Co-citation and Bibliographic Coupling Based on Connected Papers: Review of Public Opinion Research in a Broad Sense in the West

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Received: April 28, 2022 Accepted: June 7, 2022 Online Published: June 30, 2022
doi:10.5539/ass.v18n7p29 URL: https://doi.org/10.5539/ass.v18n7p29

Abstract

The term “public opinion” (or “mass opinion”, “public sentiment”, “public voices”, etc.) comes from the Latin “opinio”, which means uncertain judgments that have not been fully demonstrated. Later, with the rise of Western humanism, the idea of “public opinion” came into being, which refers to the social and political attitudes of the people towards state administrators. Communication studies, which give a theoretical framework and methodological guidelines for examining the relationship between the mass media, the public, and policy agendas, are strongly linked to the development of public opinion research. Based on the Connected Papers, a document visualization research tool, this article reviews the related literature of public opinion research in a broad sense in the West, and explores the development and themes of the field. It provides a theoretical basis for the expansion of public opinion constructs and, at the same time, a reference for the further development of public opinion research methods.

Keywords: connected papers, public opinion, media, policy

1. Introduction

Researchers generally believe that the concept of “public opinion” (also known as “popular will” or “public sentiment”) in the modern Western world first appeared in France in the 18th century. Noelle Neumann once confirmed that Rousseau first proposed the term “opinio publique” in about 1744. Since then, the discussion of “public opinion”, which is separated from general social phenomena, is often related to the concepts of “public will”, “public spirit”, and other discourses with political connotations. In 1781, the term “public opinion”, which is the same concept as Rousseau’s, began to appear in English-speaking countries.

In 1937, in the inaugural issue of Public Opinion Quarterly, Floyd H. Allport (1937) published an article titled “Toward A Science of Public Opinion”, in which he defined public opinion as:

“The term “public opinion” is given its meaning with reference to a multi-individual situation in which individuals are expressing themselves, or can be called upon to express themselves, as favoring or supporting (or else disfavoring or opposing) some definite condition, person, or proposal of widespread importance, in such a proportion of number, intensity, and constancy, as to give rise to the probability of affecting action, directly or indirectly, toward the object of concern. (7-23)”

Moreover, he also made thirteen points on the connotation of public opinion, including that the phenomenon of public opinion is the behavior of many individuals and the words expressed by many people, which may be stimulated, motivated, or guided by many goals or situations, and the attitudes and opinions involved are expressed, or at least what many people are prepared to express. It represents common behavior, is powerful, and because there are so many, it can evoke efficacy, goals, etc.

In 1965, Bernard C. Hennessy (1970) proposed in his book Public Opinion that public opinion is a combination of different opinions expressed by a group of people on issues of certain importance. From the connotation point of view, public opinion includes the presentation of issues, the nature of the public, the synthesis of likes and dislikes, the expression of opinions, and the number of people involved. Subsequently, he elaborated on these five factors, especially when it comes to the “presentation of issues”, he pointed out that the reason for the formation of public opinion is that, firstly, the issue contains arguable factors, and secondly, public opinion is the collective attitudes and emotions formed around such controversial issues.
In public opinion research, Doob, Leonard W. (1948) is concerned with a special psychological preparatory period, that is, the period when public opinion has not been published. He believes that latent public opinion (expression) refers to the time when people’s attitudes towards an issue have not yet been formed or when the issue is not yet sufficient to influence attitudes. Latent opinion is the “potential public opinion”. He believes that it is important if latent public opinion represents a majority attitude or a pre-existing position, and eventually an opinion on an issue is formed. Doob’s concept of latent public opinion reminds us that in addition to explicit public opinion, there will also be implicit public opinion, and public opinion changes dynamically.

As a journalism and communication scholar, Noelle-Neumann, E. (1974) has a unique view on public opinion. She believes that, in addition to political and legal meanings, “public concepts” also have social psychological meanings. In addition to having an internal spiritual space such as thinking and feeling, an individual also has an external physical existence space, which is often openly exposed to others. Because people have the fear of being isolated, despised and unpopular, and also have the need to be recognized by the surrounding environment, when expressing, people’s attention is often focused on the external environment, so that the public’s attitude can be expressed as one’s own attitude. Therefore, we can derive the definition of public opinion, which is an opinion in a controversial field that people can express openly without isolating themselves. She went on to add that in tradition, ethics, and especially norms, people must openly express or adopt the views and behaviors of public opinion if they do not want to be isolated. This is mainly due to the individual’s fear of being isolated and the need to be accepted; at the same time, because public attitude has become a judgment authority, the individual has the need to adapt to the established and generally accepted views and behavioral attitudes.

In the 20th century, a large number of scholars have successively defined public opinion, each with their own emphasis, and at the same time, there are differences. Wang (1995) pointed out that the differences in the definition of public opinion, on the one hand, come from the difference between concepts and ideas, and on the other hand, are the conclusions drawn from the investigation of different social and public opinion phenomena. Furthermore, there are differences in disciplines. For example, political scientists and historians prefer to emphasize the role of public opinion in government decision-making; psychologists tend to focus on the psychological process in the expression of public opinion; and sociologists generally believe that public opinion is inseparable from social groups and social interactions, and may also exist beyond government decision-making or mainstream opinion.

Western public opinion research is mainly reflected in two aspects: public opinion polls in a narrow sense and public opinion in a broad sense. The former is mainly related to the election of Western representative democratic governments, while the latter can be generally understood as issues or topics with public participation. The study employed Connected Papers, a literature visualization research tool, to examine related studies on public opinion in a broad sense in the Western world.

2. Research Design

Connected Papers is a research tool for visualizing publications. With over 50,000 papers, the system sorts them according to a degree of similarity and then generates a visual using the standard similarity metric of co-citations and bibliographic coupling. In addition, a force-directed graph is produced, which shows the effect of similar papers’ collection and emphasizes the shortest path of each node from the original document in the similarity space.

An article title matching the specific keywords “public opinion” was identified and used as the original document to create a visual chart, as seen in Figure 1.

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1 see URL: https://www.connectedpapers.com/; The database is connected to the Semantic Scholar Paper Corpus authorized by ODC-BY.

2 Public Opinion is published by Schenelaars in Nat Biotechnol in 1994. It mainly discusses the influence of public opinion on the results of public event processing. The author believes that the content of this article is highly related to the subject of this research, and it can be used as the original document to create a visual chart to complete a literature review of the subject. See Schenelaars, P. (1994). Public Opinion. Nat Biotechnol 12, 1048-1049. https://doi.org/10.1038/nbt1194-1048b.
According to the distance between document clusters and nodes shown in the visualization chart, the research in this field can be divided into three main directions. The author further used the Prior works function of Connected Papers to retrieve the most frequently cited papers in the chart, a total of 10 papers, in order to summarize the previous research in this field³, see Table 1.

Table 1. 10 Derivative Documents Based on the Papers in the Visualization Chart

<table>
<thead>
<tr>
<th>Title</th>
<th>Last author</th>
<th>Year</th>
<th>Citations</th>
<th>Graph citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Agenda-Setting Function of Mass Media</td>
<td>D., Shaw</td>
<td>1972</td>
<td>5037</td>
<td>14</td>
</tr>
<tr>
<td>The Issues of the Sixties: An Exploratory Study in the Dynamics of Public Opinion</td>
<td>G., Funkhouser</td>
<td>1973</td>
<td>394</td>
<td>7</td>
</tr>
<tr>
<td>The Agenda Setting Function of the Mass Media at Three Levels of “Information Holding”</td>
<td>P., Frazier</td>
<td>1976</td>
<td>164</td>
<td>8</td>
</tr>
<tr>
<td>The Emergence of American Political Issues: the Agenda-Setting Function of the Press</td>
<td>M., McCombs</td>
<td>1977</td>
<td>508</td>
<td>7</td>
</tr>
<tr>
<td>Framing: Toward Clarification of a Fractured Paradigm</td>
<td>R., Entman</td>
<td>1993</td>
<td>10348</td>
<td>10</td>
</tr>
<tr>
<td>Framing Analysis: An Approach to News Discourse</td>
<td>Gerald M., Kosicki</td>
<td>1993</td>
<td>1623</td>
<td>7</td>
</tr>
<tr>
<td>Candidate Images in Spanish Elections: Second-Level Agenda-Setting Effects</td>
<td>Federico, Rey</td>
<td>1997</td>
<td>429</td>
<td>7</td>
</tr>
<tr>
<td>Framing as a Theory of Media Effects</td>
<td>D., Scheufele</td>
<td>1999</td>
<td>3073</td>
<td>8</td>
</tr>
</tbody>
</table>

3. Discussion

3.1 Preliminary Research

3.1.1 Mass Media, Public Opinion and Policy

The mechanism by which public political preferences are formed is the focus of public opinion research. This includes research on the process by which news and political arguments spread among the public, on how the public evaluates information based on personal political values and predispositions, and on attitudes toward

³ The most frequently cited papers in the chart usually represent the important seminal works of this field, which serves as an important way to review the previous research in this field.
large-scale surveys and electoral voting, with particular emphasis on ethnic conflict, political tolerance, support for foreign wars, and voting in presidential elections. Public media’s coverage on public affairs, as a dynamic element, play a critical part in the shaping of public opinion (Luskin, 1987; Zaller, 1992; Carpini & Keeter, 1993; Lodge et al., 1995; Bartels, 1996; Lupia et al., 1998; Althaus, 1998; Kuklinski et al., 2000; Page & Shapiro, 2010).

In the study of contemporary democratic processes, the mass media, the public, and the policy agenda are regarded as dependent variables, and communication scholars and other social scientists typically conceptualize them to explain how they are influenced by other factors, thereby altering the democratic process (Mirog & Wearing, 1988). Early study on the three began following the First World War. At that time, scholars examined the influence of public opinion and news media on pre-war diplomacy (Scott, 1931); after the 1970s, when McCombs proposed the theory of agenda setting, the research has concentrated on the conceptual definition, research framework and methodology of the mass media’s agenda setting function (McLeod et al., 1974; Manheim & Albritton, 1983), as well as the influence on media agenda setting sources (Winter & Eyal, 1981; Iyengar et al., 1982; Roberts & McCombs, 1994; Sweetser et al., 2008), levels of agenda setting (Benton & Frazier, 1976; McCombs et al., 1997; McCombes et al., 2000; Lee et al., 2005; Kiousis, 2005), the time lag of the agenda setting process (Stone & McCombs, 1981; Wanta & Hu, 1994), and the agenda setting effect of the media on social concerns (Winter & Eyal, 1981; Behr & Iyengar, 1985).

The theory of agenda setting has spawned a new field of research on the relationship between the mass media and public opinion (Hester, 2005): the mass media choose certain issues for emphasis, influence the public’s judgment and policy perception of the importance of news events through the amount of information reported on the news, news positions, and media discourses (McCombs & Shaw, 1972; Funkhouser, 1973; Iyengar et al. 1982; Cook et al., 1983; Gamson & Modigliani, 1989; Jasperson et al., 1998; Kiousis et al., 1999; Kiousis, 2004), whose right to speak is limited by the public attention and prominent time of news events (Gene Zucker, 1978), while under the shackles of the political propaganda mechanism, reduce to a weapon of national ideology (Herman & Chomsky, 1988).

3.1.2 Framing Effect

Framing is the process of defining communication sources and constructing political issues or public controversies (Nelson et al., 1997), and framing effects, along with agenda-setting effects and priming effects, as media effects that influence public opinion (Iyengar & Simon, 1993), have always received widespread attention from journalism scholars and social scientists. Related research examines how the media impoverish national political discourse and mold national political consciousness through news frames (Iyengar, 1994); the psychological mechanism by which framing affects public political attitudes (Nelson et al., 1997); the impact of news frames on readers’ thoughts and recall (Valkenburg, Semetko, & De Vreese, 1999); and how journalistic news frames can facilitate the communication of advocacy frames designed to influence audience perceptions of a political issue (Tewksbury et al., 2000), etc.

3.1.3 Framing Analysis

Framing analysis, as a sense-making activity, is widely used in media and public policy discourse analysis. It provides strong theoretical underpinnings and analytical tools for developing research paradigms for media, public, and policy agendas, and has progressively developed a relatively stable analysis framework. Entman (1993) first pointed out the lack of disciplinary attributes and research paradigms in communication studies, expounded the idea of framing, detailed how to construct a communication research paradigm through framing, and put forward the advantages of content analysis based on the framing paradigm; Pan & Kosicki (1993) further used framing analysis to explore the active role of the media’s news discourse in formulating public policy issues; Scheufele (1999) systematically combed through the fragmented framing research methods into a comprehensive process model of framing, including frame building, frame setting, individual-level processes of framing and feedback loop from audiences to journalists; Semitko & Valkenburg (2000) compared the coverage of different types and proposed a set of applicable principles of news frames; Chong & Druckman (2007) further expanded the field of framing research from uncontested settings to competitive environments, and determined the key individual and contextual parameters; Carragee & Roefs (2004) paid attention to the relationship between media frames, political power and social power that had been neglected in previous studies, and proposed that framing research needs to be linked with political and social issues related to rights in media hegemony theory, which further perfected the construction of framing research; Van Gorp (2007) put forward the idea of integrating culture into the framing process under the paradigm of constructionist, reconstructed the frame packages; Matthes & Kohring (2008) reintegrated frame elements, and proposed a new pattern of frame elements, which
effectively improved the reliability and validity of content analysis under media frames.

3.2 Research Development

In the past 20 years, research on the relationship between mass media, the public and the policy agenda, along with the development of communication theory, has shown distinctive characteristics of the times. Scholars gradually paid attention to the limitations of the media agenda effects on the public agenda (Riaz, 2008), media’s reshaping of civic values (Okafor, 2011) and the influence of social and political factors on media coverage (Safdar, 2015), proposed the moderating function of issue importance (Lecheler, 2010), models of complex feedback effects (Wolfe et al., 2013) and spillover/indirect priming effects (Morin, 2013), etc, the major work are shown in the Table 2 below.

Table 2. Major Work in the Past 20 Years

<table>
<thead>
<tr>
<th>Title</th>
<th>Last author</th>
<th>Year</th>
<th>Citations</th>
<th>Graph citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Handbook of Journalism Studies</td>
<td>Thomas, Hanitzsch</td>
<td>2008</td>
<td>281</td>
<td>12</td>
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<tr>
<td>The Structure of Knowledge and Dynamics of Scholarly Communication</td>
<td>Zixue, Tai</td>
<td>2009</td>
<td>40</td>
<td>16</td>
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<tr>
<td>in Agenda Setting Research, 1996–2005</td>
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<tr>
<td>The Relationship Between the Public and Print Media Agendas on</td>
<td>R., Saqib</td>
<td>2009</td>
<td>6</td>
<td>12</td>
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<tr>
<td>National Issues in Pakistan (A Study of the Agenda Setting Role of</td>
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<td>Print Media in Pakistan)</td>
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<tr>
<td>The Boys on the Blogs : Intermedia Agenda Setting in the 2008 U.S.</td>
<td>K., Heim</td>
<td>2010</td>
<td>2</td>
<td>17</td>
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<tr>
<td>Presidential Campaign</td>
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<tr>
<td>Constructing the End: Framing and Agenda-Setting of Physician-Assisted</td>
<td>Kyle J., Holody</td>
<td>2011</td>
<td>2</td>
<td>19</td>
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<tr>
<td>Suicide</td>
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<tr>
<td>The Media and Values Reorientation in Nigeria</td>
<td>G., Okafor</td>
<td>2011</td>
<td>1</td>
<td>12</td>
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<tr>
<td>Come a Little Closer: Examining Spillover Priming Effects from a</td>
<td>David, Morin</td>
<td>2013</td>
<td>1</td>
<td>15</td>
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<tr>
<td>Network Perspective</td>
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<tr>
<td>Public Memory and Political History : News Media and Collective</td>
<td>J., Patterson</td>
<td>2014</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Memory Construction After the Deaths of Former Presidents</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>A Comparative Study of Pakistani &amp; British Newspapers’ Editorials</td>
<td>Aasima, Safdar</td>
<td>2015</td>
<td>2</td>
<td>16</td>
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<tr>
<td>on the Coverage of ‘War on Terror’</td>
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<tr>
<td>Communicating AIDS: the Coverage of HIV/AIDS Discourse in Two</td>
<td>Angella, Napakol</td>
<td>2017</td>
<td>0</td>
<td>16</td>
</tr>
</tbody>
</table>

On the relationship between media agenda setting, media frames and public opinion, Holody (2011) refuted the view that media agenda settings and media frames can affect the public’s views on social issues, and put forward personal salience and personal frames affect public opinion for a highly controversial and highly personal issue, rather than the salience and frames utilized by the news sources. Holody pointed out that compared to news media, the public is more affected by established social issues, and the public's low attention to certain social issues minimizes the impact of news content; on the issue of the relationship between public opinion and policy responsiveness, Druckman (2014) explained the definition process and formation mechanism of quality opinion, as well as the conflicting characteristics of policy responsiveness and public opinion in a specific political communication environment; in the field of interdisciplinary research, Druckman et al. (2009) focused on the political psychological research on voting and public opinion, corrected the misused concept, carried out disciplinary integration, provided suggestions for improvement in interdisciplinary research in this field.

With the development of the Internet, the news media has undergone profound changes. Unlike traditional media such as newspapers, television, and radio, the emergence of new media such as online forums and blogs has enhanced the interaction between information dissemination and audiences, and has gradually become an important medium for the dissemination of public opinion; on the other hand, since McCombs and Shaw put forward the concept of agenda setting, communication studies have been devoted to exploring the influence of media on public opinion. However, in the context of the Internet age, the public is no longer a passive recipient of news information dissemination, but an active participant in news creation and dissemination, and even an
important factor affecting the media agenda, directly or indirectly affecting the setting of the political agenda. On
the information source of the media agenda, Sweetser et al. (2008) analyzed the influence of political
advertisements and candidate blogs on the news topics of mainstream TV news networks; Wallsten (2010) paid
attention to the dissemination characteristics and communication elements of “Viral videos”—online video clips,
explored its penetration of dominant political discourse by analyzing the interaction between video audience size,
blog discussion, and mainstream media coverage; Weimann & Brosius (2017) focused on the influence of online
media technologies and digital platforms on the paradigm of agenda setting; Towner & Muñoz (2018) explored
the relevance of agenda setting effects between presidential candidates’ posts on Instagram and articles published
in mainstream newspapers; Raza et al. (2020) compared the images of Pakistan and India in the official tweets of
international news agencies, and explained the role of new media in shaping the image of the country and
building the international discourse system; Ragas & Kiousi (2010) analyzed the effect of cross-media agenda
setting in explicitly partisan news media coverage, political activist groups, citizens, and official campaign
advertisements on YouTube; Heim (2010) paid attention to the correlation between political blogs’ issue and
attribute agendas and the agendas of the news media, providing a paradigm for the study of intermedia agenda
for setting.

Under the concept of intermedia agenda setting, researchers have paid attention to the news source cycle formed
by the mutual invocation of information from traditional media and new media, and explored the relationship
between traditional news media and new media in intermedia agenda setting by analyzing the influence of news
sources on their respective media agenda (Messner, & Distaso, 2008; Messner & Garrison. 2010; Messner &

4. Conclusion

The media plays a vital role in the formation of public opinion and influences the public’s political preference.
The proposal of the agenda setting theory provides a theoretical basis for the study of the relationship between
the media, the public and policies, and the related agenda setting effect, frame effect and priming effect provide
an important theoretical framework for the study of the relationship between the three, and with the development
of communication theory and the innovation of communication technology, related research has shown
distinctive characteristics of the times.

Framing research, which provides an important research paradigm for communication studies, together with
content analysis and experimental investigations, constitute a set of important methods for public opinion
research from the perspective of communication studies, indirectly promote the theoretical development of
public opinion research.

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and agenda setting: Effects on the public, interest group leaders, policy makers, and policy. Public Opinion
Quarterly, 47(1), 16-35. https://doi.org/10.1086/268764


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