer published.

Another way of reducing load per respondent employed in certain large national readership surveys is to *split the titles* included, e.g., to create two groups of 150 publications and conduct a survey for each. The findings from the two representative surveys are fused to create one combined dataset. This so-called "marriage of data" via common connecting links (e.g., socio-demographic or attitude variables) is, however, wide open to methodological criticism.

Rudimentary contact data (having "read or flicked through" a newspaper or magazine) tells advertisers little about the potential effectiveness of their adverts. In contrast, *data on*

the quality of reading, allows conclusions to be drawn about the chances readers have of coming into contact with advertisements, which is a prerequisite for advertising effectiveness. Respondents who have read a publication carefully from cover to cover, for example, are more likely to come into contact with a particular advertisement than those who have only taken a look inside, flicked through briefly (→ Copy Test and Starch Test).

In summing up his comprehensive review of methods developed in the field of readership research, Michael Brown states that there is no "gold standard," no single, inalienable currency that provides an equally valid measure of readership across the entire spectrum of print titles and categories: "All methods have differing advantages and limitations. Arguments as to methods' 'validity,' in any absolute sense, are arid; they should be judged by their ability to deliver readership estimates which allow comparisons between different newspapers and magazines which are minimally biased" (Brown 1999, 83). For as long as there are no universally accepted methods, it will continue to prove difficult to further harmonize the many different techniques being employed to estimate readership around the world today, as well as to establish common methodological standards. This is essential, however, for international advertising planning in an increasingly globalized world economy.

EDITORIAL READERSHIP RESEARCH

While newspaper and magazine readership in newly developed countries is rising in line with alphabetization, it is in decline in many developed industrial countries. In the US, the *fall in newspaper readership* in recent decades is so dramatic that it represents a cultural shift away from newspaper reading. Fewer and fewer young people are becoming regular newspaper readers and many magazines are, to an increasing degree, only being read sporadically. Young people in particular read print media more impatiently and selectively, tending to scan rather than read thoroughly (→ Exposure to Print Media).

Empirical readership research has an important role to play in optimizing print media, providing vital insights for decision-makers. Surveys among readers based on the *copy test* technique, for example, can be used to establish which of the items in an issue read yesterday or the day before yesterday were "read in full," "only scanned," or "not looked at at all." Here too, attempts have been made recently to introduce *technical measurement* to avoid relying on readers' questionable ability to respond reliably from memory. One example is the "*Reader Scan*" method, whereby a small panel of readers electronically mark the point up to which an article has been read during the act of reading. However, along with the apparent gains in accuracy, this method also brings with it a number of problems. For example, there are difficulties with gathering representative samples for such studies as it is normally only possible to attract participants with above-average motivation as readers. It is also impossible to completely counter conditioning effects in such tests ("unnatural behavior").

The increasing intermedia competition has breathed new life into readership research in recent years and new perspectives are opening up, for example research into the networking of cross-media usage between print and online media ("print in a multi-media world," "integrated communication").

SEE ALSO: ▶ Advertisement Campaign Management   ▶ Advertising, Economics of   ▶ Advertising Effectiveness, Measurement of   ▶ Copy Test and Starch Test   ▶ Cost and Revenue Structures in the Media   ▶ Exposure to Print Media   ▶ Interview, Standardized   ▶ Magazine   ▶ Media Performance   ▶ Newspaper   ▶ Survey

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Real-Time Ratings (RTR)

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Real-time rating (RTR) methods – also called "real-time response" or "continuous response measurement" (CRM) – collect judgments or evaluation data from a subject during media exposure (→ Exposure to Communication Content; Audience Research). While questionnaires provide data about the outcome of a perception (e.g., television viewing), RTR focuses on the process of viewing. Besides the application to academic questions of reception research, it is widely used within the media industry for testing → television programs or movies before they are aired or released. Applications range from commercial television or radio programs, → advertising research, to measuring judgment processes in presidential debates (→ Televised Debates). It can also be used for content analysis of television programs or speeches (e.g., measuring perceived degree of

violence, dimensions of characters' behavior, interaction, etc.; → Content Analysis, Quantitative).

DEVELOPMENT: "LITTLE ANNIE"

The idea of real-time response measurement dates back to the late 1930s and early 1940s when → Paul F. Lazarsfeld and Frank Stanton introduced their "program analyzer," which was later adopted by CBS and major advertising companies. Their first system, affectionately named "Little Annie," consisted of two cylinders, about five inches long with a diameter of an inch. One cylinder had a red push-button at the end and the other a green button. The members of the audience held one in each hand with the thumb positioned to press on the button. Viewers were instructed to press the green button to indicate their liking of a radio program, and the red button if they were to feel uncomfortable about the program. Pushing neither button indicated indifference. Audience response charts on paper showed patterns of likers and dislikers for up to 10 persons at a time.

In the later years a set of 100 stations called "Big Annie" was developed. The first generations of these kinds of program analyzers were used for program and film testing, for example, at Columbia University's Bureau of Applied Social Research, McCann Erickson, or CBS. In the years following the introduction of the program analyzer, the idea was adopted for a number of similar devices. The main differences were in the way participants' judgments were collected: five- to ten-point scale push-button systems were developed as well as seven-point scale dialers, and ones with ten or more points (→ Scales; Scales and Indices). But basically the idea itself remained the same (Millard 1992).

The boom of microcomputers in the 1980s led to refinement in data collection, display, and analysis. Today participants in RTR studies signal their reactions to exposure mostly by means of a dialer, joystick, or slider using a predetermined scale (mood, judgment, → attitudes, etc.). More or less any scale suitable for real-time reactions can be used. Hence, RTR can be considered as a continuous report on one repeated question (e.g., How much do I like what I see?), producing panel data that are dynamically sensitive to the subtle effects of the stimulus. Since results are nothing more than highly autocorrelated time-series data (→ Time-Series Analysis), a wide range of data analysis techniques can be employed.

APPLICATIONS TODAY

Compared to traditional → surveys, the results of RTR are far more precise, letting the researcher pinpoint which parts of audiovisual stimuli are responsible for the so-called peaks or spikes during exposure. For example, one can describe how the appearance of a certain character influences judgments, how music can contribute to changes in evaluations, how humor moderates perception, how dynamic a plot is perceived to be, and more. Moreover the technique is also described as a measure of audience → "attention" (Millard 1992), semantic processing, attitudes, or other psychological states or mental processes (Biocca et al. 1994). In general, Biocca et al. (1994) define the measure as subjects' self-reports of changes in psychological state or judgment.

Furthermore RTR can also be used as a continuous *measure of changing message content* or a way to code communication behaviors. Measures of hedonic response (like/dislike)

are found in a majority of the measures. Concerning validity, subjects report that the measure reflects their feelings about a program accurately. Moreover, RTR proves to be a sensitive indicator for attitudes toward a fictional or real character (often measured in the context of political or presidential debates). Finally, the measure allows for the investigation of whether our overall evaluation of a media stimulus is triggered largely by an overall judgment of that stimulus (mean-driven judgment), rather than by individual events or scenes of a program – whether it be cumulative, multiplicative, linear or nonlinear (e.g., peaks, spikes, punch-lines, appearance of important actors, peripeteia).

High *attention to a program* can be indicated by high frequency of use and wide range of movement of the dialer. Studies show a positive correlation between this kind of activity and memory recall of these parts of the program. However, critics point to the fact that high involvement in the program may lead to the subject forgetting to use the dialer, giving rise to a false interpretation of psychological deafness or boredom. The nonuse of the handheld device can therefore mean opposite things: being completely absorbed or completely bored. Implementing a secondary task reaction-time design into the research setting could address the problem, but would at the same time make the viewing situation more artificial and the task more complicated.

The participants could also be asked how involved they felt during a decisive part of the program and relate this answer to the individual real-time response data. If high reported involvement is accompanied by no scale movement, these subjects should be analyzed carefully, separately, or even eliminated from analysis. Another important issue in this context is that subjects utilize the given scale to a different degree. If the sample size is low, this scaling problem is often not leveled out sufficiently. Again, cross-checks with questionnaires – asking subjects about their highest and lowest scores in relation to their personal range – could help adjust RTR data. In some cases, it might even be helpful to standardize the mean series.

VALIDITY OF THE METHOD

One other major constraint of RTR measurement is that it is only one-dimensional. As the online evaluation task requires some cognitive effort, valid results can be expected only if subjects concentrate on one dimension only for evaluation. For example, it is relatively easy for subjects to indicate whether they like what they see or not. More difficult and less valid would be the question of whether a magazine, show, film, etc. is entertaining or informative. Moreover, reactivity of RTR measurements is often criticized, meaning that the task itself modifies the perception process or does not indicate what should be measured – hence, → validity is violated. As stated above, if participants are asked to indicate their involvement in a movie by means of RTR, very high involvement might make viewers forget to use the dialer because they are too engaged in the program (→ Involvement with Media Content). Similarly, if viewers are continuously evaluating their state, they might not be able to become engaged with the media content. Hence, the task should be easy and participants be given time to get used to the method.

Compared to RTR measures a questionnaire can ask for retrospective judgment on a greater variety of criteria. However, a retrospective judgment may be quite different from an online judgment. After watching a movie, quite a lot is already forgotten; messages

have already been processed on a higher level, rationalized, adjusted to one's reference system, and often altered because of → social desirability. If one wants to collect data on spontaneous, immediate impressions, RTR is the ideal measurement technique. Continuous audience response research is of high value when applied to pilot programs, TV commercials, movies, or political advertising at a point in production where they can still be changed. Taken together, the most effective means of audience research is a combination of several techniques. For audience profiling and ex post facto judgment, a questionnaire is employed. For continuous judgments RTR is needed, and for validation purposes and enrichment of RTR data, focus groups can be very useful (→ Qualitative Methodology).

SEE ALSO: ▶ Advertising ▶ Attention ▶ Attitudes ▶ Attitudes, Values, and Beliefs, Media Effects on ▶ Audience Research ▶ Content Analysis, Quantitative ▶ Exposure to Communication Content ▶ Involvement with Media Content ▶ Lazarsfeld, Paul F. ▶ Qualitative Methodology ▶ Scales ▶ Scales and Indices ▶ Social Desirability ▶ Survey ▶ Televised Debates ▶ Television ▶ Time-Series Analysis ▶ Validity

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Realism

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A classic position in the history of ideas and theory of science, realism assumes that the world exists independently of human minds, and that it lends itself to intersubjective inquiry, even if humans – individually, collectively, and as a species – may be unable to understand reality in all its aspects (Nagel 1986). In recent theory of science, realism has regained influence in comparison with other major positions such as → critical rationalism and → constructivism. Pavitt (1999) suggested that realism is currently the dominant position in theory of science, and that it informs the practice of much current media and communication research. (In literary and other aesthetic theory, realism denotes fictional

Table 1   Three domains of reality, incorporating three types of phenomena

	The real	The actual	The empirical
Experiences	x	x	x
Events	x	x	
Mechanisms	x		

forms that represent reality in the categories of everyday experience [→ Fiction; Realism in Film and Photography; Reality and Media Reality].)

The general tenets of realism can be laid out with reference to three components of Roy Bhaskar's (1979) influential *critical realism*.

Ontological realism: rejecting skepticist and idealist premises – that no knowledge of the empirical world is possible, or that reality equals the sum of our conceptions of it – realism questions such "anthropocentrism": "Copernicus argued that the universe does not revolve around man. And yet in philosophy we still represent things as if it did" (Bhaskar cited in Archer et al. 1998, 45).

Epistemological relativism: from a moderately constructivist position, realism assumes that human knowledge of both nature and other minds depends on an iterative sequence of perceptions, cognitions, and inferences, all of which are open to question, rejection, and revision in a community of researchers. In the process, reality serves as a limit condition or regulatory ideal, without which the range of natural and cultural phenomena that one encounters in science as well as in daily life would be inexplicable.

Judgmental rationality: science depend on the exercise of rationality, which, at some point, must end in (fallible) judgments about what to do next – as an individual scholar, a scientific field, or a society. The business of science is to continuously compare and contrast alternative accounts, considering the widest possible range of criteria and means for examining reality.

Critical realism further emphasizes the *transfactuality* or *stratification* of reality. Several kinds of facts are real, including aesthetic experience and its biological foundations, micro-social order as well as macro-social infrastructure. Such facts are not reducible to each other, but enter into relationships of emergence, and they call for complementary forms of inquiry (Jensen 2002). One methodological implication is that research must consider three domains or levels of reality (Table 1). The *empirical* domain is the source of concrete evidence – *experience* of the world. By experiencing and documenting, for example, how journalists collect information, and how readers respond to it as news, researchers procure a necessary though not sufficient condition of empirical studies. The *actual* status of this documentation is a matter of inference. It is by characterizing and conceptualizing empirical materials as evidence of *events* (e.g., reporter–source interactions or decodings) that one may infer their place in mediated communication. The domain of the *real* is the most inclusive. Research ultimately seeks to establish the *mechanisms* that may account for events (e.g., a system of political communication that operates according to economic prerogatives and professional routines, as well as ideals of citizenship).

In sum, experiences, events, and mechanisms are all real. Experiences are available to be selected and analyzed by researchers as evidence of events. However, the distinctive task of research is to interpret or explain the underlying mechanisms with reference to theoretical concepts and frameworks.

SEE ALSO: ▶ Constructivism ▶ Critical Rationalism ▶ Fiction ▶ Realism in Film and Photography ▶ Reality and Media Reality

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Realism in Film and Photography

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From its very beginnings, photography was understood and experienced in terms of its capacity for realism. "It is not merely the likeness which is precious . . . but the sense of nearness involved in the thing . . . the fact of the very shadow of the person lying there fixed forever," wrote Elizabeth Barret in 1843 (quoted in Sontag 1977, 183). Soon it would be used to record events and document many aspects of the world, not just in people's family albums, but also in science, medical training, police work, military reconnaissance, and many other spheres of activity. Yet photography also developed into an art form, with highly allegorical *tableaux vivants* that "combined the sensuous beauty of the fine print with the moral beauty of the fine image" (Mike Weaver, quoted in Wells 2000, 262). In the twentieth century both these aspects of photography would continue to develop: documentary photography and → photojournalism with masters such as Erich Salomon, Cartier-Bresson, and Robert Frank; and photography as a form of modern art with, for instance, the formal, quasi-abstract landscapes of Edward Weston and the nudes of Bill Brandt.

In a similar way film started both as a medium for capturing reality and as a new form of theatre (→ Film as Popular Culture). As the Lumière brothers sent cameramen across the world to record sites of interest including *The Grand Canal of Venice*, shot from a

gondola, Georges Méliès, who had been a magician, built the world's first film studio in Montreuil and used the medium for trick films such as *The Man with the Rubber Head* and *Disappearance of a Lady*, and for science fiction fantasies such as *Trip to the Moon* and *Voyage across the Impossible* (→ Animation). The two kinds of films looked very different. In Lumière's *Arrival of a Train at the Station of La Ciotat* (1896), one of the earliest films ever to be screened, a train enters a station and moves toward the camera, and the people on the platform too move toward or away from the camera. In Méliès's films the camera was static, positioned in front of a stage, observing the spectacle, rather than in the middle of the action.

REALISM IN THE HISTORY OF FILM THEORY

These two sides of photography and film have also dominated theory and criticism. In the 1950s, André Bazin (1971) called film "the deathmask of reality" and advocated the use of long takes that show events unfolding in real time and renege on the medium's capacity to condense or, occasionally, expand time through editing. In the same period, Siegfried Kracauer wrote that photography and film should aim for an "impersonal, completely artless camera record" (1960, 12) and "represent significant aspects of physical reality without trying to overwhelm that reality – so that the raw material focused upon is both left intact and made transparent" (1960, 23). Almost all significant new developments in the cinema of the time claimed to advance the cause of realism – postwar neorealism in Italy, the early *nouvelle vague* films in France, the British kitchen sink dramas of the late 1950s and early 1960s, and the *cinema vérité* style of US documentary filmmakers such as Pennebaker, the Maysles brothers, Leacock, and Wiseman.

For others film could only be an art insofar as it went *beyond* the "simple" reproduction of reality. The constructivist Soviet filmmakers and theorists of the 1920s, for instance, experimented with "creative geography," constructing a nonexistent location by combining shots taken in different locations and using editing to make them seem adjacent. In the 1930s Rudolf Arnheim (1967) argued that only the medium's shortcomings, the way in which it *reduces* what it records, could allow it to develop into a new art form. The absence of the third dimension, the absence of colour (in the black-and-white era), and the absence of the nonvisual world of the senses should not be seen as a loss, he said, but as a gain: "Only gradually . . . the possibility of utilising the difference between film and real life for the purpose of making formally significant images was realised" (Arnheim 1967, 42).

In the 1960s the dominant realist aesthetic was challenged by a combination of → semiotics and Marxism. In *Mythologies* (1977), → Roland Barthes attacked *The Family of Man*, a key 1950s exhibition of documentary photographs that featured Dorothy Lange's iconic 1930s portrait of a poverty-stricken mother and child on the cover of its catalogue. Barthes denounced as a bourgeois "myth" the exhibition's aim to show the universality of human actions across the world: "The failure of photography seems to me flagrant in this connection: to reproduce death or birth tells us, literally, nothing . . . Yes, these are facts of nature, universal facts. But if one removes History from them, there is nothing more to be said" (Barthes 1977, 101). As in the Soviet Union of the 1920s, realism was now seen as a bourgeois art form that naturalizes the status quo of bourgeois society.

Bertolt Brecht became an important reference point for both filmmakers and theorists. "Less than at any time does a simple reproduction of reality tell us anything about reality," Brecht had said in the 1930s, "Therefore something has to actually be constructed, something artificial, something set up" (quoted in Wells 2000, 108).

In the late 1960s, filmmakers like Godard would heed this call and use Brecht's "alienation effect" to insure audiences would realize they were looking at a film, at something constructed, rather than at a "mechanical" record of reality. Film theorist Colin MacCabe (1974), in the pages of the then very prominent UK film journal *Screen* denounced the "classic realist text," which, he argued, presents the dominant discourse, not as a → discourse, but as objective fact. Although other discourses can get a hearing in "classic realist texts," they are "between quotation marks," while the dominant discourse functions like the voice of the omniscient narrator in realist novels and always has the last word. Only films that do not privilege one discourse and leave the inevitable contradictions unresolved could be truly "revolutionary" and allow viewers to examine the issues for themselves.

INFLUENCE OF NEW TECHNOLOGIES ON THEORY

As theorists argued against the idea that photography and film can record reality "as it is", and as this anti-realist view was taught to generations of media students, photography and film themselves began to be overtaken, first by video, and then by the new digital media with their much greater potential for image manipulation (→ Digital Imagery). The strongest reaction against this development came from photojournalists. In a celebrated article titled "The end of photography as we have known it", Fred Ritchen argued that photography's "fact-based, mechanistic qualities, which have been able to change world opinion even against the most powerful governments, have been devalued to a point where photography is much less a threat to the established points of view. The debate encouraged by the photographs of the Vietnam War will probably not occur again. Photography becomes poetry, and those whose position is less than lyrical suffer the most" (Ritchen 1991, 14).

In the second half of the twentieth century, the market for photojournalism would contract and → magazines would increasingly rely on *stock imagery* for their illustrations (→ Stock Photography). Image banks now allow magazine publishers to cheaply and quickly download photographs to illustrate almost any kind of article. The photographs they distribute have lost their function of recording specific people, places, and events, as they must be reusable, and focus on connoting the kinds of themes publishers might wish to illustrate. Press photographs are increasingly posed and "set up," rather than "captured." Ambitious young photographers no longer follow the call of Cartier-Bresson to record the "decisive moment," but focus on studio work and on photography as an art form. In → Hollywood film, the disaster movies of the early 1970s inaugurated a return to the studios and to the construction of often dystopic future worlds. "Dramatized documentaries" became increasingly indistinguishable from → fiction films and today's "reality television" differs from the *cinema vérité* of the 1960s and early 1970s in that it no longer pretends that what the viewer sees would have occurred in the same view if no cameras had been present (→ Reality TV).

Yet at the level of technology the issue of realism still dominates. Computer games for instance are constantly praised for their level of realism (→ Video Games). The more they approach the look and the level of resolution of photography and film, the better. This development is also reflected in a new theory of visual realism that takes its clues from the linguistic theory of modality (Kress & Van Leeuwen 2006, 154ff.; → Linguistics). The question they ask is not "How real is this image?" but "*As* how real does it represent what it represents?" They list the indicators of this kind of "surface" realism (level of detail, use of color, rendering of lighting, and so on) and describe how these indicators are used in different types of images. In their theory, images that are in fact records of reality can therefore have "low modality" and images that are entirely constructed "high modality," just as → paintings may also be "photorealistic." In the heyday of photographic and filmic realism, the crucial questions were: Has the reality in front of the camera been tampered with or rearranged? Has anything been "set up" for the camera, or re-enacted? In the age of digital technology, the questions are: *As* how real is this represented? How real does it *look*?

TRUTH AND REALITY

As Hodge & Kress have said, "appeals to something like truth and reality are fundamental in the social construction of meaning" (1988, 121). People will always need clues as to whether they can use the information in images as a reliable guide for judgment and action. The "guarantee" that was formerly provided by the ability of film and photography (and video) to provide a "mechanical duplicate" of reality is of course still used in some areas, for instance in surveillance. But in other areas, for instance in the media, it is retreating, and new "guarantees" have perhaps not yet developed to the point that we can again judge the reliability of images with confidence. The idea that we can know reality through visual examination, which has been so fundamental in the age of empirical science, is increasing undermined, both by theorizing it out of existence and by the malleability of the new media and the new modes of image-making (→ Objectivity in Science; Objectivity in Reporting).

Raymond Williams is right of course: "There are many real forces – from inner feelings to underlying social and historical movements – which are either not accessible to ordinary observation or not at all represented in how things appear, so that a realism 'of the surface' can miss important realities" (1983, 260). But in representing such realities it is harder to exclude the subjectivities and interpretations that empirical observation and the "mechanical duplication of reality" claimed to exclude, and therefore harder to agree on what the facts are. For the time being, the Mathematician from Brecht's *Life of Galileo* appears to have, again, gained the upper hand – Galilei: "Perhaps Your Excellency would like to observe these impossible and unnecessary stars through this telescope?" Mathematician: "One might be inclined to answer that your instrument, showing something that logically cannot exist, can hardly be a very reliable instrument."

SEE ALSO: ► Animation ► Barthes, Roland ► Digital Imagery ► Discourse ► Fiction ► Film as Popular Culture ► Film Theory ► Hollywood ► Linguistics ► Magazine ► Objectivity in Reporting ► Objectivity in Science ► Painting ► Photojournalism ► Reality TV ► Semiotics ► Stock Photography ► Video Games

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Reality and Media Reality

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Since the earliest days of mass media, researchers, social critics, politicians, and the general public have been concerned about the extent to which media representations reflect or deviate from "reality." Over the years, a great deal of research and public debate have revolved around the kinds of images of the world that are created and disseminated by media, and how they compare to the "real world" as revealed by official statistics or other objective indicators ($\rightarrow$ Media and Perceptions of Reality).

REALITY AS SOCIAL REALITY

The first problem research in this tradition must confront is the question of what constitutes "reality," which is a topic of longstanding philosophical deliberation. Similarly complex is the question of how – and even whether – we can comprehend reality. Many theorists argue that humans construct what is perceived (and treated) as reality through social, cultural, and psychological mechanisms and structures. In a sense, this reflects Shakespeare's notion in *Hamlet* that "There is nothing either good or bad, but thinking makes it so" (act II, scene ii). Berger & Luckman (1966) argued that reality is knowable only as a mediated phenomenon, and that this is always ultimately a social process. Through intersubjectivity, we share a sense of "everyday reality" with others, but this is socially and culturally constructed ($\rightarrow$ Constructivism).

There is thus a fundamental debate over whether media and reality can be meaningfully compared; if reality is unknowable, then attempting to compare it to media is a futile enterprise (Schulz 1976). Given that, some researchers, rather than comparing news media to some standard of "reality," have examined social, institutional, and psychological explanations for how journalists make decisions about what to cover (or not cover), and how (Donsbach 2004).

On the other hand, even if reality does not exist outside of human (cultural) construction and interpretation, and is constructed (rather than discovered) through human investigation and manipulation of symbol systems, many researchers still believe that the world represented in media can be compared to certain facts about life and society. From that perspective, the task is to determine the most useful and reliable indicators of how the media world deviates from observable structural parameters, or to compare mediated representations and unmediated experiences of the "same" event or phenomenon (Donsbach 2003).

For example, in a series of studies, Kepplinger compared the coverage of the oil supply in Germany with data on actual reserves (1979); media coverage of air and water quality with real-world biological measurements (1992); and the political activities of the German parliament with the coverage of politics by the emerging media in the postwar period (2002). Studies in this vein often show sharp disjunctures between "reality" and media coverage.

Media can also construct multiple (and often conflicting) realities. For example, comparative international analyses have shown how the US and "others" are presented by the press in different countries in the context of the "war on terror" and the war in Iraq (Nohrstedt & Ottosen 2005), or how media in Israel and Jordan each portrayed the peace process (Wolfsfeld et al. 2002).

On the other hand, the very "unreality" of media can also have a powerful impact on our sense of reality. As Fiske (1987, 21) argues, television is "an essentially realistic medium because of its ability to carry a socially convincing sense of the real." In Brazil, a telenovela can provide interpretive frames that shape how viewers perceive contemporary political events (Porto 2005). As Pearson (2005, 406) notes, Mexicans are fond of saying "Life is like a telenovela," to the point that "the line between *the* world and *a* world is often difficult to distinguish."

Although many scholars concerned with the correspondence of media to reality tend to focus on news, for purposes of this discussion, the distinctions among news, scripted programs, and "reality television" are not especially relevant (→ Reality TV). At a more general level, media themselves can constitute a way of knowing (Chesebro 1984). Media representations are "real" in the sense that dreams, stories, legends, and → rumors are real – they exist as phenomenological narratives and representations (→ Narrative News Story; Storytelling and Narration). That is, a statement about an event is not *the* event itself, but it *is* nonetheless itself *an* event.

Comparative measures of media and reality allow researchers to see how closely media stories reflect the facts of society and provide a basis for follow-up studies in different media, and/or in other societies, and/or over time. There is no expectation of any particular correspondence between reality and media reality; the key theoretical and empirical task is to illuminate specific and systematic discrepancies in order to better

understand media institutions and to provide a basis for further inquiry into how media images inform our constructions of social reality.

Large portions of what we know (or think we know) are based not on first-hand experience, but on media representations of life, society, groups, and institutions. Researchers in the *cultivation analysis tradition*, for example, point out that most people have limited, if any, experience of places such as courtrooms, police stations, prisons, or hospitals, but that we have extensive and vivid images about what transpires in such locations, as well as about the sorts of people who work in them (→ Cultivation Theory; Cultivation Effects). Media provide us with a vast range of representations of things about which we have no direct knowledge, and these account for many of our "intersubjective" beliefs.

ANALYSES OF MEDIA CONTENT

Systematically coded, quantitative content analysis has been frequently employed to illuminate how media construct different aspects of reality (→ Content Analysis, Quantitative). An online bibliography of content analyses listed in *Communication Abstracts* between 1990 and 1997 features 428 separate entries (Neuendorf 2000).

These studies cover an immense range of topics. Studies comparing reality and media reality have examined issues as diverse as the portrayal of persons over 50 in television commercials; alcohol and tobacco use in daytime → soap operas; → news coverage of infectious diseases; women scientists in popular → magazines; sex and contraception in prime-time programs; art and artists on network television news; television's messages about the environment; the image of journalists on prime-time television; and hundreds more (→ Media Production and Content).

The number of areas in which the "real world" and the media world can be compared is virtually boundless. Entering the phrase "media portrayals of" into the Google → search engine will produce tens of thousands of hits, with links to a broad range of articles and sites that examine media representations. Researchers have explored the correspondence between reality and media reality in relation to dozens of wide-ranging topics, including girls and women (→ Women in the Media, Images of; Sex Role Stereotypes in the Media), ethnic minorities, weight loss surgery, bipolar disorder, terrorism, hate crimes, sex in the workplace, sports, suicide, poverty, aging, and many more.

Early Studies

In the 1930s and 1940s, many content analyses were conducted on then burgeoning forms of popular culture, including movies, radio, song lyrics, and magazines. The technique was applied to television almost immediately after it emerged. Early studies by Smythe (1954) and Head (1954) established basic parameters for examining television's representations of demography (gender, age, class, race, occupations) and violence that other studies would emulate for decades to come. Smythe (1954) analyzed a week of New York television programs in 1951, 1952, and 1953 and Head (1954) studied a 13-week sample of 1952 network programs. It is noteworthy that Smythe began his report with the caveat that "Reality is too elusive a concept to be pinned down definitively" (p. 143).

Both of these seminal studies found that the *demography of the television world* diverged sharply from the real world. On television, there were twice as many male characters as female characters, and males tended to be older than females. Adults were vastly over-represented in the television world; at that time, over half of the US population, but only a quarter of the TV population, was younger than 20 or older than 50.

Most TV characters were white Americans. "American Negroes" accounted for 2 percent of the TV world. Non-Americans were mostly English, Italian, and French; there were no Jews, Africans, Indians, or Asians other than Chinese, who represented 0.2 percent of the TV population (compared to 22 percent of the world's population at that time).

Violence on television occurred at a rate of 6.2 acts per hour (Smythe 1954), and was far more frequent on children's programs (22.4 acts per hour for "children's drama" and 36.6 per hour for "children's comedy drama"). Both studies found that the most common program type was crime drama (→ Violence as Media Content).

These early studies found that upper- and upper-middle-class *occupations* were greatly over-represented, as were certain occupations at the lower and higher ends of the employment scale. Over half of television characters, compared to about 10 percent of the US population, were professionals, managers, service workers, and private household workers. The latter reflect the dominance of upper-class characters, who typically (in the media reality of the times) had servants at home. Occupations such as operatives, craftsmen, and farmers were virtually invisible in the TV world, but they accounted for nearly 50 percent of the actual workforce. In terms of specific occupations, teachers were the "cleanest, kindest, and fairest," while scientists were "the least honest, least kind, and most unfair." Lawyers were the "dirtiest" of all occupational types (Smythe 1954, 155).

Dozens of studies conducted in the intervening decades have confirmed and replicated the portraits of the TV world drawn by Smythe and Head, especially with regard to gender, class, and violence. One notable exception is that the number of African-American characters has increased over time.

Cultural Indicators

Other studies have continued to focus on television, given the medium's dominant role as the most widely shared storyteller of contemporary culture. One of the most sustained investigations of media reality was → George Gerbner's Cultural Indicators Project. Starting in 1967 and continuing into the late 1990s and beyond, an annual week-long sample of prime-time and weekend daytime US network broadcast programming was systematically coded for hundreds of aspects of the world as portrayed on television and the people who live in that world. The project accumulated data on thousands of programs and tens of thousands of characters over more than 30 years.

Many of the project's findings echo those of Smythe and Head despite the passage of time. Although the percentage of women in the TV world did increase somewhat over the years (from 27 percent of the TV world in the 1970s to 35 percent in the 1990s), males continued to outnumber females. Daytime serials and game shows are more balanced, but females are especially under-represented in children's and news programs. Women are twice as likely to play the role of wife as men are to play the role of husband. Women age faster than do men, and are more likely to be shown as "evil" as they age. Older people

appear far less on television than an accurate representation of reality would require. People over 65 account for over 12 percent of the actual US population but less than 3 percent in the television world, and older women are especially scarce on television.

Poor and working-class people continue to be nearly invisible on television, appearing in less than one-tenth of their actual population share, while middle-class characters are over-represented, as are professionals (doctors, lawyers, judges, business moguls, among others). White males are consistently over-represented. Villains and "bad guys" are disproportionately from the lower classes and more likely to be represented as people of color or mentally ill. The percentage of African-Americans in network prime-time programs has increased (but only among males), roughly matching their corresponding percentage in the US population (about 12 percent). Asian/Pacific characters account for less than half, and Latino characters are less than one-third, of their real proportion of the US population, while Native Americans are nearly invisible.

Media reality is violent. Between 60 and 70 percent of the network programs in each weekly sample contained *violence*, with 4 to 6 acts of violence per hour. The small year-to-year fluctuations in these data show no clear pattern or tendency, and taken as a whole the patterns seem highly consistent over the decades. Among major characters, 40 percent commit violence and 43 percent are victims. On children's programs, over 80 percent of males and two-thirds of females are involved in violence. Fewer than 2 percent of characters are shown as having any physical disability, and just over 1 percent are portrayed as mentally ill, but over 70 percent characters who are portrayed as mentally ill commit violence. (In reality, mental illness does not predict violence.)

Another large-scale study of television content in the US, the National Television Violence Study, examined 10,000 hours of programming between 1994 and 1997, and found many parallel patterns, with about 60 percent of prime-time programs featuring violence, with no major differences between broadcast and cable fare. Children's shows were even more likely to contain violence, with an average of 14 episodes of violence per hour, compared to six in other programs. Beyond the sheer frequency with which violence is encountered in the media world, the reality of media violence bears little resemblance to the reality of violence. Nearly six out of ten violent incidents do not depict any pain, and about half depict no harm; close to 90 percent show no blood or gore.

Other Patterns

Stories of *crime and violence* dominate news coverage as well as fictional programs, and the coverage does not match real-world crime patterns. Murder accounts for a dis-proportionate amount of both local and national news; murder suspects represent 0.13 percent of all those arrested, but 25 percent of all suspects in the news. From 1970 to 2000, almost a quarter of all stories were crime-related, although corporate crime typically receives relatively little attention.

The amount of crime coverage in television news does not reflect actual crime rates; editorial decisions and judgments of news value determine coverage, locally and nationally. Also, television network news over-represents white victims and under-represents African-American victims. African-Americans are more likely to be shown as perpetrators of crime and less likely than whites to be portrayed as police officers.

Researchers have pointed out many other significant discrepancies between the reality of crime statistics and television's depictions of crime and violence. Perpetrators of crime are apprehended and convicted far more often on television than in reality. Women on television are more likely than men to be victims of homicide (the reverse is true in reality), and women on television are three times as likely to commit crime as are women in reality. Homicides account for 79 percent of the crimes in the television world, compared to only 0.01 percent of actual crimes (Brown 2001). Conversely, nearly 70 percent of actual crimes are theft or robbery, but these are only 5 percent of the crimes portrayed on television.

ACCOUNTING FOR MEDIA REALITY

Many varied factors account for these patterns, but the central explanations are commercial and cultural. Even the earliest content analysts of television pointed to the *commercial context of programming* as the major explanation for the media reality they found (→ Commercialization: Impact on Media Content). Commercial media content is designed to feel familiar, to reproduce formulas, and to gratify common audience expectations; a program that strays too far from the mold would be jarring to the audience. Commercial media have always thrived on imitating the successful; fear of losing the audience drives programming decisions. The patterns described here also have deep cultural and historical roots that predate modern media; current media are not the source of these images, but television in particular has mass-produced and mass-distributed them to an unprecedented degree (→ Television: Social History). All eras and cultures have relied on stories to express and represent both reality and ideology, but never before has any society produced and consumed as many stories as we do now.

The stories and images of the media reflect popular ideological and commercial values, including the glorification of youth culture, particular intersections of race, class, and gender, the valorization of certain occupations, ritualistic struggles between good and evil, and so on. As with any cultural or industrial product, television stories reflect the values, priorities, and needs of those who produce them. This explains why so many aspects of media reality appear to have changed little in more than half a century of research. Slow, gradual changes in cultural reality do come to be reflected in media reality (and vice versa), but without meaningful change in the dominant institutional commercial structures, significant changes in media reality are unlikely to be seen.

SEE ALSO: ▶ Balance ▶ Bias in the News ▶ Commercialization: Impact on Media Content ▶ Construction of Reality through the News ▶ Constructivism ▶ Content Analysis, Quantitative ▶ Cultivation Effects ▶ Cultivation Theory ▶ Entertainment Content and Reality Perception ▶ Fantasy–Reality Distinction ▶ Gerbner, George ▶ Magazine ▶ Media and Perceptions of Reality ▶ Media Production and Content ▶ Narrative News Story ▶ News ▶ Realism ▶ Reality TV ▶ Rumor ▶ Search Engines ▶ Sex Role Stereotypes in the Media ▶ Soap Operas ▶ Storytelling and Narration ▶ Television: Social History ▶ Truth and Media Content ▶ Violence as Media Content ▶ Women in the Media, Images of

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Reality TV

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Reality TV became an increasingly prevalent global entertainment → genre in the 1990s and early 2000s. The popularity of reality shows with producers is due in large part to the fact that they represent a cheap, flexible form of programming that is easily customizable to different audiences and lends itself to forms of interaction and participation associated with new communication technologies (→ Interactivity, Concept of; Digitization and Media Convergence). As an entertainment genre that relies on the unscripted interactions of people who are not professional actors, reality TV develops and discards formats at a rapid rate, parasitizing the permutations available in everyday life – including everything from romance to warfare – for raw material. Reality-based formats can be differentiated from → news and other informational or documentary programming insofar as their focus is not on bringing the public realm of politics into the private sphere, but on publicizing the private and intimate (→ Television News; Tabloidization). The emphasis is not on matters of public interest for the purpose of democratic participation, but on therapy and social experimentation for the purpose of diversion (→ Enjoyment/Entertainment Seeking; Media Democracy). Reality formats make their claim to reality on the basis of their lack of scriptwriters and professional actors, but they are, for the most part, highly edited portrayals of patently contrived situations.

The global success of the genre is based in part on the fact that since reality TV formats rely not on contrived scenarios and contests rather than on the talent of individual actors or scriptwriters, they are easily exportable. Successful formats rapidly replicate themselves from region to region, drawing cast members from local populations. Thus, for example, the *Big Brother* format, which isolates a group of strangers in a house where they compete to be the last one voted out by viewers, was pioneered in the Netherlands but became successful in local versions across Europe and in the Americas, Australia, and Asia, as well as in regional versions in Africa and the Middle East (→ Globalization of the Media; International Television).

The reality TV boom in the early twenty-first century was built around successful blockbuster formats like *Survivor* and *Big Brother*, but reality TV, broadly construed, has been around since the dawn of television. For example, *Candid Camera*, a prank format that films unsuspecting people placed in humorous situations, was a format that migrated from radio (where it was called *Candid Microphone*) to TV in 1948 (→ Television). Game shows and talk shows, both perennial entertainment formats, share with reality TV a reliance on at least partially unscripted interactions featuring non-actors. The development of lightweight cameras and recording equipment facilitated the migration of reality-based formats from the soundstage to the home, the street, the school, the workplace, and beyond (→ Documentary Film, History of). As this happened, the scope and reach of reality-based programming grew to encompass a broader range of human experience, some contrived, some based in the events of daily life, many a combination of both. At the

same time, the expansion of cable TV increased the demand for cheap, quickly produced content – a demand that reality TV was uniquely positioned to fill thanks to its reliance on the inexpensive or free labor of non-professional actors and, in many cases, on found scenarios, sets, and even video (as in the case of shows like *America's Funniest Home Videos* – a format made possible by the advent of cheap, portable video cameras) (→ Cable Television).

As the number of channels and the amount of programming time devoted to reality formats have expanded, so too has the range of the formats that can be described as reality-based entertainment. Susan Murray and Laurie Ouellette (2004), for example, list *sub-genres* including, the "gamedoc" (in which cast members compete for prizes as their daily lives are recorded), the dating show, the makeover show, the "docusoap" (a reality TV version of the → soap opera in which the focus is on open-ended dramatic narratives), the talent contest, court and police shows, and celebrity formats that feature behind-the-scenes glimpses of the real lives of the rich and famous – or the formerly rich and famous. The proliferation of formats has led to two new TV award categories in the United States and a cable channel devoted entirely to reality programming.

Reality fare ranges from expensive and highly produced blockbusters like, in the United States, *Survivor* and *American Idol* to cheap, quick-hit dating formats and even compilations of video images captured by security cameras. All of these formats rely on the interactive promise that characterizes the era of media convergence: that non-professionals can contribute to the creation of media content. This participation comes either in the form of selected members of the viewing population crossing over to the other side of the TV screen, or in forms of direct participation fostered by interactive formats that invite people either to send in their own videos or to shape the outcome of the show by "voting," usually by phone, Internet, or text message (→ Convergence of Media Systems). Viewers tend to describe the appeal of reality TV in terms of the ease with which they can identify with the non-professional cast members and the suspense provided by the fact that outcomes are not scripted in advance.

The booming popularity of reality formats represents not just the rise of a genre, but also a shift in industry practice (→ Media Economics). Even the most successful formats are expected to make most of their money during their first run rather than in rerun syndication. The flexibility of the genre has disrupted the rhythm of the typical television season in the United States, allowing producers to switch shows mid-season and to debut new shows during summer prime-time slots, typically devoted to reruns. Moreover, reality formats lend themselves to the integration of content and advertising, as illustrated by successful formats like *American Idol* in the United States, which features prominent product placement deals, and doubles as a promotional vehicle for the singers, whose albums and concert tours generate additional revenues for producers.

SEE ALSO: ▶ Cable Television ▶ Convergence of Media Systems ▶ Digitization and Media Convergence ▶ Documentary Film, History of ▶ Enjoyment/Entertainment Seeking ▶ Genre ▶ Globalization of the Media ▶ Interactivity, Concept of ▶ International Television ▶ Media Democracy ▶ Media Economics ▶ News ▶ Soap Operas ▶ Tabloidization ▶ Television ▶ Television News

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Reasoned Action, Theory of

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The theory of reasoned action (TRA) is a general theory of behavior that was first introduced in 1967 by Martin Fishbein, and was extended by Fishbein and Icek Ajzen (e.g., Fishbein & Ajzen 1975; Ajzen & Fishbein 1980). Developed largely in response to the repeated failure of traditional → attitude measures to predict specific behaviors, the theory began with the premise that the simplest and most efficient way to predict a given behavior was to ask a person whether he or she was or was not going to perform that behavior. Thus, according to the theory, performance or non-performance of a given behavior is primarily determined by the strength of a person's intention to perform (or to not perform) that behavior, where intention is defined as the subjective likelihood that one will perform (or try to perform) the behavior in question (→ Attitude-Behavior Consistency; Planned Behavior, Theory of).

THEORY

Although the theory focuses upon behavioral intentions (e.g., to jog 20 minutes every day), it can also *predict and explain intentions to engage in categories of behavior* (e.g., to

exercise) or to reach certain goals (e.g., to lose weight). According to the theory, however, unlike the strong relation between intentions to engage in a given behavior and behavioral performance, there is no necessary relation between intentions to engage in a behavioral category and whether one does (or does not) perform any single behavior in that category or between intentions to reach a specific goal and goal attainment. Thus, although the theory can predict and explain any intention, the TRA recognizes that only intentions to engage in volitionally controlled behaviors will consistently lead to accurate behavioral predictions.

The intention (I) to perform a given behavior (B) is, in turn, viewed as a *function of two basic factors*: the person's attitude toward performing the behavior (i.e., one's overall positive or negative feeling about personally performing the behavior – Ab) and/or the person's subjective norm concerning his or her performance of the behavior (i.e., the person's perception that his or her important others think that he or she should [or should not] perform the behavior in question – SN). Algebraically, this can be expressed as: $B \sim I = w_1Ab + w_2SN$, where w_1 and w_2 are weights indicating the relative importance of attitudes and subjective norms as determinants of intention. It is important to recognize that the relative importance of these two psychosocial variables as determinants of intention will depend upon both the behavior and the population being considered. Thus, for example, one behavior may be primarily determined by attitudinal considerations while another may be primarily influenced by perceived norms. Similarly, a behavior that is attitudinally driven in one population or culture may be normatively driven in another. While some behaviors may be entirely under attitudinal control (i.e., w_2 may be zero) others may be entirely under normative control (i.e., w_1 may be zero).

The theory also considers the *determinants of attitudes and subjective norms*. On the basis of Fishbein's earlier (1963) → expectancy value model, attitudes are viewed as a function of behavioral beliefs and their evaluative aspects. Algebraically: $Ab = f(\Sigma b_ie_i)$, where Ab = the attitude toward performing the behavior, b_i = belief that performing the behavior will lead to outcome "i" and e_i = the evaluation of outcome "i." Somewhat similarly, subjective norms are viewed as a function of normative beliefs and motivations to comply. Algebraically: $SN = f(\Sigma Nb_iMc_i)$, where SN = the subjective norm, Nb_i = the normative belief that referent "i" thinks one should (or should not) perform the behavior and Mc_i = the motivation to comply, in general, with referent "i".

Generally speaking, the more one believes that performing a given behavior will lead to positive outcomes and/or will prevent negative outcomes, the more favorable will be one's attitude toward performing that behavior. Similarly, the more one believes that specific referents (i.e., individuals or groups) think that one should (or should not) perform the behavior, and the more one is motivated to comply with those referents, the stronger will be the perceived pressure (i.e., the subjective norm) to perform (or to not perform) that behavior.

It is at the level of behavioral and normative beliefs that the *substantive uniqueness of each behavior* comes into play. Even if two behaviors appear quite similar, the outcomes (or consequences) of, for example, buying a Ford may be very different from those associated with buying a Toyota. Similarly, a specific referent's support or opposition to my always using a condom for vaginal sex with my main partner may be very different from his or her support or opposition to my always using a condom for vaginal sex with an occasional partner. According to the theory, these specific behavioral and

normal beliefs about the behavior in question must be identified in order to fully understand the determinants of that behavior. Although an investigator can sit in her or his office and develop measures of attitudes and subjective norms, she or he cannot tell you what a given population (or a given person) believes about performing a given behavior. Thus one must go to members of that population to identify salient behavioral and normative beliefs. To put this somewhat differently, according to the theory, one must understand the behavior from the perspective of the population one is considering.

Finally, the TRA also considers the role played by more traditional demographic, economic, personality, attitudinal, and other individual difference variables, such as perceived risk (→ Risk Perceptions) or → sensation seeking. According to the model, these types of variables primarily play an indirect role in influencing behavior. That is, these "distal" or "background" factors may or may not influence the behavioral or normative beliefs underlying attitudes and norms. Thus, for example, while men and women may hold different beliefs about performing some behaviors, they may hold very similar beliefs with respect to others. Similarly rich and poor, old and young, those from developing and developed countries, those with favorable and unfavorable attitudes toward religion, and those who have or who have not used drugs may hold different attitudinal and normative beliefs with respect to one behavior but may hold similar beliefs with respect to another. Thus, according to the theory, there is no necessary relation between these "distal" or "background" variables and any given behavior. Nevertheless, distal variables such as cultural and personality differences and differences in a wide range of values may influence underlying beliefs, and when they do so, they are likely to also be associated with the behavior in question.

APPLICATION OF THE THEORY

In order to apply the TRA, one must first *identify the behavior* (or behaviors) that one wishes to understand, predict, change, or reinforce. Unfortunately, this is not as simple or straightforward as is often assumed. As indicated above, it is important to distinguish between behaviors, behavioral categories, and goals. Moreover, from the perspective of the TRA, the definition of a behavior involves several elements: an action (joining, using, buying, selling), the target (the navy, condoms, a Ford), and the context (after graduating high school, for vaginal sex with an occasional partner).

Clearly, a change in any one of the elements changes the behavior under consideration. Thus, for example, as indicated above, joining the navy is a different behavior than is joining the Army (a change in target). Similarly, using a condom for vaginal sex with an occasional partner is a different behavior than is using a condom for vaginal sex with one's spouse (a change in context). Moreover, in predicting and assessing behavior, it is also important to include an additional element – time. For example, an assessment of whether one bought a car in the past three months is different from an assessment of whether one bought a car in the past two years. Consistent with this, the intention to buy a car in the next three months is very different from the intention to buy a car in the next two years.

The second step in applying the TRA is to *identify the specific population* to be considered. As indicated above, for any given behavior, both the relative importance of attitudes and norms as determinants of intention (and/or behavior) and the substantive

content of the behavioral and normative beliefs underlying these determinants may also vary as a function of the population under consideration. Thus, it is imperative to define the population (or populations) to be considered.

Once one or more behaviors and target populations have been identified, the TRA can be used to understand why some members of a target population are performing the behavior and others are not. That is, by obtaining measures of each of the central variables in the theory (i.e., beliefs, attitudes, norms, intentions, and behavior), one can determine whether a given behavior (e.g., getting a mammogram) is not being performed because people have not formed intentions to get a mammogram or because they are unable to act on their intentions. Similarly, one can determine, for the population under consideration, whether intention is influenced primarily by attitudes or norms. Finally, one can identify the specific behavioral or normative beliefs that discriminate between those who do or do not (intend to) perform the behavior.

For accurate prediction and full understanding of a given behavior, measures of beliefs, attitudes, norms, and intention must all correspond exactly to the behavior to be predicted. That is, each of the measures should contain the same four elements as the behavior. This is known as the *principle of correspondence or compatibility*, and is central to the TRA. This does not mean, however, that one must always measure behaviors and intentions at a specific level of all four behavioral elements. If one is interested in predicting whether one will or will not get a mammogram in the next six months, beliefs, attitudes, norms, and intentions must all be assessed with respect to "my getting a mammogram in the next six months." However, if one is interested in predicting whether one will or will not get a mammogram at Women's Hospital in the next six months, beliefs, attitudes, norms, and intentions must all be assessed with respect to "my getting a mammogram at Women's Hospital the next six months."

In 1991, Ajzen introduced the theory of planned behavior, which extended the TRA by adding the concept of perceived behavioral control as a predictor of both intention and behavior. And in 2000, Fishbein introduced the *integrative model*, which extended the theory of planned behavior by expanding the normative component to include descriptive as well as injunctive norms, and by explicitly acknowledging the role of skills and abilities and facilitating factors as moderators of the intention–behavior relationship. The reasoned action approach has been used successfully to predict and/or explain a wide variety of behaviors, including such things as wearing safety helmets, smoking marijuana, voting, eating at fast food restaurants, smoking cigarettes, drinking alcohol, entering an alcohol treatment program, using birth control pills, breast feeding, donating blood, wearing seat belts, condom use, church attendance, and engaging in premarital sexual behavior (see, e.g., Ajzen et al. 2007; Van den Putte 1993).

SEE ALSO: ▶ Attitude-Behavior Consistency ▶ Attitudes ▶ Expectancy Value Model ▶ Planned Behavior, Theory of ▶ Risk Perceptions ▶ Sensation Seeking ▶ Social Norms

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Reciprocal Effects

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Originally, the term "reciprocal effects" was used by Kurt Lang and Gladys Engel Lang (1953) to describe the behavior of people in front of TV cameras. Here it is used in a broader sense. It denotes all the effects of the mass media on actual and potential subjects of media coverage (→ Media Effects; Media Effects: Direct and Indirect Effects). Included are the effects of media coverage that mentions subjects personally or explicitly deals with individuals and topics closely related to them. Subjects are distinguished from bystanders who are not directly or indirectly addressed by media coverage. With respect to the time when reciprocal effects occur, anticipatory, immediate, and corrective reactions are distinguished. *Anticipatory reactions* intend to avoid or seek to bring about media coverage. *Immediate reactions* are instantaneous consequences of interactions between media people (reporters, camera men, etc.) and the protagonists of media reports. *Corrective reactions* are produced by existing news coverage. When we look at reciprocal effects, there is no given distinction between cause and effect, because every element can be seen as both cause and effect. For example, a report might be seen as an effect of a subject's prior behavior while also being the cause of his subsequent emotions. Thus, the traditionally linear model of media effects becomes a *feedback* model of media relations: the personality or behavior of subjects stimulates media reports that, in turn, directly influence the cognitions, appraisals, emotions, and behavior of subjects (→ Linear and Nonlinear Models of Causal Analysis).

CAUSES AND TYPES OF EFFECTS

We can distinguish seven different causes and types of reciprocal effects.

(1) *Awareness of reports:* because the subjects of news reports are highly involved in the issue at hand, they are motivated to hear and see considerably more reports than

are bystanders (→ Exposure to Communication Content; Involvement with Media Content). As a result, subjects are subjected to an unusually strong dose of media information.

(2) *Appraisals of reports:* according to attribution theory (→ Attribution Processes), actors tend to attribute their misbehavior to circumstances whereas observers tend to attribute it to the actors' personality (Jones & Nisbett 1972). Journalists are professional observers; therefore they tend to attribute behavior to the actors' personality and describe it correspondingly. As a consequence, the subjects of negative news reports (→ Negativity) often see themselves as victims of circumstances and believe they would be mis-represented if reported as independent actors who are fully responsible for their mistakes. Because most subjects are not aware of perception differences between actors and observers, they tend to blame reporters for unfair coverage, which in turn might be perceived by reporters and editors as unfair criticism.

(3) *Assumptions about effect upon others:* most people attribute stronger negative effects of media messages to others than to themselves (→ Third-Person Effects). People who are highly involved in an issue tend to estimate the effect of news reports as stronger than neutral people do. Because the subjects of news reports are more involved in the issues reported, are more aware of the coverage, and have more background information than bystanders, they overestimate the effect of media on others even more.

(4) *Estimating public opinion:* the subjects of media reports can use four types of data to estimate the reports' effect on the population in general – opinion polls, media reports, expert analysis, and their own impressions drawn from discussions with people (→ Public Opinion, Media Effects on; Media Campaigns and Perceptions of Reality). Opinion polls are not always at hand, for example, in the immediate outbreak of a crisis (→ Crisis Communication; Public Opinion Polling). Therefore, subjects might draw their own conclusions about public opinion from media reports, partly by assuming certain effects of the mass media on the general population, partly by assuming that media coverage represents or reflects public opinion. Subjects who generally mistrust the validity of opinion polls, those without regular access to opinion polls, and those facing the beginning of a crisis rely first and foremost on media coverage to estimate public opinion (Herbst 1998).

(5) *Observing behavioral changes:* people who are associated with the subjects of media reports are generally more acutely aware of these reports than are average bystanders, in part because these people know the individuals depicted but also because usually they react on a personal level to the reports. Therefore, media reports have a remarkable influence upon the cognitions, appraisals, and behavior of those associated with the subjects. In the case of negative reports, these people may question the accuracy of coverage or turn away from the subjects. In the case of positive reporting, these people may applaud it and turn their attention more closely to the subjects. The subjects of reports will observe these behavioral changes. In addition, they will attribute such changes to themselves by misinterpreting them. For example, subjects will interpret an unusually short greeting, actually caused by time pressure, as an attempt to avoid them.

(6) *Emotions evoked by reports:* emotions are reactions to psychological arousal (→ Excitation and Arousal) and → cognition. Cognitions include the perceived causes of

positive and negative events. Negative events that are perceived as being caused by given circumstances stimulate sadness, while the same events perceived as being caused by individual behavior stimulate anger (Nerb & Spada 2001). Because the subjects of negative reports attribute their depiction to the personal motives and agendas of journalists and editors, the subjects develop feelings of anger or similar emotions, such as annoyance. Because the subjects know that they cannot rectify every reader's, listener's, or viewer's image of them, they develop feelings of powerlessness. In contrast, positive reports will stimulate strong positive emotions such as happiness, hope, and pride.

(7) *Interactions of emotions and observations:* generally, people develop consistent emotions and observations (→ Appraisal Theory). For example, if the subjects of media reports believe others are avoiding them, they will feel abandoned. Subjects' observations might very well reflect real changes in the behavior of people around them. It might also be that the subjects are imagining behavioral changes. Emotions and perceived behavioral changes (real or attributed) reinforce each other, which, in turn, leads to the creation of an insular emotional state where subjects stay stuck in emotional patterns and thereby modify their own behavior (Kepplinger & Glaab 2005).

TIME OF REACTIONS

Concerning the time and pattern of reaction to media reports, we can distinguish between four types.

Anticipatory reactions are due to the fact that the increasing availability of media information to the general public has changed the balance of power between politicians and political institutions on the one hand, and journalists on the other (→ Media Logic; Mediatization of Politics). Because of the increasing dependency of politicians, business people, artists, etc. on media coverage, they adapt their public behavior to the needs of the media, even when this is counter-productive to their original mission. Here, two strategies have to be distinguished – agenda building to establish favorable coverage and policy cutting to avoid unfavorable coverage (→ Agenda Building). Expecting favorable coverage, these people frame information given to the media according to their policy (Linsky 1986; Hutcheson et al. 2004), they shape events to fit media coverage, and they stage events that would not occur if it wasn't for the expectation of media coverage (→ Media Events and Pseudo-Events). Fearing unfavorable media coverage, politicians, business people, and other public actors avoid making unpopular decisions (→ Symbolic Politics).

Immediate reactions occur when decision-makers and journalists interact and exert a mutual influence. Professionals are aware of this influence and behave accordingly. Decision-makers and journalists play roles according to social expectations. Furthermore, the personal and ideological distance between journalists and subjects also has an impact on their verbal and nonverbal behavior (→ Nonverbal Signals, Effects of). It is relatively strong in more polarized societies and in contexts where the media is more partisan. The subjects of TV coverage are also influenced by the presence of cameras, lights, and staff. Some are stimulated by these circumstances; others feel insecure or even frightened. The ability to handle this medium effectively has an impact on career prospects (→ Public Relations Roles).

Corrective reactions are behavioral changes due to the anticipation of the positive or negative effects of media coverage on others. There are two major reasons why subjects respond to media reports. Because subjects are so aware of positive reports and sensitive to issues related to themselves, they are strongly influenced by those reports. They therefore also tend to overestimate the impact of reports upon the wider public more than bystanders do. In the aftermath of positive reports, their subjects will seek to take action to capitalize on their popularity and, for example, will make certain decisions that they know will benefit from added media coverage. These decisions might have consequences that otherwise would not have occurred. In the aftermath of negative reports, the situation is more complex ($\rightarrow$ Scandalization in the News). Because subjects are convinced that their actions have been misrepresented, they are confronted with a critical choice. They can do nothing, hoping the coverage will end quickly; or they can react in order to minimize the anticipated effects on the general public and their customers and/or clients. Both choices are risky because both can ultimately stimulate more negative coverage than otherwise.

Finally, *feedback loops* can occur. Thus far, journalists' behavior and news reports have been interpreted as causes, and the behavior of politicians and other decision-makers as effects. This is insufficient for three reasons. First, the behavior of subjects can also be regarded as the cause of journalists' behavior and of news reports. Second, subjects' expectations of the motives, goals, and behavior of journalists, as well as journalists' expectations of the motives, goals, and behavior of subjects, can influence the subjects' own behavior, which in turn can influence the journalists' behavior. For example, preparing for an interview, politicians as well as journalists may expect a sharp controversy, which from the outset will influence their behavior toward each other. To put this more formally: the expectations and behavior of each actor influence the other and immediately interact with the expectations and behavior of the interlocutor. Third, the direct and indirect effects of news reports can themselves cause new news reports. Again, to put this more formally: the effects of former media coverage on subjects' behavior can cause subsequent media coverage dealing with the behavior stimulated (Fishman 1980) or with the former media coverage.

SEE ALSO: ▶ Agenda Building ▶ Appraisal Theory ▶ Attribution Processes ▶ Cognition ▶ Crisis Communication ▶ Excitation and Arousal ▶ Exposure to Communication Content ▶ Involvement with Media Content ▶ Linear and Nonlinear Models of Causal Analysis ▶ Media Campaigns and Perceptions of Reality ▶ Media Effects ▶ Media Effects: Direct and Indirect Effects ▶ Media Events and Pseudo-Events ▶ Media Logic ▶ Media as Political Actors ▶ Mediatization of Politics ▶ Negativity ▶ Nonverbal Signals, Effects of ▶ Public Opinion, Media Effects on ▶ Public Opinion Polling ▶ Public Relations Roles ▶ Scandalization in the News ▶ Social Capital, Media Effects on ▶ Symbolic Politics ▶ Third-Person Effects

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Reciprocity and Compensation in Interaction

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Social interaction is a complex, yet often subtle, process through which humans transmit information, pursue social goals, and initiate and sustain relationships. Even in the current digital age with its various forms of remote communication, face-to-face interaction is still critical for our social and emotional well-being. One way of characterizing the give-and-take between people in interactions is in terms of the relative changes partners make in their behavior over time; specifically, compensation and reciprocation. Compensation refers to a pattern of balancing or controlling the partner's behavioral intimacy by moving in the opposite direction. Thus, too much intimacy by one person precipitates avoidance and too little intimacy precipitates approach. In contrast, when a partner's behavioral intimacy is matched or intensified, the resulting pattern is described as reciprocation. On the verbal side of interactions, reciprocation or matching of self-disclosure seems to be the dominant pattern. Although verbal communication is obviously important, nonverbal communication typically has a greater impact than the verbal on social judgments, interpersonal attitudes, and influence (Patterson 2002). In fact, most of the research and theory on compensation and reciprocation has focused on nonverbal communication. Consequently, this discussion examines the evolution of our understanding of compensation and reciprocation in nonverbal communication (→ Nonverbal Signals, Effects of).

REACTIVE ADJUSTMENTS IN INTERACTION

How and why do people make behavioral adjustments relative to their partners in the course of interaction? The systematic pursuit of this question can be traced back to Argyle and Dean's (1965) *equilibrium theory*. Argyle and Dean (1965) proposed that a small set of behaviors, including distance, gaze, smiling, and verbal intimacy, was critical in reflecting the behavioral intimacy or involvement in an interaction. Thus, as the underlying intimacy in a relationship increased, e.g., from initial strangers to acquaintances to good friends or lovers, the comfortable level of involvement also increased. Furthermore, equilibrium theory posited that interaction partners were motivated to maintain a comfortable or appropriate level of involvement over the course of an interaction. When there was a deviation from the appropriate level of involvement, reactive adjustments were predicted that would help to restore equilibrium to a comfortable level.

For example, if Bill approached a little too close to Mary and exceeded her comfort level, she might reduce the overall level of involvement by decreasing her gaze and reducing her smiling. Thus, her reactive adjustment might help to restore equilibrium in their behavioral involvement. In other words, the reduction in gaze and smiling compensated for the too close approach. Compensation might also occur when there was too little involvement for one or both partners. For example, if the seating arrangement required two good friends to sit too far apart, they might compensate for this increased distance by substantially increasing gaze toward one another. Early research on equilibrium theory not only provided strong support for the predicted compensatory adjustments of equilibrium theory, but also expanded the set of relevant behaviors to include touch, body orientation, posture, and body lean (Patterson 1973). That is, compensation might occur in any combination of one or more of these behaviors.

The results of a few studies, however, directly contradicted the predictions of equilibrium theory. Instead of compensating for increased involvement, individuals increased, or reciprocated, the higher involvement of a partner. In hindsight, it is likely that the dominant pattern of compensation found in the research was a product of the relationships (i.e., the lack of them) between the interactants and the types of experimental settings sampled. Typically this research employed confederates initiating a spatial intrusion, high level of gaze, or a touch on their unsuspecting partners in settings where their partners had little control over their immediate environments. Given these circumstances, it is not surprising that most people compensated by leaving the setting, turning away, or avoiding gaze in response to the confederate's increased involvement. This kind of pattern might not be expected between good friends interacting at home or at work. In fact, reciprocation might be more common in interactions between friends, family members, or lovers. Consequently, explaining both compensation and reciprocation required something more than equilibrium theory.

AROUSAL THEORIES

Early research demonstrated that recipients of high levels of nonverbal involvement, such as a close approach and touch, often experienced increased arousal (e.g., McBride et al.

1965; → Proxemics). Thus, arousal seemed a likely mediator directing nonverbal adjustments. For example, the *arousal-labeling theory* proposed that when the partner's change of nonverbal behavior was sufficient to produce arousal, an emotion-labeling or self-attribution process was initiated (Patterson 1976). Next, if the resulting emotional state was positive (e.g., liking, love, comfort), then the individual would reciprocate the partner's increased involvement. For example, a close approach, smile, and touch from a good friend would increase arousal, be labeled as liking, and lead to reciprocating the friend's high involvement. This might take the form of smiling back at the friend and increasing gaze. If similar behavior was initiated unexpectedly by a stranger, arousal would also be increased, but be labeled as discomfort and lead to compensation. Thus, the recipient might turn away and avoid gaze in attempting to re-establish some degree of comfort and control in the setting.

From the mid-1970s to the mid-1980s, several other theories also enlisted arousal as a central process directing both compensation and reciprocation across a wide range of relationships (see Burgoon et al. 1995 for a review). In spite of important differences among the theories, common to all of them was the determining role of affective state in directing reactive adjustments, i.e., negative states precipitated compensation and positive states precipitated reciprocation.

Arousal theories improved on equilibrium theory by offering explanations of both compensation and reciprocation. Nevertheless, in terms of explaining the dynamic give-and-take of interactions, they also shared two basic *limitations*. First, the theories were all reactive in nature. That is, they were limited in explaining B's reaction to A's change in behavior and could not address the reasons behind A's behavior in the first place. Furthermore, some interactions are more or less scripted and do not proceed in a simple, reactive fashion. For example, in initiating a greeting, interactants are not simply reacting to one another, but are following a common script for greetings. A second limitation was that the arousal theories were all affect driven. That is, according to the arousal theories, a person's affective reaction to a partner's behavior necessarily determined the behavioral adjustment. Specifically, positive emotional reactions (liking, love, comfort) precipitated reciprocation, whereas negative emotional reactions (anxiety, fear, discomfort) precipitated compensation. Although this certainly happens at times, there are many occasions when we cannot let our immediate emotional reactions determine our behavior. For example, if the boss approaches closely and puts a hand on your shoulder as she asks you to take on another responsibility, you are not likely to pull away (compensation), even though your affective response may be negative.

FUNCTIONAL APPROACH

The important limitations of arousal-based theories suggested that a different approach was needed to explain behavioral adjustments and, more generally, the initiation and development of interactions. The functional model provided such a perspective by focusing on the functions of interactions (Patterson 1983). Specifically, the functional model posited that individuals are not only reactive in relating to their partners, but also proactive in initiating goal-oriented behavior. Thus, patterns of compensation or reciprocation may be initiated independent of a person's underlying affective reaction to a

partner. Nevertheless, affect in the functional model still provides a critical role in the initiation of, and reaction to, patterns of nonverbal behavior as a kind of "default" setting in interactions.

The presence of particular goals, however, such as gaining compliance from another person or deceiving someone, can override the role of affect in determining nonverbal behavior. The proactive manifestation of compensation and reciprocation may be seen in interaction strategies precipitated by interpersonal expectancies (Ickes et al. 1982). For example, in the case of a self-fulfilling prophecy, specific expectancies about a partner may result in reciprocating the behavior *anticipated* from the partner. Thus, a positive expectancy about a partner increases the likelihood that an actor will initiate the open and friendly behavior expected of the partner. In other words, the actor's expectation precipitates a behavioral strategy of reciprocation and facilitates the expected behavior from the partner; i.e., a self-fulfilling prophecy. Sometimes, interpersonal expectancies can precipitate a contrasting strategy of compensation. That is, the actor tries to overcome the partner's anticipated behavior by initiating an opposing (or compensatory) strategy. Thus, if it is important and if the partner's reactions seem malleable, an actor might be more open and friendly to a presumably cold, unfriendly person. That is, the actor compensates for the unfriendly expectancy by behaving in warmer and friendlier fashion in attempting to alter the expected outcome.

CURRENT TRENDS

Although the study of interactive behavior is still a major focus of research, in recent years there has been less attention paid to the specific contrast between compensation and reciprocation. Instead, there is greater interest in the *social utility of behavioral adjustments*, consistent with both the functional approach and an evolutionary perspective on interactive behavior. For example, research indicates that interpersonal rapport is reflected in partners mutually displaying positive expressions, visual attention, and behavioral coordination with one another (Tickle-Degnen 2006). Related research on behavioral mimicry also shows that the automatic copying of a partner's movements and expressions increases liking and social bonds (Lakin et al. 2003). In fact, both rapport and mimicry are special cases of reciprocation.

The current emphasis on reciprocation in the form of behavioral rapport and mimicry provides additional evidence for the pragmatic value of behavioral adjustments. In interactions with friends, matching and mimicry serve to increase liking and foster stronger relationships. In turn, the increased attachment is adaptive because it facilitates subsequent cooperation and interdependence. Although this form of reciprocation typically happens automatically and outside of awareness, strategically mimicking a partner's behavior can also facilitate increased liking and influence. For example, individuals who are ostracized or otherwise in need of social support are also more likely to initiate mimicry with their more secure partners (Lakin et al. 2003). Compensation is, however, also adaptive in managing the discomfort of a partner's inappropriate involvement and in trying to modify a partner's attitudes and behavior. Thus, these complementary patterns of behavioral adjustment are important, but often subtle, elements in navigating our social environments and managing our relationships with others.

SEE ALSO: ► Disclosure in Interpersonal Communication ► Eye Behavior ► Facial Expressions ► Gaze in Interaction ► Gestures and Kinesics ► Initial Interaction ► Interaction Adaptation Theory ► Interpersonal Communication ► Nonverbal Signals, Effects of ► Proxemics

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Regression Analysis

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The essence of scientific research is explaining and predicting relationships among variables. Two or more variables co-vary and are related if their values systematically correspond to each other. In other words, as one value increases or decreases, the other value consistently or systematically increases or decreases (→ Correlation Analysis). For example, researchers might observe the amount of Internet use increases from younger to older adolescence, leading them to expect a relationship between Internet use and age of adolescents.

As scientists seek to explain phenomena, they employ various empirical measures to express relationships among two or more variables. *Correlation* is a measure of such relationships. The Pearson product–moment correlation coefficient assesses the magnitude

and direction of a relationship between two linear variables, and describes how proportional the values of the variables are to each other (StatSoft 2006). A multiple correlation coefficient does this for three or more variables, such as age, education level, and amount of Internet use. There are similar tests, such as gamma and phi, for relationships among nonlinear, categorical, or rank-order variables (→ Measurement Theory).

From a correlation coefficient we might conclude there is a positive and significant relationship between amount of Internet use and age of adolescents. A correlation coefficient ranges from 0.0 (no relationship) to 1.0 (a perfect relationship between the variables' values). The coefficients can be positive (the variables increase or decrease in unison) or negative (as one variable increases, the other decreases, or vice versa).

REGRESSION AND PREDICTION

Regression is typically used for research designs having one or more continuous independent or predictor variables. Based on correlation, regression moves beyond examining whether a relationship exists between variables to assessing the nature of the relationship (Kerlinger & Pedhazur 1973). Regression analyzes the variability of the criterion or dependent variable based on the information from one or more predictor or independent variables (Pedhazur & Schmelkin 1991), seeking to explain which independent variables best predict the dependent variable. For example, we might try to predict income level from people's age, experience, and amount of education. Or we might try to predict level of fear from the amount of time people spend watching television and how realistic they feel television content is.

Prediction is the essence of science. Regression analysis seeks to uncover how much one or more independent variables predict the dependent variable. It seeks to explain the dependent variable's sources of variance, and to answer, "What values in the dependent variable can we expect given certain values of the independent variable(s)?" (Vogt 1993, 192). Good regression models can predict one's income or one's level of fear from the predictor variables.

Simple and Multiple Regression

The regression equation involves one or more independent variables. Regression analysis estimates the coefficients of that equation, involving the independent variables, which best predict the value of the dependent variable. The regression equation indicates the nature and proximity of the variables, specifically how well we can predict values of the dependent variable by knowing the values of the independent variable(s) (Vogt 1993). The equation is represented by the regression line, which depicts the relationship between the variables. The sum of squares refers to the deviation or variance of a score from the average score of a distribution; it is fundamental to regression analysis (StatSoft 2006). The regression line or least-squares line is a line on the graph or scatterplot that depicts the lowest sum of squared distances of all data points. We fit our data to the best-fitting straight line based on this least-squares criterion (Blalock 1979).

Simple regression analysis contains one continuous predictor variable. The equation for simple linear regression refers to the regression of Y scores on X scores, or how the dependent

variable scores depend on the independent variable scores. The simple regression equation seeking for a design with one predictor variable, *X*, and one dependent variable, *Y*, is.

$$Y = a + bX$$

where *X* is the independent variable score, *Y* is the predicted dependent variable score, *a* is the intercept constant (i.e., where the regression line intercepts the *Y* axis), and *b* is the regression coefficient (i.e., the change in Y with the change in one unit of *X*). The simple linear regression equation seeks to uncover how much an independent variable explains or predicts the dependent variable.

Multiple regression analysis contains the simple regression designs for two or more continuous independent variables. The regression equation for a multiple regression design with three predictor variables, X_1, X_2, and X_3, and one dependent variable, *Y*, is.

$$Y = a + bX_1 + bX_2 + bX_3$$

where X_1, X_2, and X_3 are the scores on three independent variables, *Y* is the predicted dependent variable score, *a* is the intercept constant, and *b* is the unstandardized regression coefficient (used with raw scores). The multiple linear regression equation seeks to uncover how two or more independent variables explain or predict the dependent variable. If the regression coefficient *b* were to be standardized in these equations, it would be represented by β (beta), whereby all variables are standardized to a mean of 0.0 and a standard deviation of 1.0.

Based on the size of each regression coefficient, researchers can compare the contribution of each independent variable for predicting the dependent variable. Multiple *R* indicates the strength of the relationship. The proportion of explained variance for the predictor or set of predictors is depicted by R^2 and *F* is the test of significance of the relationship. If the predictor variables are intercorrelated, such multicolinearity makes it difficult to assess individual predictor contributions to the regression equation.

Multiple regression, then, estimates the separate and collective contributions of two or more independent variables to explaining the dependent variable (Kerlinger & Pedhazur 1973). Multiple regression analysis assesses the relationship between a dependent variable and a set of independent variables, seeking to learn how the continuous independent variables, such as age, level of education, academic performance, and amount of television viewing, explain or predict the dependent variable, such as the amount of Internet use. Or communication researchers might want to learn how, collectively, knowledge, skill, *and* motivation enhance communication competence, and whether knowledge, skill, *or* motivation is more instrumental to enhancing communication competence. Once the researchers measure the three predictor variables – knowledge, skill, and motivation – they can assess how the variables, collectively, explain a communicator's level of competence, and which one, if any, better explains a communicator's competence. Or, in a typical transaction, a salesperson might want to learn which attribute – price, gas mileage, or reliability – predicts a consumer's decision to buy an automobile. Once the salesperson gathers the information across many transactions, he or she can learn which attribute is, or which attributes are, better predictors of car purchases.

Additional Considerations

Statistical programs allow researchers to enter the predictors into the regression equation using forward, backward, stepwise, or hierarchical techniques. Depending on the objective, a researcher might choose to enter all predictors simultaneously. Forward entry sequentially adds predictors having the highest correlations with the criterion variable. Backward entry enters all predictors and then removes one at a time based on the weakest significance. Using stepwise regression, the computer selects predictors that add incrementally and significantly to the equation, based on the set tolerance criterion. If the researcher's goal was to test a communication model, he or she would enter the predictor variables in blocks, hierarchically, according to the sequential steps in the model.

We also can expand the relationships examined by regression analysis to include two or more criterion variables. For example, we might examine how knowledge, skill, and motivation predict communication competence *and* satisfaction. Or we might analyze how amount and type of television viewing predict distrust *and* fear. Monge (1980) explains the application of multivariate multiple regression to communication research. In addition, such techniques as binary and logistic regression can be used to expand the manner of how we can examine relationships via regression analysis to include discrete, categorical, and other nonlinear variables (Norusis 1999).

BRIEF EXAMPLES

A few brief examples help illustrate the application of regression analysis in communication research. Sypher and Zorn (1986), for example, used stepwise multiple regression in their organizational study, and found, of four communication-related abilities, cognitive differentiation accounted for the most variance when predicting job level and upward mobility. Those with more developed cognitive abilities tended to be promoted to higher levels in organizations than did those with lesser cognitive abilities.

Ohr and Schrott (2001) used regression analysis to examine determinants of political → information seeking in a local German election: social expectations to be politically informed; a personal duty to stay politically informed; a desire to express political orientations by voting; and the entertainment aspect of politics. They found that campaign information seeking can be explained reasonably well by these determinants, especially social expectations to be politically informed (→ Election Campaign Communication).

In the media context, Rubin et al. (1985) used hierarchical multiple regression and found news affinity, perceived news realism, and news-viewing motives predicted parasocial interaction with favorite television news personalities (→ Parasocial Interactions and Relationships). Those who sought information when viewing the news, and felt news content was realistic and important, developed a greater sense of parasocial interaction with newscasters than their counterparts.

Loges (1994) also used hierarchical multiple regression, and found support for the hypothesis that media dependency relations (→ Media System Dependency Theory) with → newspapers, → magazines, → radio, and → television are more intense the more threatening one perceives the social and natural environment to be. Controlling for demographics, Loges found that threat significantly added to the explained variance in dependency.

Using hierarchical regression, Slater (2003) found that gender, → sensation seeking, aggression, and frequency of → Internet use contributed to explaining the use of violent media content and violent website content. Alienation from school and family partially mediated the effects of sensation seeking and aggression on using violent Internet content.

Path analysis uses several regression analyses to test the path model, seeking to explain complex directional relationships between independent and dependent variables. Rubin and McHugh (1987), for example, examined an explanatory model of perceived importance of parasocial relationships, moving from television exposure through interpersonal attraction and parasocial interaction to perceived relationship importance. They found that social attraction and parasocial interaction significantly predicted perceived relationship importance.

SEE ALSO: ▶ Correlation Analysis ▶ Election Campaign Communication ▶ Factor Analysis ▶ Information Seeking ▶ Internet ▶ Magazine ▶ Measurement Theory ▶ Media System Dependency Theory ▶ Newspaper ▶ Parasocial Interactions and Relationships ▶ Radio ▶ Sensation Seeking ▶ Statistics, Descriptive ▶ Statistics, Explanatory ▶ Television

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Reification

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"Popular communication" can be characterized by the various ways in which the general public engages popular forms of communication including radio, → television, film, → popular music, and print media such as magazines, newspapers, and popular literature, as well as new technologies such as the Internet, email, and mobile phones (→ Communication: Definitions and Concepts). In addition to their general utility, these cultural objects inform and entertain the general public and are directed toward mass audience reception. The conspicuous consumption of popular forms of communication reveals a complex set of interactions with these modes of communication (→ Popular Communication).

Popular communication in the twenty-first century has transformed human → interaction by providing for seemingly limitless possibilities. In so doing, contemporary popular communication has subverted traditional forms of communication such as letters and the telephone. As more personalized and private communication is increasingly no longer the dominant form of communication, the reification of human communication has become pervasive. In the context of popular communication, "reification" can be described as the process by which popular communicative interactions between persons and the personal relationships indicative of those interactions are converted into objects that are thereby depersonalized and often function as a commodity.

This concept of reification is derived from Marxist studies and includes the theory that, as human beings become considered as physical objects they are deprived of subjectivity, that is, a consciousness of individual agency. Reification, according to this Marxist view, subsequently produces the effect of alienation. Within the parameters of popular communication, reification and alienation can be identified through such examples as television talk shows and reality shows which often feature intimate discussions and interactions between persons and groups of persons that are directed and mass-marketed to television viewers who consume such discussions and interactions as commodities. Through this process of reification viewers become part of a communicative exchange, which, ultimately, results in the commodification of human relations (→ Commodification of the Media).

The → Internet provides another such example of popular communication and reification. Many websites such as MySpace, which is marketed to users as "a space for friends," as well as Internet chatrooms and email represent modes of popular communication that have also become a significant vehicle for marketing goods and products to consumers. In addition, mobile phones can be used to connect to the Internet, check email, and download and access popular music, all of which is mediated by the marketing strategies of mobile phone and other corporate companies (→ Electronic Mail; Commercialization of the Media; Commercialization: Impact on Media Content). Consequently, the mobile phone has evolved into more than simply a way for people to communicate. Rather, mobile phones provide yet another example of the reification of human contact

through popular communication as they have become another means for transforming the communicative process into a commodity. However, these modes of popular communication alone do not produce reification. Instead, these cultural artifacts are part of a larger complex interplay between → popular culture, commercial culture, market forces, and the need for human beings to communicate and interact socially.

In addressing the *intersections between commodity culture and popular communication*, current popular communication scholarship has continued to provide a historical and comparative view of these popular communicative processes while also examining the areas of race, ethnicity, gender, sexuality, social class, globalization, audience reception, and information technologies as they relate and contribute to an understanding of the social and cultural consequences of such processes (→ Cultural Studies; Social Movements and Communication). Scholars have continued to develop interdisciplinary theories and methodologies to trace the effects of reification through popular communication on human beings and the society at large. Scholars of popular communication, for instance, generally agree that attention to national as well as global market forces on information technology and culture is one of many significant factors in identifying the potential social and cultural consequences of popular communication and reification. Audience reception is yet another popular field of inquiry within popular communication studies (→ Audience). Many scholars in these emergent fields posit that it remains to be seen how popular communication artifacts and technologies will ultimately be used – as a tool for creating community beyond cultural and social divides such as race, gender, sexuality, and class, or will they persist as a way of continuing to create markets and consumers?

SEE ALSO: ▶ Audience ▶ Commercialization of the Media ▶ Commercialization: Impact on Media Content ▶ Commodification of the Media ▶ Communication: Definitions and Concepts ▶ Cultural Studies ▶ Electronic Mail ▶ Interaction ▶ Internet ▶ Interpersonal Communication ▶ Language and Social Interaction ▶ Media Effects ▶ Popular Communication ▶ Popular Culture ▶ Popular Music ▶ Media and Perceptions of Reality ▶ Social Movements and Communication ▶ Technology and Communication ▶ Television

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Relational Control

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Relational control is the most dynamic of the three dimensions of social relationships proposed by Millar and Rogers (1987) – the other two are trust and intimacy. Control represents the vertical "distance" between the persons in an ongoing interaction; it refers to the pattern of rights and obligations to define or direct and to defer or accept the other's assertions while constructing the continually re-produced form of any interpersonal relationship. The temporal relevance of control is the present, since the right to direct and the obligation to accept the dyad's form varies by topics, social roles, and social settings. Functionally, control structures serve to regulate how each person acts toward and with the other and the dyad's ability to accomplish interdependent and individual goals (→ Social Interaction Structure). Subjective judgments about the vertical distance between persons are encapsulated in the notions of freedom and equity. Freedom concerns the possibility of one's own actions affecting the forms and outcomes of the relationship, while equity judgments concern the fairness of one's own rewards in comparison to the other's, considering the amount and type of one's contributions to the relationship (→ Social Exchange).

Relational control has been most frequently measured with the Relational Communication Control Coding System (RCCCS) or some modification of it. A comprehensive report of the development, application, and modifications of RCCCS is provided in Rogers and Escudero (2004). Briefly, the RCCCS uses a three-digit code to categorize any speech turn; the first digit codes the *speaker*, the second codes the verbalization's *format*, and the third classifies the turn's *response mode* relative to the prior statement from the previous speaker. The three-digit code is then assigned a control code; an attempt to define the relationship is called a one-up movement (↑); a request or acceptance of the other's definition is called a one-down movement (↓), and a non-demanding, non-accepting, leveling utterance is called a one-across movement (→). Combining contiguous control codes creates three types of transacts termed *complementary* (↑↓ or ↓↑), *symmetrical* (↑↑, ↓↓, or →→) and *transitory* (→↑, ↑→, →↓, or ↓→), thereby measuring the two primary theoretical constructs (i.e., complementarity and symmetry) that prompted the coding scheme's creation (Rogers 1982). Although seemingly complex, the reliability and validity estimates of RCCCS are good to excellent by conventional social science standards. The RCCCS has been used to describe the relational control dimension of verbal utterances in a variety of interpersonal settings such as husband–wife conversations, superior–subordinate interactions, and three-or-more-person family therapy sessions, and recent modifications include the coding of nonverbal behaviors in interpersonal interactions (Rogers & Escudero 2004).

A variety of measures of the relational control dimension is possible with RCCCS. Two that have received a fair amount of empirical attention are dominance and redundancy. *Dominance* is operationally defined as the number of one-up moves responded to with a one-down maneuver (dominance = given ↑, %↓). Dominance is a momentary outcome

in an ongoing conversation where one person asserts a definition of the relationship and the other accepts that assertion (e.g., the wife says "Let's go out to dinner" and the husband replies "OK. Good idea."). In husband–wife relationships, the more the husband is in a dominant position relative to his wife, the more marital satisfaction he reports, but the same correlation is not observed with wife dominance scores. Further, the greater the couple's dominance ratio indicating that the husband is in a dominant position considerably more than his wife, (1) the less he understands his wife and (2) the more redundant and rigid or less flexible the couple's control structure. (*Redundancy* is operationally defined as the sum of the absolute deviation from random use of the nine transactional configurations indexed by the RCCCS. Either highly redundant or highly chaotic patterns are problematic for the relationship.)

Dominance, a momentary relational structure, is not to be confused with *domineeringness*, which is a measure of an individual's use of one-up moves (domineeringness = ↑/ total number of maneuvers uttered by the speaker). Dominance and domineeringness are independent measures; that is, the frequency of dominance cannot be predicted by the frequency of one-up moves even though the more domineering one person is the lower the other's dominance score. This statistical independence is an important, consistent finding; it empirically supports the conceptual distinction between individual and relational measures, and reminds scholars that communication processes cannot be additively reconstructed from or reduced to measures of individual actions and perceptions. Research consistently shows that, in husband–wife conversations, the more domineering statements issued by the wife, (1) the less marital satisfaction she reports and (2) the less communication satisfaction both she and her husband report. Husband domineeringness is not consistently related with either spouse's reported levels of marital satisfaction, although it is slightly correlated with the frequency of conflicts observed in marital conversations. (A verbal conflict is depicted by at least three consecutive one-up moves by the two speakers with RCCCS codes.)

Just as biological systems continually reproduce their structure by and through their own processes, so communication systems reproduce their relational form by and through their message performances. Describing this self-regulating feature of interpersonal relationships is the concern of the relational control construct and the focus of RCCCS coding procedures.

SEE ALSO: ▶ Social Exchange ▶ Social Interaction Structure

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Relational Dialectics

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Relational dialectics is an interpretive theory of meaning-making in familial and non-kin relationships (→ Meaning). Formally articulated in 1996 by Leslie Baxter and Barbara Montgomery, the theory is grounded in the philosophy of dialogism articulated by Russian language philosopher → Mikhail Bakhtin (→ Dialogic Perspectives). It relies primarily on qualitative methods with a goal of rendering a rich understanding of the meaning-making process (→ Qualitative Methodology). Unlike many interpretive theories, however, relational dialectics theory (RDT) challenges interpretivism's focus on consensual, unified meanings, emphasizing instead the fragmented and contested nature of meaning-making. Further, RDT moves from subjective sense-making of individuals to focus on → discourse. The theory can be summarized in *three core propositions*.

The *first proposition* is that meanings emerge from the struggle of different, often *opposing, discourses* (→ Text and Intertextuality). Following Bakhtin, all of meaning-making can be understood metaphorically and literally as a dialogue. Everyday dialogue presupposes difference in the unique perspectives of the interlocutors. To Bakhtin, all meaning-making can be understood as a dialogue – the interplay of different, ideologically freighted discourses. Bakhtin's lifelong intellectual project was critical of monologues of all kinds – authoritative discourses that foreclose the struggle of competing discourses by centering a single discursive point of view. Meaning-making becomes calcified when only one discourse occupies the centripetal center and all other systems of meaning have been rendered mute. RDT seeks to reclaim discursive conflict in relating, adopting a radical skepticism of relational monologues.

To date, RDT-informed researchers have identified a variety of competing discourses in romantic, marital, and familial relationships. Three dialogues appear common across a wide range of relationship experiences. First, relationship parties give voice to a discourse of individualism that interpenetrates with a discourse of connection. Second, relationship parties navigate the discursive struggle between a discourse of openness, candor, and honesty on the one hand, and a discourse of discretion and privacy on the other hand. Third, the communication activity of relationship parties is rendered intelligible by a discourse of certainty and predictability in play with a discourse of uncertainty, novelty, and spontaneity. Other discursive struggles are specific to particular relationship types. For example, stepfamily communication is often characterized by the discursive struggle of stepparent-as-parent with and against stepparent-as-outsider. Existing research has, for the most part, been centered in the first proposition, to the relative neglect of the other two propositions.

The *second proposition* is that the interpenetration of discourses is *both synchronic and diachronic* (→ Linguistics; Semiotics). Meanings emerge in any given interaction moment, and in this sense, they are, at least momentarily, synchronically fixed. But meanings are also fluid; in subsequent interactions, relational parties might jointly construct meanings that reproduce the old meanings, or they could jointly produce new meanings. In either case

– reproduction or production – meaning-making is envisioned as ongoing communicative work that results from discursive struggle.

Some constructed meanings function to elide, or skirt, the struggle of discourses to the extent possible. For example, parties can privilege one discourse at a given moment and thereby mute all discursive rivals. If, over time, one discourse is reproduced again and again, it becomes authoritative. RDT argues, however, that it is effortful for parties to sustain authoritative discourses. Communication holds the potential for rupture, and centrifugal discourses, while removed from the centripetal center, can never be completely silenced. The struggle of competing discourses is also elided when relationship parties jointly construct meanings that involve an inversion across time with respect to which discourses are centered and which are marginalized. This diachronic ebb and flow moves back and forth, with centered and marginalized discourses changing places in the meaning-making process. This pattern of meaning-making appears quite common among relationship parties. Discursive struggles are also elided when relationship parties construct ambiguous or equivocal meanings. Ambiguity is a discursive lubricant, allowing meaning to slide between discourses, appearing to embrace them all.

Other meaning-making emerges from the interplay of discourses. Hybrid constructions combine or mix competing discourses. A new meaning emerges from the struggle, one that draws upon elements of multiple discourses. Another kind of discursive mixture is what Bakhtin refers to as an aesthetic moment; that is, meaning-making in which discourses are no longer framed as oppositional but instead merge in a way that profoundly alters each meaning system. These aesthetic meanings are crafted along new discursive lines, akin to chemical reactions.

The *third proposition* is that the interpenetration of competing discourses *constitutes social reality* ($\rightarrow$ Constructivism). In this third proposition, RDT joins a growing number of theories committed to a constitutive view in which communication is positioned to construct the social world, not merely to represent an objective world that precedes communication. What is unique about RDT is its articulation of the mechanism by which such construction takes place: the tensionality of difference. The constitutive process includes a decentering of the sovereign self in which the individual's dispositions, attitudes, beliefs, and social positions are thought to precede communication. Communication is deployed by the sovereign self to serve his or her preformed goals. By contrast, according to RDT, consciousness and identity are continually formed through communication with different others. In decentering the sovereign self, interpersonal conflict and power are shifted from the individual unit of analysis to focus instead on discourse.

SEE ALSO: ▶ Bakhtin, Mikhail ▶ Constructivism ▶ Dialogic Perspectives ▶ Discourse ▶ Linguistics ▶ Meaning ▶ Qualitative Methodology ▶ Semiotics ▶ Text and Intertextuality

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Relational Maintenance

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Relational maintenance refers to activities that occur in interpersonal relationships after the relationship is developed and before the relationship is terminated (Stafford 1994). Although the term implies a temporal stage of relationship life, communication scholars have more frequently focused on the processes that sustain a relationship. For example, Dindia & Canary (1993) identified four common *definitions of relational maintenance*: (1) the process of keeping a relationship in existence; (2) the process of keeping a relationship in a specified state or condition; (3) the process of keeping a relationship in satisfactory condition; and (4) the process of keeping a relationship in repair ($\rightarrow$ Relationship Development).

There are several controversies within relational maintenance scholarship, including theoretical commitment and views of intentionality. For example, three major theories have emerged. The first is *equity theory* ($\rightarrow$ Social Exchange). Associated with the work of Canary, Stafford, and colleagues, equity theory posits that maintenance behaviors are both rewards and costs. These authors identified seven maintenance strategies: "positivity" (being cheerful and optimistic), "openness" (self-disclosure and direct discussion of the relationship), "assurances" (messages stressing commitment), "network" (relying on common friends and affiliations), "sharing tasks" (accomplishing instrumental responsibilities), "advice" (expressing opinions and support), and "integrative conflict management" (e.g., cooperating, apologizing). Research indicates that these strategies are consistent and strong predictors of relational characteristics such as satisfaction, commitment, and love.

The second theoretical approach is a *dialectical perspective* ($\rightarrow$ Relational Dialectics). Championed by scholars such as Baxter and Montgomery (1996), the dialectical approach focuses on the ways that contradictory tensions are managed in order to sustain the relationship. For example, a dialectical tension might involve the desire for both predictability and novelty in the relationship. Eight management strategies have been identified. These include "denial" (rejecting the existence of a tension), "disorientation"

(ignoring the ability to actively manage tensions), "spiraling inversion" (responding to first one, then the other pole), "segmentation" (partitioning the relationship by topic/ activity), "balance" (partially fulfilling the demands of each pole), "integration" (responding to both poles simultaneously), "recalibration" (temporarily synthesizing the contra- diction so opposing forces are no longer viewed as opposite), and "reaffirmation" (celebrating the stimulation that contradictory tensions provides).

Finally, *systems approaches* have been touted as the ideal theory for understanding maintenance processes (Stafford 1994; → Systems Theory). Systems approaches allow for an understanding of how mutual and reciprocal influences affect the balance of the relationship. In his seminal study of maintenance processes, Ayres (1983) found that three strategies – "avoidance", "balance," and "directness" – functioned to sustain a relationship's equilibrium.

Although these theories have provided insights into maintenance processes, they have not provided a full picture. Equity theory, for example, is biased toward western notions of relationships. The dialectical perspective provides an intuitive means for understanding relationships, but does not provide a mechanism for predicting which relationships will be maintained and which will not. And, despite the potential usefulness of the systems perspective, relatively little maintenance research has adopted this view. A significant area for future scholarship is the development of a theory or theories that more fully explain the maintenance process.

A second ongoing controversy is the extent to which maintenance is achieved intentionally. At issue is whether maintenance is effortful and planned (i.e., it is *strategic*), or whether it also occurs as a by-product of everyday interaction (i.e., it is *routine maintenance*). Dindia (2000) identified three possible relationships between strategic and routine maintenance. First, she argued that some behaviors might start off as strategies for relational partners, but become routinized over time. Second, some behaviors might be performed primarily strategically by some partners and primarily routinely by others. Finally, Dindia proposed that the same behavior might on some occasions be used strategically, and on other occasions be used routinely. Tentative support has been found for all three possibilities, and for the proposal that routine maintenance may be a stronger predictor of relationship satisfaction than strategic maintenance (Dainton & Aylor 2002). However, the larger question of when and why maintenance is performed strategically vs routinely has not yet been answered.

Regardless of theoretical perspective or stance on intentionality, much of the published research has used *self-report data* (→ Research Methods). Although communication is presumed to be the central mechanism for relational maintenance, the sheer difficulty of capturing real-life interactions in real-life settings makes research focused on actual communication problematic. Whether strategic or routine, relational maintenance is embedded in the rocky terrain of daily life, and is rarely on public view. Future research will need to devise creative methods to fully investigate maintenance communication.

Moreover, although scholars have learned a great deal about the cognitions and behaviors that relational partners use for maintenance, network and cultural influences have largely been ignored. Future research needs to put maintenance in context, investigat- ing the extent to which cultural norms, as well as family members, other relationships, and social structures, affect the maintenance process.

Finally, nearly all of the research has focused on dating and marital relationships, but clearly *other types of relationships* are maintained (→ Dating Relationships; Marital Communication). Scholars are just beginning to investigate the maintenance of friendships, family relationships, co-worker relationships, and the like. An intriguing but as yet unanswered question is the extent to which the same maintenance processes operate across contexts. Early results indicate that there are some maintenance activities that occur in numerous relationship forms, including providing support and talking about the relationship. The relative importance of these more generic strategies vs the contextually determined and/or relationally idiosyncratic behaviors is an area for future research.

SEE ALSO: ▶ Dating Relationships   ▶ Marital Communication   ▶ Relational Dialectics ▶ Relationship Development   ▶ Research Methods   ▶ Social Exchange   ▶ Systems Theory

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Relational Schemas

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Schemas are defined as large-scale cognitive structures representing general knowledge, often also described as subjective theories, about some object or concept (Smith 1998). Their main functions include aiding in the interpretation of external stimuli, directing attention to specific types of external information, and guiding the retrieval and judgment

of information from memory. That is, schemas play a central role in information processing and how persons understand and act in their social worlds. It follows that relational schemas organize knowledge of relationships in long-term memory and play an important role in the cognitive processes that precede, accompany, and follow interpersonal communication (→ Schemas, Knowledge Structures, and Social Interaction).

Specifically, *relational* schemas can be defined as interrelated pieces of declarative and procedural knowledge about relationships that resides in long-term memory (Baldwin 1992). In this context, declarative knowledge is defined as descriptive knowledge of the attributes and features of things, whereas procedural knowledge refers to a person's knowledge of if-then contingencies. The declarative and procedural knowledge contained in relational schemas overlaps with three subsets of knowledge that are often considered to be independent and to constitute their own schemas: self-, other-, and relationship-schemas. *Self-schemas* organize knowledge about the self, including knowledge of thoughts and emotions, goals and plans for the future, and memory of past experiences. *Other-schemas* represent knowledge about others with whom one has relationships. Knowledge of others mirrors knowledge of self in that it includes representations of others' thoughts and emotions, goals and plans for the future, and past experiences. The main difference is that, depending on how well one knows the other, these representations are much more limited than those of self.

Finally, *relationship-schemas* contain memories of past and expectations of future interactions with others. They include knowledge of experienced and expected behavioral sequences between self and other that is used to interpret and to plan behavior. These interaction sequences can be very specific and rigid interpersonal scripts (Abelson 1981) for routine behaviors, such as greeting someone, or more abstract and flexible memory organization packets (MOP) (Kellermann 1995) and plans (Berger 2002) for reaching goals in novel interactions. Although these three sub-schemas are often conceptualized as being isolated from each other, Baldwin (1992) demonstrated that these three subsets of knowledge are so highly interdependent on one another (i.e., any change in one will effect changes in the others) that they actually all belong to the same, highly abstract cognitive schema.

Like other schemas, relational schemas are hierarchically organized and exist at least at three levels of generality (Koerner & Fitzpatrick 2002). At the most general level is knowledge that applies to all social relationships, the general social schema. Such general social knowledge includes beliefs and pragmatic rules that apply to all interactions, like the norm of reciprocity (→ Reciprocity and Compensation in Interaction) or the need to be truthful and relevant when communicating (→ Deception Detection Accuracy). On the second level are relationship-type schemas that include knowledge specific to the different types of relationships one has, such as romantic partner, co-worker, sibling, and best friend. The knowledge stored in schemas at this level is different from the knowledge in the general social schema and applies to all relationships of that type (Fletcher 1993). On the most specific level are relationship-specific schemas that contain knowledge that applies to only one particular relationship a person has with one specific other person. These schemas contain memories, attributions, and experiences made within the context of that particular relationship and allow individuals to adapt their thoughts, behaviors, and interpretations to that particular relationship. These particular relationship beliefs are what make each relationship unique and distinguishable from other relationships.

The knowledge contained at the level of more specific schemas is different from the knowledge that exists at more general levels, and a person's complete mental representation of a relationship combines knowledge from all three levels. Thus, similarities of mental representations of relationships with different persons are the result of shared knowledge drawn from either the general social schema or the relationship-type schema. By contrast, differences in mental representations of relationships with different persons are due to unique information contained either in relationship-type or in relationship-specific schemas. Consequently, there must be a process that determines which information is retrieved and used in relational information processing. Originally, Koerner and Fitzpatrick (2002) proposed a sequential process in which relationship-specific knowledge is accessed first and general social knowledge last, which would explain why more specific knowledge has supremacy over more general knowledge in information processing. An equally plausible alternative that is more consistent with parallel processing is a recursive or iterative process that accesses knowledge at all levels of specificity simultaneously and that assigns more specific knowledge primacy over more general knowledge if there is a conflict between knowledge at the different levels of abstraction. A similar process should be involved when storing relationship experiences in memory. Truly unique experiences are stored in relationship-specific schemas, whereas experiences that are made with several others are stored in relationship-type schemas or the general social schema.

SEE ALSO: ▶ Cognition ▶ Communication: Definitions and Concepts ▶ Communication: Relationship Rules ▶ Deception Detection Accuracy ▶ Information Processing: ▶ Self-Concept ▶ Memory, Person ▶ Reciprocity and Compensation in Interaction ▶ Schemas, Knowledge Structures, and Social Interaction

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Relational Termination

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Approximately 50 percent of first-time marriages, and an even higher percentage of remarriages, end in separation or divorce. Because researchers and theorists are concerned with the prevalence of relational termination, they have devoted a great deal of effort to understanding the antecedents, processes, and consequences associated with divorce and the dissolution of romantic relationships.

A number of the *characteristics that people bring to marriage* are associated with the likelihood that they will divorce. For instance, socio-demographic variables such as age and income predict the early termination of marriages. The divorce rate is particularly high for those who marry in their teens as it is for people in lower income groups, those with low-status occupations, and those with less education (Kitson et al. 1985). Relatively stable personality variables, such as neuroticism, also have been linked to the dissolution of marriage (Kelly & Conley 1987).

In addition to the characteristics that people bring to their romantic relationships, the *way partners interact* with each other predicts relational dissolution (Vangelisti 2002; → Marital Communication). Individuals who are dissatisfied with their relationship display more negative affect and less positive affect when communicating with their partner than do those who are satisfied, and the expression of negative affect predicts declines in marital satisfaction over time. Further, there are two sequences of behavior that distinguish happy from unhappy couples. The first involves the reciprocation of negative affect. People who tend to respond to their partner's negative behavior with negative behavior are less satisfied than those who do not. The second involves one partner communicating in "demanding" ways (e.g., trying to engage the other) while the other withdraws (e.g., tries to avoid the issue at hand). Labeled the demand–withdraw pattern, this behavioral sequence has been consistently associated with marital dissatisfaction and divorce (→ Interpersonal Conflict).

Because marital and other romantic relationships take place in the context of social networks, *family and friends* also influence relational stability. Generally, perceptions of approval from a partner's network and network support are positively linked to relational stability, as is the amount of overlap between partners' social networks (Sprecher et al. 2006).

The termination of marital and other romantic relationships occurs over time and involves interaction between relational partners. In other words, it is a *process rather than an event*. A number of researchers have put forth models describing the stages that couples go through when their relationships come apart (e.g., Knapp 1978). The models are similar in several ways. For instance, most note that the dissolution of romantic relationships starts when one or both partners recognize there is a problem and begin to evaluate the relationship. Next, the models suggest that partners discuss their relational problems. These discussions may be direct or indirect and may involve efforts to repair the relationship. The models also indicate that people go to their social network

to talk about their relationship, seek advice, or provide an account of why their relationship is ending. Finally, most of the models suggest that after the relationship ends, partners engage in behaviors that help them recover from the dissolution. While some of the models describe the termination process as a series of steps, all of them acknowledge that relational partners may progress through the steps at different rates and in different sequences and that partners may even skip some steps (→ Relationship Development).

Rather than describe the dissolution process itself, some researchers have focused specifically on the *tactics that people use to end their relationships*. For instance, Cody (1982) found that people who initiated a breakup with a romantic partner tended to use one of several strategies including: (1) positive tone (apologizing, trying not to hurt the partner); (2) negative identity management (noting the importance of dating other people); (3) justification (explaining the reason for the breakup); (4) behavioral de-escalation (avoiding contact); and (5) de-escalation (saying that partners should "cool off" for a period of time).

Relationship dissolution is *stressful* for most people. Individuals who are divorced report lower levels of well-being, more health problems, more loneliness and social isolation, and more economic difficulties than do those who are married. Longitudinal studies indicate that divorce causes psychological distress; however, there also is evidence suggesting that people have certain individual differences that make them vulnerable to divorce (Mastekaasa 1994). Moreover, a small number of studies show that divorce can be linked to positive outcomes such as personal growth and autonomy (Marks 1996).

Like adults, children typically find divorce stressful: Children whose parents have divorced tend to have poorer psychological adjustment, lower academic achievement, and more behavioral problems than do those whose parents have not divorced (Hetherington et al. 1985). It is worth noting, though, that the differences between children with divorced parents and those with continually married parents are relatively small. In addition, children's adjustment to divorce is influenced by social and economic resources (Amato 1993). There is strong evidence that the conflict associated with divorce, rather than the divorce itself, accounts for the lower well-being of children from divorced families. Further, children whose parents have economic difficulties after divorce appear to be more negatively influenced than those whose parents do not experience such difficulties.

Although the prevalence of relational termination has stimulated a great deal of study, researchers' understanding of divorce and relational dissolution is still fragmented. Most studies focus on direct associations between predictors and outcomes when, in reality, many of these associations may be mediated by other factors. Also, much of the literature is based on the assumption that characteristics that occur early in relationships determine relationship outcomes. Because the process of relational termination likely is non-linear and is influenced at different points in time by different variables, understanding the process will require longitudinal studies that examine relationship variables at multiple points in time.

SEE ALSO: ▶ Dating Relationships ▶ Interpersonal Communication ▶ Interpersonal Conflict ▶ Marital Communication ▶ Relationship Development

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Relational Uncertainty

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Relational uncertainty is the degree of confidence people have in their perceptions of involvement within interpersonal relationships. The construct has its roots in → Uncertainty Reduction Theory (URT; Berger & Calabrese 1975), which emphasized the relevance of uncertainty to interactions between strangers (→ Initial Interaction). As scholars began to examine URT in the domain of close relationships, they recognized the need to reconceptualize uncertainty in ways that attended to features of intimate associations (Knobloch & Solomon 2002a). The relational uncertainty construct was developed to fill this void.

Relational uncertainty is an umbrella term that refers to ambiguity arising from self, partner, and relationship sources (Berger & Bradac 1982). *Self uncertainty* indexes the questions people have about their own participation in the relationship ("How certain am I about my goals for this relationship?"). *Partner uncertainty* involves the doubts individuals experience about their partner's participation in the relationship ("How certain am I about my partner's goals for this relationship?"). *Relationship uncertainty* is the ambiguity people feel about the state of the relationship itself ("How certain am I

about the future of this relationship?"). Whereas self and partner uncertainty encompass questions about individuals, relationship uncertainty exists at a higher level of abstraction because it focuses on the dyad as a unit. The three sources of relational uncertainty are both conceptually and empirically distinct.

The *sources* of relational uncertainty can be further distinguished by content areas (Knobloch & Solomon 1999). In the context of courtship, self and partner uncertainty involve the questions people have about their desire for the relationship, their evaluation of its value, and their goals for its progression. Relationship uncertainty includes the ambiguity individuals experience about the norms for appropriate behavior, the mutuality of feelings between partners, the definition of the association, and the future of the relationship (→ Expectancy Violation).

Scholars have conceptualized relational uncertainty at two *levels of abstraction*. It exists on a global level as people's overall ambiguity about a relationship ("How certain are you about the status of this relationship?"). It also occurs on an episodic level as the doubts generated by discrete events ("How much uncertainty did you experience because of this episode?"). Scholars have collected data on both people's retrospective accounts of unexpected events (Planalp et al. 1988) and their appraisals of hypothetical episodes (Knobloch & Solomon 2002b).

Relational uncertainty can have several *consequences*. It may provoke face threats because individuals lack information about how their partner will respond to messages. Consequently, people tend to avoid open communication under conditions of ambiguity (Knobloch 2006). Individuals experiencing relational uncertainty engage in more topic avoidance, are less likely to express jealousy to their partner, and are more apt to refrain from discussing unexpected events. Moreover, people grappling with relational uncertainty produce date request messages that are less affiliative, less relationally focused, and less explicit. Relational uncertainty may also make it harder for individuals to glean information from conversation. Under conditions of relational uncertainty, dating partners have trouble recognizing relationship-focused messages, experience problems deriving inferences from utterances, and report that conversation is difficult (Knobloch & Solomon 2005). Thus, relational uncertainty may impede people's ability to process messages (→ Relationship Development).

At the episodic level, scholars have investigated how individuals manage uncertainty increasing events (→ Information Seeking). Both distal and proximal features of the situation govern people's responses to unexpected episodes. Three predictors have garnered the most research attention (Knobloch 2005). Intimacy is a distal parameter that is positively associated with direct information seeking strategies. Cognitions and emotions are proximal parameters that also predict information seeking strategies.

Questions remain about the *advantages and disadvantages* of relational uncertainty (Knobloch 2007). On the one hand, research suggests that relational uncertainty may be dissatisfying. People experiencing ambiguity appraise irritating partner behavior to be more severe, feel more negative emotion, and perceive network members to be less supportive of their courtship. Further, individuals typically view unexpected events to be negatively valenced. On the other hand, scholars have theorized that relational uncertainty may be beneficial by providing romance, excitement, and opportunities to affirm commitment (Knobloch & Solomon 2002a; Livingston 1980). More research is needed to

determine the boundary conditions that make relational uncertainty helpful or harmful to intimate associations ($\rightarrow$ Uncertainty Management).

Two other directions for future research involve the link between relational uncertainty and communication. First, most studies have examined people's global communication strategies rather than features of their utterances, so work is necessary to shed light on characteristics of messages. Second, scholars have focused on understanding how relational uncertainty predicts message production, so research is required to illuminate the connection between relational uncertainty and message processing.

SEE ALSO: ▶ Expectancy Violation ▶ Information Seeking ▶ Initial Interaction ▶ Relationship Development ▶ Uncertainty Management ▶ Uncertainty Reduction Theory

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Relationship Development

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Since the dawn of interpersonal communication research in the early 1970s, communication researchers have been interested in relationship development processes. Theories focused on how strangers develop more personal and intimate alliances with others over time, couples work to maintain relationships, and partners cope when they fall apart or disintegrate. Extensions and applications of these basic theories into work, family, cross-cultural, and mediated arenas followed.

Several important *relationship development theories*, advanced in the 1970s, laid the foundation for the next 30 years. Altman and Taylor's (1973) Social Penetration Theory claimed that relationships develop because people expect the amount and nature of rewards accrued by continuing will exceed the potential costs. Communicators exchange an increasingly broad number of topics, going into more depth on some and staying superficial on others. But as the topics and depth progress from non-intimate areas to more intimate ones, the layers are peeled, like an onion, and the relationship develops. Relational dissolution (i.e., depenetration) follows the same process, but in reverse.

Duck's (1973) description of the phases of breaking up was consistent with this approach, but examined satisfaction with the relationship, possible confrontation about complaints, means of dealing with one's social network, and retrospection on the breakup ($\rightarrow$ Relational Termination). Rogers (Rogers & Farace 1975) described another relational approach to development based on analysis of conversations; symmetrical or complementary transactions connote similar types of relationships ($\rightarrow$ Transactional Models).

Charles Berger's $\rightarrow$ Uncertainty Reduction Theory (URT) has generated the most research in the communication field (Berger & Calabrese 1975). On the basis of attraction theories developed by Newcomb, Asch, Miller, and Heider (Knapp et al. 2002; Rubin & Rubin 2001), Berger identified three main stages of development: entry, person, and exit. Berger and associates developed and tested 21 theorems centered on seven essential communication concepts: amount of communication, nonverbal affiliative expressiveness, information-seeking behavior, intimacy level, reciprocity, similarity, and liking. Research also examined five main strategies for reducing uncertainty: interrogation, self-disclosure, detecting deception, environmental structuring, and deviation testing ($\rightarrow$ Disclosure in Interpersonal Communication; Deception Detection Accuracy; Information Seeking). The process of development was conceived as a series of proactive (predictions) and retroactive (explanations) attributions about the other person before, during, and after interaction ($\rightarrow$ Attribution Processes).

Miller & Steinberg's (1975) Goal-Plan-Action model proposed that relationships move from non-interpersonal (where demographic/stereotypic attributions are based on cultural/sociological information) to interpersonal (in which psychological information is used to create personal/private attributions). Central concepts of this model are control (people intentionally try to affect others) and exchange of rewards (with reduction of costs). Three main skills necessary for development are empathy, self-disclosure, and

small talk (→ Empathy Theory; Interpersonal Communication Competence and Social Skills).

Knapp's (1978) Staircase Model was based on Murray Davis's 1973 book *Intimate relations* and Social Penetration Theory. Knapp identified five stages of coming together – initiating, experimenting, intensifying, integrating, bonding – and five stages of coming apart – differentiating, circumscribing, stagnating, avoiding, and terminating. Progression through the stages depends on interactions that take place and amount of information exchanged.

The 1980s produced extensions of these theories and some new directions (Berger & Gudykunst 1991). Judee Burgoon and Jerold Hale (1984) extracted fundamental topics in the relational area. Gudykunst extended URT to the intercultural communication arena, and Leslie Baxter, following Duck's work, continued to examine elements such as disengagement, turning points, and other stages (→ Relational Maintenance). This latter approach was continued into the 1990s and until today by those following more of a dialectical approach.

Researchers have investigated development in several *types of relationships*. Most research has focused on romantic or potentially romantic interactions (Vangelisti 2002; → Dating Relationships). These works identified attraction and attribution as key elements in moving from one stage to another (→ Interpersonal Attraction). Studies of friendship among acquaintances and roommates, dissolution, and conflict among family members or spouses abound. Best known in this area is the work of Baxter and Bullis on turning points, Bochner on families, and Fitzpatrick on marital couple types.

Additional research has looked at interpersonal relationships across cultures, identifying mainly the uncertainty that is inherent in cultural differences. URT in work relationships has taken the form of socialization and assimilation; later work has looked at uncertain situations such as job transfers, stress, and burnout. A similar applied area is the health field, with URT applied to provider–patient and caregiver–patient relationships.

Extensions to mediated relationships began with examination of URT to explain parasocial relationship development with television characters and online relationships (Walther & Parks 2002; → Mediated Social Interaction). In effect, with so many relationships today initiated online and with the help of mobile phones, email, and instant messaging (IM) programs, long-distance relationship development (see Stafford 2005) becomes more than interpersonal – almost hyperpersonal (→ Long-Distance Relationships; Online Relationships). Thus focus on the medium has replaced prior investigations into the process.

SEE ALSO: ▶ Attribution Processes ▶ Dating Relationships ▶ Deception Detection Accuracy ▶ Disclosure in Interpersonal Communication ▶ Empathy Theory ▶ Friendship and Communication ▶ Information Seeking ▶ Interpersonal Attraction ▶ Interpersonal Communication Competence and Social Skills ▶ Long-Distance Relationships ▶ Mediated Social Interaction ▶ Online Relationships ▶ Relational Maintenance ▶ Relational Termination ▶ Transactional Models ▶ Uncertainty Reduction Theory

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Reliability

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Linguistically, the word "reliability" occurs in contexts of relying on something, for example, on one's tools, someone else's service, given measuring instruments, or data. In the conduct of science, the reliability of data is an important bottleneck for the construction of theories or scientific conjectures, and for giving reasonable advice.

Data usually are the primary and therefore the most direct representations of typically transient phenomena that researchers are interested in theorizing, conceptualizing, or explaining. Interviews, public happenings, historical events, natural catastrophes, even scientific experiments do not last long enough for important details to be inspected ($\rightarrow$ Research Methods; Experimental Design). Moreover, phenomena cannot be compared unless they co-occur. Analysis, comparison, and research of diverse transient and non-synchronous phenomena cannot proceed without relying on sufficiently durable