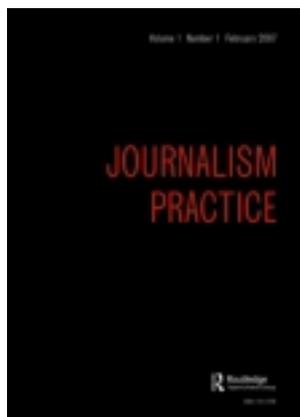


This article was downloaded by: [Judith McIntosh White]

On: 01 October 2012, At: 08:09

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Journalism Practice

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rjop20>

### THE COMMUNICATIVE ACTION OF JOURNALISTS AND PUBLIC INFORMATION OFFICERS

Judith McIntosh White

Version of record first published: 03 Jan 2012.

To cite this article: Judith McIntosh White (2012): THE COMMUNICATIVE ACTION OF JOURNALISTS AND PUBLIC INFORMATION OFFICERS, Journalism Practice, 6:4, 563-580

To link to this article: <http://dx.doi.org/10.1080/17512786.2011.644899>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

# THE COMMUNICATIVE ACTION OF JOURNALISTS AND PUBLIC INFORMATION OFFICERS

## Habermas revisited

**Judith McIntosh White**

*Public information officers (PIOs) represent a type of communications professional distinct from public relations practitioners (PRPs). From a structural functionalist viewpoint, journalists and PIOs share goals: both see themselves as facilitating the information flow into the public sphere. Habermas' communicative action models defining journalists as committed to revealing the "whole truth" to the public, but PRPs as enmeshed in advocating private interests, do not adequately describe PIOs. Although journalists' and PIOs' goals are similar, barriers exist to inhibit their cooperation in achieving those mutual goals. Such barriers arise from academic ideal types fostering inaccurate perceptions of each other, perceptions reinforced by adaptive structuration within their respective organizations' cultures. Empirical data support that PIOs' and journalists' divergent attitudes about their professional praxis combine with ideal-type constructions and organizational cultures to produce communication disconnects between the two.*

**KEYWORDS** adaptive structuration; Habermas; journalists; organizational culture; public information officers; public relations

### Introduction

Relationships between journalists and public relations practitioners (PRPs) have been investigated and conceptualized by lay critics and scholars alike, including contributors to this journal. However, relationships between journalists and institutional public information officers (PIOs) have received less attention. Recently, a small circle of researchers has begun to explore disparities between journalists' and PIOs' science and health coverage, but no clear reasons for disagreements between the two professions about story sourcing or story topic newsworthiness and importance have as yet been identified.

I believe exploring this relationship and the reasons for professional disconnects is vital to conveying information to the public. Moreover, historical failures to recognize journalist/PIO commonalities in ideology and value orientation, resulting in construction of exclusionary binary communication models, must be investigated.

Communication theory positions journalists and PRPs as two opposing ideal types (Deuze, 2005; Donsbach, 2004), positing that journalists employ a communicative model, PRPs, a strategic model (Habermas, 1986; Salter, 2005). The communicative model privileges the public sphere; the strategic model, private interests. Salter posits a dichotomy of belief and action between journalists and PRPs, reinforced by adaptive structuration within distinct professional organizational cultures (Giddens, 1984).

Communication theorists neglect PIOs—communication professionals within governmental agencies and educational research institutions who disseminate information about health/science issues, enabling better decision-making within the public sphere. PIOs are neither journalists nor PRPs, although they share educational experiences and occupational goals with the former and a degree of employer advocacy with the later. PIOs' relationships with journalists continue to be negatively influenced by academe's journalist–PRP dichotomy and by the attitudes, produced within organizational cultures, reinforcing this division. Similarly, no new construct of communicative action has been suggested by which to combine Habermas' communicative and strategic models into one more representative of PIOs' motivation, goals and practice.

As journalists and PIOs interact around science and health issues/events, their failure to recognize commonalities builds barriers to effective engagement. I argue that accepted inaccurate conceptualizations of their respective roles contribute to present disconnects.

Empirical evidence from original research shows journalists and PIOs differ significantly not by demographics, education, work tenure or job-role fulfillment, but in attitudes toward job performance and each other. Such attitudinal differences may explain disconnects in evaluating relative issue importance and coverage strategies. Resolving such disconnects may depend on (1) reconceptualizing theoretical typologies dividing journalists and PIOs to view them as using compatible communication models and (2) better understanding their attitudinal differences, originating in distinct organizational cultures, and such differences' negative impact on information transfer.

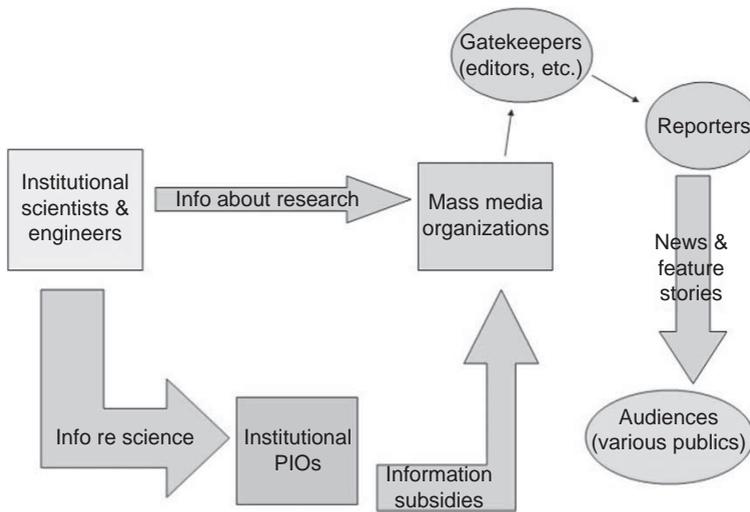
Critically, to achieve greater understanding of communicative action, journalists and PIOs must better comprehend factors uniting their praxis for the common good. Such mutual understanding could contribute to subsequent transformation of public sphere structure to benefit all concerned.

### **Journalists Versus PIOs: Theorizing Their Relationship, Defining Their Disconnects**

Journalists and PIOs form important links in the chain of knowledge transfer between scientists and the public, as illustrated in Figure 1.

It is important, however, to understand the knowledge base of theoretical constructs and real forces, as well as interpretations by divergent discursive camps, impacting on ways in which members of each profession fulfill their respective roles.

The praxis of journalists and PIOs traditionally has been conceptualized as embracing different models of communicative action (Salter, 2005). The "Models" discussion explores this traditional interpretation but posits that the two share an orientation comprising both models, although journalists may be *more communicative*, PIOs, *more strategic*. Members of both professions are influenced by their particular educational preparation, job routines (Giddens, 1984) and personal characteristics, but their differences in practice and problems of association may be most significantly impacted by their attitudes toward their own professions and toward each other. Such attitudes are formed based on education, experience and adaptive structuration taking place at the job site, as well as by stereotypes influenced by dichotomies of communicative action posited in the academy (Deuze, 2005; Donsbach, 2004; Salter,



**FIGURE 1**

Conceptual model of knowledge transfer from institutional researchers to the public through institutional public information officers (PIOs) and mass media journalists

2005). Material covered in the later discussion on “*Disconnects*” between the two professions elaborates upon these issues.

Finally, journalists’ and PIOs’ professional products differ. PIOs produce news subsidies which inform journalists’ news reports, distributed through mass media to the publics. The “*Models*” discussion details this information transfer and the “*Disconnects*” discussion elaborates current failures in the process. Each of these factors is discussed in terms of Salter’s discourse (2005) about different communicative models used by journalists and PIOs—and my exceptions to his contentions.

Structurally, my initial discussion of the literature focuses first on a brief overview of Habermas’ models of communicative action (1986) as interpreted by Salter (2005) and Li (1999); moves to elaborate the role of such models in constructing professional ideal types and occupational identities; describes modern journalist–PIO roles as information transfer intermediaries informed by theories such as agenda-setting, framing and sourcing; and concludes with a look at modern disconnects between the professions produced by all these factors.

### *Models of Communicative Action and Relationships Between Journalists and PIOs*

*Habermas’ models of mediated communication.* For Habermas (1986), achieving understanding through communication involves discerning three relations to the world—the objective, the social and the subjective—which create a rationalized symbolic *lifeworld* of shared understanding and honestly intentioned communication. Within the *lifeworld* of differentiated societies, Habermas theorized two models of communication: the communicative and the strategic, distinguished respectively by public or private interests, with journalists’ communication focusing on public goals and outcomes rather than on private interests.

Thus, journalism traditionally fills a normative role, with journalists' stories helping to define public agendas and interpret events (MacDougall, 1987; Reber and Berger, 2005). Journalists, however, operate in *filtered* environments forcing action beyond materialist reality—and beyond journalistic principles of *objectivity* and *balance*—to capture the *whole truth* (Habermas, 1986; MacDougall, 1987). Habermas (1986) maintained that citizens' abilities to form critical opinions has deteriorated because communicative action is circumscribed by capitalist systems' limited structural capacity to accommodate questions, debate and openness. The strategic model of communication—PRPs' locus—contributes to failures of positive communicative action through misrepresentations designed to enhance private interests and colonize the *lifeworld* via rational social action of modern institutions, causing gaps between rational social and reconstructive values (Li, 1999).

Expanding upon the ideas of Habermas and Li, Salter (2005) agrees that journalists employ a *communicative model*, PRPs, a *strategic* one. According to Salter, journalists' communicative action comprises normative ethics codes stressing accuracy and fairness; distinguishing between conjecture and fact; including all societal perspectives; and prohibiting falsification, distortion, biased selection or misrepresentation of facts. The communicative model enables non-coercive action to uncover and communicate the whole reality of a situation, even within conditions of systemic inequality.

In contrast, PRPs embody a potentially damaging strategic model of communicative action, based on ethics codes containing inherently contradictory provisions requiring honesty and fairness in public dealings while dictating primacy in representing clients (Salter, 2005). PRPs' strategic model conveys covert advantage, allowing one actor (PR client) to affect the actions of another (public) and failing moral criteria of honesty and openness, producing conflicts between coherent ethical practice and being an "instrumentally good PR agent" (Salter, 2005, p. 98). PRPs' missions are driven by inequality; clients seek to use PRPs' skills to buy influence and impose private understandings of reality. This statement embodies Salter's argument: "To be sure, public relations may benefit from journalism but journalism does not benefit from public relations" (Salter, 2005, p. 105).

*Communicative action models, professional ideal types, occupational identities.* Communication professionals give meaning to their work through adopting particular communicative models and occupational ideal types as building blocks of occupational identity and ideology to guide their "becom[ing] members of the group and maintain[ing] membership over time" (Deuze, 2005, p. 455). Values (public service, objectivity, autonomy, immediacy, ethics) posited by Deuze as comprising a journalist ideal type correspond with attributes of Habermas' communicative model (1986), as applied by Salter (2005). Such values help journalists deal with uncertainty induced by time crunches, competitive pressures, lack of objective criteria for news decisions and public scrutiny of their job performance (Donsbach, 2004).

However, these ideal-type values and characteristics have critics. Deuze (2005) himself challenges the foundational values of his journalist ideal type. For example, changes in journalists' landscapes due to the Internet and newsroom convergence have produced new notions of public service, now often defined as more inclusive to meet audience needs and media's storytelling function. Thus, the value of objectivity has been challenged by new-media journalists' calls for including varied perspectives and less

professional distance. Such considerations of stakeholder concerns mirror the strategic models ascribed to PRPs/PIOs (Salter, 2005).

Values ascribed to PRPs correspond with Salter's (2005) application of Habermas' strategic model of communicative action, but such modern critics of mediated communication and public agenda-setting fail to differentiate between PRPs employed by private interests, press officers pushing official political lines and PIOs working for research institutions and public agencies promoting a public good. The academy has yet to posit an ideal type defining PIOs as intelligent advocates of information to increase public understanding about important issues or as principled individuals transferring information about vital issues to facilitate journalists' job of setting public agenda. No new construct of communicative action has been suggested to combine Habermas' communicative and strategic models into one more representative of PIOs' motivation, goals and practice.

*The modern journalist-PIO relationship: information transfer intermediaries.* While existing ideal types and communicative action models may describe investigative journalism and corporate public relations, they do not define institutional PIOs' public information. Both journalists and PIOs inform *publics* and explain the importance of information in making decisions and taking vital actions, a task complicated by historical tensions between scientists and journalists (Reed, 2001). Though targeting interested publics is often associated with strategic communications and public relations, it also intersects with ideas developed by Habermas about the "commons" (1986) and with definitions of media responsibility embraced in the communicative model. Thus, while journalists may be said to employ a Habermasian communicative model (Salter, 2005), they also benefit from perspectives and techniques encompassed by a strategic one (Deuze, 2005; Donsbach, 2004). Similarly, PIOs as a special professional class distinct from PRPs may be seen as using both models.

Information transfer from institutional researchers (e.g., scientists, physicians, engineers) to journalists suffers "considerable ambiguity about the domain to which [science and] health reporting belongs and the communicative norms and journalistic practices that apply to it" (Briggs and Hallin, 2010, p. 150), with much information comprising political agenda complicating framing and coverage. Mass media news forms an important channel for such transfer (Peters, 2009). PIOs act as intermediaries, interfacing with researchers and authoring information subsidies (e.g., news releases, directly contacting journalists, expert sourcing) to explain research to journalists (Katz, 2004). Fundamental constraints inhibiting information transfer include the fact that scientists and journalists often do not speak the same language and cannot understand each other (Sachsman, 1993). Journalist and PIO attributes exacerbate such constraints and are shaped by both individual personal characteristics and their respective organizational cultures, reinforcing distinct ideal types explicating their relationships with each other (Donsbach, 2004) and informing differentiated models of communicative action (Salter, 2005).

Successful information transfer depends on common understanding, facilitating apprehension of new concepts (Abrams et al., 2002). Mutually understood language builds trust necessary for information transfer. Building shared foundations between scientists and journalists has been difficult because of their educational differences, but PIOs perform an important information transfer service by using their skills and expertise to bridge such gaps.

*The modern journalist–PIO relationship: underlying concepts.* During information transfer, opinion leaders help define issues about which the public should think and journalists communicate agenda salience through first-level *agenda-setting* (McCombs and Shaw, 1976; McQuail, 1994). *Framing* helps guide the public concerning *how* to think about an issue. Framing provides context for opinion formation and discussion and journalists' frames construct schema to aid construction of meaning from larger events (Reber and Berger, 2005). Journalistic frame-building is influenced by individual journalists' occupational identity, ideology and norms and by organizational routines (Deuze, 2005; Scheufele, 1999). In addition, journalists themselves are susceptible to agenda-setting and issue-framing by coverage in media they regard as prestigious and credible (intermedia agenda-setting; Len-Rios et al., 2009).

Journalists build story frames around concepts of newsworthiness, comprising such factors as conflict, proximity and contextual salience (Donsbach, 2004). By activating or suggesting some ideas at others' expense, news encourages particular trains of thought and leads audiences to more or less predictable conclusions, a process most likely to occur when suggested ideas are relatively accessible prior to exposure (Tewksbury et al., 2000), seemingly reaffirmation that information transfer succeeds best where it builds upon existing understanding.

Selecting information sources for stories is a job function common to all journalists; this process in turn influences journalists' agenda-setting and framing through decisions about sources to include and exclude. Most journalists craft accounts of events outside their immediate experience, so they must seek sources to help interpret such events (Heinrichs and Peters, 2004; Simonson, 1999). Journalists try to choose the best sources based on institutional position, knowledge, accessibility, or cooperativeness (Dunwoody and Ryan, 1983; Gandy, 1982).

Most complex, science-intensive stories lie outside journalists' experience and require education; thus, identification of knowledgeable sources is crucial. Journalists with little science training need help translating scientists' work. Competent PIOs help journalists identify and access relevant sources and understand sources' research.

PIOs link information transfer between institutional scientists and the public through mass media, especially given levels of science literacy of journalists and the majority of the public (Bauer and Bucchi, 2007; Cooper and Yukimura, 2002). Scientists understand the importance of communicating with the public; journalists see scientists as credible sources (Heinrichs and Peters, 2004).

Critics of science coverage say the media are incompetent to transmit information about complex issues; introduce confusion; or decontextualize source comments (Beall and Hayes, 1992; Heinrichs and Peters, 2004). Such critics recommend more active roles for expert sources in interpreting such information. PIOs bridge the gap between journalists and experts, especially if PIOs possess a high degree of science literacy.

### *Disconnects Between Journalists and PIOs*

Measurements of journalists' and PIOs' attitudes, perceptions and praxis reveal significant disparities and disconnects. Shared goals are not sufficient for journalists and PIOs to work together harmoniously and consistently. PIOs and journalists often do not share perspectives about building public science and health agenda; journalists may dismiss PIOs' information intermediary efforts as unhelpful (Lariscy et al., 2010).

Additionally, PIOs and journalists may share fewer definitions and agendas than PIOs have believed (Avery et al., 2009; Sallot and Johnson, 2006a, 2006b).

Donsbach (2004) suggests that a prevailing normative approach to journalism criticism leads researchers to focus on four areas: news factors (e.g., traditional newsworthiness criteria); influences from journalists' employers; news sources' manipulative power; and journalists' beliefs. He criticizes these as yielding descriptive, not explanatory, data pointing to correlative rather than causal relationships. He calls for an approach *unveiling the underlying process* of journalists' news selection and sourcing. Researchers' focus on journalists' predispositions and efforts at social validation of their perceptions could change journalism education and training, with resulting greater professionalization (Donsbach, 2004).

Coordination among journalists and PIOs may suffer from differences in respective organizational structures and processes (Lowrey et al., 2007). PIOs' organizational structures vary among themselves (e.g., between government agencies like the Centers for Disease Control and research-extensive universities like Johns Hopkins) and are unlike journalists' organizational structures (e.g., corporately-owned newspapers or commercial broadcasters).

Journalists' and PIOs' predispositions and perceptions originate in their individual personal backgrounds and training (Donsbach, 2004), but structures of their employer organizations also shape such beliefs. Applying the *theories of reasoned action (TRA) and planned behavior (TPB)* (Glanz et al., 1997) assumes journalists and PIOs are rational actors exerting control over occupational behaviors, influenced by attitudes toward their professions and each other (Donsbach, 2004; Fengler and Ross-Mohl, 2008). Communication is itself a rational activity where actors know their interests and participate in ethical exchanges expressing opinions with equal freedom (Fengler and Ross-Mohl, 2008; Habermas, 1986).

The theory of *adaptive structuration* expands concepts about individual rational actors to explain group behavior: groups use behavioral control to create definitions and roles through initial actions, guiding and restricting subsequent actions (Giddens, 1984). Within their respective organizations, journalists and PIOs develop *individual* role definitions, expectations and duties and *group* norms and processes, which inform professional conduct and perceptions of those outside their organizations. Based on attitudes resulting from adaptive structuration in their own organizations, individual journalists and PIOs conduct information transfer, including sourcing, as organizationally sanctioned and perceive each others' efforts in certain lights. Professional practices, perceptions and attitudes influence interactions with each other.

Because journalists' and PIOs' employer organizations may differ in missions, goals and procedures, respective adaptive structuration produces different environments and distinct organizational cultures (Hanitzsch, 2007; Wallington et al., 2010; Zhong and Newhagen, 2009). Adaptive structuration may explain differences—and similarities—between journalists', PRPs' and PIOs' occupational ideal types and between PRPs' occupational models of communicative action (Salter, 2005) and those of PIOs.

Predictive models based on the Theory of Planned Behavior and/or the Theory of Reasoned Action reveal that attitudes inform behaviors (Ajzen and Fishbein, 2000; Wang, 2009). Due to adaptive structuration's role in attitude formation, distinctions among PIOs' and journalists' organizations produce different role definitions and may explain different attitudes toward professional practice and relationship conflicts between the two.

However, actors in ongoing professional adaptive structuration may remain unaware of their organization's influence on attitudes and resulting behaviors (Lariscy et al., 2010).

Impacts of interorganizational differences on PIOs' praxis include disconnects in emergency communication procedures and the quality and reception of information subsidies (Reich, 2009; Shapiro, 2007), illustrated by coverage of Hurricane Katrina. The disaster demanded transferring critical emergency response and health information rapidly to diverse audiences, locations and circumstances (Vanderford et al., 2007). However, journalists' news stories failed to include much of the material contained in government PIOs' information subsidies (Cohen et al., 2008; Fontenot et al., 2008).

Others suggest PIOs lack sufficient training to evaluate the information journalists need, which impacts on information subsidies (Gandy, 1982). Educational differences between journalists and PIOs influence perceptions of roles during health crises or disasters (Shapiro, 2007). For example, PIOs should see themselves as working with media partners, not dispensing information to uninformed adversaries (Veil and Ojeda, 2010). Information subsidies not conforming to best practices either in journalism or in emergency communication can affect journalists' use of such subsidies (Avery and Kim, 2009).

Perceptions of their own occupational roles and of each other differ between journalists and PIOs; journalists see themselves as government watchdogs, while PIOs see themselves as information providers (Avery et al., 2009; Deuze, 2005). Journalists see PIOs as adversaries, possessing advocacy bias and blocking access to story resources; PIOs see themselves as cooperative, helping journalists to write more complete stories (Sallot and Johnson, 2006b). Journalists want to be able to access articulate subject matter experts but are concerned with PIOs' overstating institutional findings (Pinholster and O'Malley, 2006). However, most scholars and practitioners agree the two professions share a majority of news values and occupational skills (Avery et al., 2009).

Critics note that PIOs provide meaningful services to journalists (Springston and Lariscy, 2005). Public health officials, for example, use PIOs to convey information to journalists (Cohen et al., 2008). However, journalists often see public-agency PIOs as inefficient and ineffective (Lariscy et al., 2010); media critics counter that enterprising journalists must uncover needed information not provided by PIOs (Simmons, 1999).

Reasons for disparities and disconnects between PIOs and journalists must be more fully explored; understanding these relationships may serve as a microcosm for identifying underlying barriers in information transfer itself. Missing from attempts to analyze origins of PIO–journalist praxis disconnects are analyses of (1) theoretical ideal types constructed for journalists, PRPs and PIOs; (2) differences in communicative action among them, particularly with respect to models proposed by Habermas (1986); and (3) interaction of differences in journalists' and PIOs' organizational cultures and attitudes held. The study reported here addresses the role of attitudes in journalist–PIO disconnects.

### **Journalists Versus PIOs: Purpose and Methodology of Current Study**

Although researchers have studied attributes of science and health communicators, even accessing the same population as this study (Cooper and Yukimura, 2002; Triese and Weigold, 2002), none have focused on the impact of PIO–journalist beliefs on disparate professional practices and science/health coverage roles. This study addresses a literature

gap and contributes to knowledge-formation about differences between the two professional populations.

I targeted Internet and follow-up mail surveys directed towards members of the National Association of Science Writers (NASW), one of the oldest and largest professional organizations for science, health and technology journalists and PIOs. Opportunity to participate in the survey was extended to a random sample of the approximately 2900 members listed in the NASW directory (1500 journalists, 306 selected; 1400 PIOs, 249 selected). After opt-outs and nonfunctional email addresses were removed, response rates were 64.3 percent for PIOs (99 valid responses/154 potential respondents) and 47.9 percent for journalists (102 valid responses/213 potential respondents).

To gather data about attitudes toward professional practice and science and health coverage, I included 19 opinion statements in the survey instrument, applying belief-based theories of decision-making and opinion formation to journalists' and PIOs' professional actions and attitudes. Statement content was informed by previous research and statements were clustered into thematic groups of sourcing, story coverage selection, public expectations of science and health coverage, gatekeepers' roles in coverage and journalist bias (Chermak, 1995; Cooper and Roter, 2000; Dunwoody and Ryan, 1983; Gandy, 1982; MacDougall, 1987; Triese and Weigold, 2002; Wallack, 1994; Westerstahl, 1983). Survey respondents were asked to indicate level of agreement on a four-point Likert-type scale, ranging from "strongly agree" to "strongly disagree" (Worcester and Burns, 1975). Responses to these statements were compared for the two groups using MANCOVA (SPSS).

I collected demographic and educational data and asked respondents to indicate story topics written upon within the past five years; number of stories written per topic; and most frequent source type used per topic.<sup>1,2</sup> Responses to these questions were analyzed with statistical tests appropriate to their level of measurement.

### **Journalists Versus PIOs: Findings of Current Study**

My results support Donsbach (2004) and Deuze (2005): clues to journalists' and PIOs' behaviors lie in unique occupational psychologies, predispositions and social identities. Analysis of my data indicates these groups share (1) educational and professional trajectories and (2) goals of transferring information from scientists to the public, but (3) differ in attitudes toward their professions.

Personal and occupational demographics of journalists and PIOs were remarkably similar. Chi square tests showed no statistically significant differences between journalists and PIOs regarding variables measured: highest level of education; college major; years in field; years in NASW; age; marital status; gender; race/ethnicity; and political orientation.

Regarding work products, the two groups exhibited no statistically significant difference in the number of stories written about the 22 listed topics; journalists wrote 2944 stories, PIOs, 1650 news releases. Statistically significant differences in whether or not journalists and PIOs wrote on a given topic occurred for only two topics: BSE/Mad Cow disease ( $p = 0.045$ ; 13.3 percent journalists, 5 percent PIOs) and computer innovations ( $p = 0.004$ , 13.3 percent journalists, 31 percent PIOs) (ANOVA). Statistically significant differences in whether journalists and PIOs most frequently used scientists, doctors or engineers as sources occurred for three topics: BSE/Mad Cow disease ( $p = 0.049$ ; 1.1

percent journalists, 5 percent PIOs); computer innovations ( $p=0.005$ ; 1.1 percent journalists, 30 percent PIOs); and women's health issues ( $p=0.014$ ; 32.2 percent journalists, 18 percent PIOs) (ANOVA).

These results support the view that journalists and PIOs are similar with regard to personal, social and educational demographics, challenging ideas that such factors explain professional disparities. Although journalists produced more total work products than PIOs on "hot" topics, differences as to topics covered and sources consulted were minimal. These findings cast doubt on contentions that PIOs fail to provide information on topics deemed important by journalists or use different types of sources. Thus, other factors must explain disconnects between the two.

Analyses of 19 statements suggest that some journalists' and PIOs' disparate opinions about story coverage and each other result from differences between their attitudes toward important aspects of their professions. Statistically significant differences were found at the  $p \leq 0.05$  between PIOs and journalists for 10 of the 19 opinion statements (53%) (MANCOVA). After more stringent Bonferroni *post hoc* analysis (Bonferroni correction,  $p = 0.05/19$  tests, level of significance:  $p \leq 0.0026$ ), six (32 percent) of the relationships between responses to opinion statements and job role remained significant.

These six statements clustered into two thematic areas, four within the sourcing group and both statements in the bias group. More than twice as many PIOs as journalists agreed that science and health journalists rely on sources referred to by other journalists in similar stories; one-third more PIOs agreed that journalists repeatedly consult the same sources; almost 20 percent more PIOs agreed that repeated source use results from mutually beneficial personal relationships between source and journalist; and over 10 percent more PIOs disagreed that journalists fail to consult knowledgeable experts when writing their stories (sourcing statements). PIOs were five times more likely than journalists to agree that journalists' source choices are affected by their political and religious beliefs (bias statements).

This distribution highlights some significant differences between PIOs' and journalists' perceptions of their jobs and of each other. PIOs believe that an individual journalist's story content is determined less by reporting enterprise and more by other journalists' and experts' influence. PIOs are also more likely to indicate skepticism about journalists' objectivity. Evidently, PIOs do not credit journalists' good faith in discharging their reporting duties. Such distrust of journalists' motives and ethics negatively impacts professional relationships, hindering PIOs' ability to transfer information between their organizations and journalists and influencing the mass media coverage agenda.

Although these results generalize only to the population sampled, opinion statement responses suggest at least some PIOs and journalists think differently about information sourcing and journalist bias. The two professions often disagree about professional standards and story coverage; such disagreements may underlie disparities concerning their professional judgments and may drive disconnects in agenda-setting and coverage prioritization, resulting in barriers to effective information transfer.

Work by Donsbach (2004) and my study strongly suggest that social cognitive and psychological behavioral constructs affect ways journalists and PIOs do their jobs, contributing to disparities and disconnects observed in their praxis. What remains to be investigated more thoroughly, however, are origins of attitudinal differences between the two.

## Journalists Versus PIOs: Implications of the Current Study for Explaining Disconnects

### *Role of Organizational Cultures in Creating Conflicts Affecting Information Transfer: Organizational Cultures Reinforce Ideal Types*

Grounded in the literature and based upon my research, I submit that professional differences between journalists and PIOs—producing disparities in job performance and leading to disconnects between them—originate primarily in distinct occupational cultures. These occupational cultures produce disparate perceptions and attitudes, but reinforce distinct (related) professional ideal types and occupational ideologies and identities (Deuze, 2005; Donsbach, 2004), contributing to journalists' and PIOs' choice of models of communicative action (Habermas, 1986; Salter, 2005).

Existing *journalist* and *PRP* ideal types fall short in explaining *journalists'* and *PIOs'* differences impeding information transfer. Ideal types reflect instrumentality of organizational cultures in building identities and ideologies for their professional natives. Habermas' models of communicative action effectively describe different arenas and methods of communication; but commonalities between journalists and PIOs call for creating new model schema. The following discussion reiterates theories underlying my contentions and further discusses applications to explaining PIO–journalist professional disparities.

Organizational cultures develop gradually, but, as with “organic” or national cultures, snapshots of organizational cultures are bound by time and place. However, longitudinal views reveal such cultures' dynamic nature, changing in response to environment and interactions between natives.

Such cultures produce in their individual members distinct identities and ideologies:

Ideology can be seen as a system of beliefs characteristic of a particular group, including—but not limited to—the general process of the production of meanings and ideas within that group . . . There seems to be a consensus in the field of journalism studies that what typifies more or less universal similarities in journalism can be defined as a shared occupational ideology among newswriters which functions to self-legitimize their position in society. (Deuze, 2005, p. 445)

Such identities and ideologies produce common values, beliefs, predispositions, attitudes and behaviors. Beam (2008) recognized that journalists' attitudes and predispositions influence their professional behaviors, as did Donsbach:

In his theory of instrumental actualization, Kepplinger has empirically investigated how journalists' predispositions affect their judgment on the newsworthiness of a controversial story. In his quasi-experimental study, news items supporting the journalist's own opinion in the issue at hand were attributed a higher news value than those which ran counter to these opinions. (2004, p. 151)

Such attitudes and predispositions may be traced to distinct organizational work cultures and cultivation of beliefs and values through *adaptive structuration* within these organizations (Giddens, 1984). Journalists' news judgments result in story selection, sourcing and framing, representing instrumental actualization of information transfer (Donsbach, 2004; Kepplinger and Habermeier, 1995) and may be situationally dynamic, rather than fixed.

PIOs undergo similar adaptive structuration within employer organizations. However, common values, beliefs, predispositions, attitudes and behaviors produced will not be identical to journalists', due to interorganizational differences among employers.

What may be similar, however, are journalists' and PIOs' education and training for their individual professions. Although the two groups' educational trajectories are often hypothesized as divergent, my results failed to uncover any statistically significant differences in education attained or college major. Neither was there any difference in years of professional experience. Thus, disparities in attitudes toward professional conduct must be explained by factors other than education or experience. I submit that such attitudes originate in adaptive structuration of respective roles, values and beliefs within their divergent organizational work cultures: "A journalism degree is, in fact, an effective preparation for a successful journalism career and ... graduate journalists absorb newsroom culture without difficulty, to the extent of discounting the value of their own 'academic' journalism training" (Firth and Meech, 2007, p. 137) and "journalism can generate its own good practice that is wholly consistent with being a practitioner of journalism" (Salter, 2005, p. 98)—evidence that employment-site adaptive structuration overcomes classroom lessons.

Having stressed the importance of dynamic organizational cultures in producing journalist/PIO disparities, I next turn to current forces producing cultural changes impacting journalist and PIO ideal types.

*The Role of Organizational Cultures in Creating Conflicts Affecting  
Information Transfer: Dynamic Forces Operating on Modern Mediated  
Information Transfer*

Modern social forces act to *rigidify* organizational cultures, intensifying adaptive structuration and increasing barriers to communication between such cultures. The changing nature of newswork raises fundamental questions about journalists' authority, expertise and professional standing (Deuze and Marjoribanks, 2009). But perhaps the greatest current stressors on journalists' and PIOs' workplaces (and employer cultures) are economics and technology.

Layoffs and shrinking news audiences force journalists to rely more than formerly on PIOs' information subsidies. Journalists face dwindling resources despite demands to sustain news output, leading them to rely on PIOs and PRPs to furnish content and reducing time available for fact-checking and rewriting (Lewis et al., 2008). Concurrently, PRPs and PIOs have developed greater expertise at understanding how journalists think, increasing abilities to tailor news subsidies (Lewis et al., 2008).

Added to economic pressures are new technologies requiring journalists to change or adjust their missions, routines and relationships (Robinson, 2007). Citizen journalists, interactive Internet blogs and online newspapers and magazines, along with computers and flip cameras, for example, have changed definitions of "who is a journalist" (Singer, 2006, p. 2). Meanwhile, the structure of journalism referenced by Habermas (1986) has undergone a sea change. The sale of journalistic products for profit faces new challenges, as, for example, citizen journalists release news unsupported by advertising and PIOs post news subsidies on websites, bypassing journalist partners. Instrumental actualization through media publication of information is no longer the sole purview of journalists working for commercial media (Kepplinger et al., 1991).

Organizational effects such as these reinforce professional ideal types constructed by the academy and embraced by journalists and PIOs alike and confuse professionals' identification of preferred models of communicative action. Organizational cultures differ between and among journalists and PIOs and form bases for information transfer conflicts.

### **Journalists Versus PIOs: The Need for New Ideal Types, Reconsideration of Applicable Models of Communicative Action**

Journalists' and PIOs' ideal types are actually much closer than previously described (Deuze, 2005; Donsbach, 2004). Similarly, existing conceptualizations locating journalists in a *communicative* model, while assigning PIOs to a *strategic* model, are outdated (Habermas, 1986; Salter, 2005). Indeed, I would move their respective ideal types much closer, while locating the praxis of both in Habermas' communicative model (or, alternatively, in a new model combining relevant aspects of Habermas' originals), because both journalists and PIOs endeavor, especially in the realm of science and health information, to increase mutual understanding between public and scientists.

Both journalists and PIOs possess sincere, honest, truthful intentions to create participatory, non-exclusive, equal access to information the public needs about science and health (see Salter, 2005). Both operate under conditions of systemic inequality, using language determined by the social order, to get at the truth of issues important to society. As such, at its optimum their cooperation contributes to consensus-building by news media within the public sphere and better enables the public to deliberate and focus collective action and to conduct individual matters based on accurate information (Briggs and Hallin, 2010; Habermas, 1986; Li, 1999).

I agree Salter (2005) is correct in saying PRPs operate in arenas much different from journalists, but contend that *institutional PIOs* function in different arenas still, with client representation turning from mere advocacy to furthering public agenda through information transfer. Certainly, journalists seek to distinguish themselves from *corporate PRPs* (Schudson, 2001). Indeed, Deuze (2005) points to journalists' development of an occupational identity and ideology composed of five ideal-type values, calling modern journalism liquid and dynamic and resisting binary paradigms such as those implied by the values he posits. Cost-cutting reductions in their ranks have forced journalists to rely increasingly on material provided by PRPs to fill coverage holes, with PIOs serving public institutions and agencies putting "useful and significant information into the public domain" (Lewis et al., 2008, p. 18).

Journalists, collectively as *the press*, enjoy the status of a political institution: "Journalists explain daily happenings according to a uniform mission, agreed-upon routines and established societal relationships . . . their product . . . helps shape the social order by controlling information dissemination in a structured environment" (Robinson, 2007, p. 310). Similarly, PIOs working for institutions and government agencies share a mission, work routines and established relationships. I believe PIOs constitute an occupational group distinct from corporate PRPs and hold a valued place in the public sphere along with journalists, functioning as socially responsible existentialists providing trustworthy interpretations of information (Briggs and Hallin, 2010; Singer, 2006). Thus, journalists and institutional PIOs are ethically and instrumentally close, with common goals, and I propose that their ideal types are not so far apart as previously conceptualized.

Additionally, I believe that PIOs' praxis falls within an extended *communicative* model, along with that of journalists.

### Conclusion

My research shows that journalist and PIO NASW members did not differ significantly with regard to education, employment tenure, socio-economic position, personal demographics, or topics covered and sources preferred. However, my data reveal differences in the two groups' attitudes toward important issues affecting practice. Given the similarities noted between individual professionals, I submit that such attitudinal discrepancies must be rooted in the different organizational cultures of each group. Exploration of organizational cultural differences assumes importance in discovering ways to bring journalists and PIOs closer; minimizing their differences could help resolve disconnects and would surely improve joint efforts in transferring information between subject-matter experts and the public.

PIOs serve as intermediaries in transferring information about science and health between experts and various publics through journalists. PIOs share important goals with journalists and their ideal type is much closer to that of their partners in this endeavor than to that of corporate PRPs. A new ideal type would describe more accurately PIOs' goals, missions and ideology and more powerfully explain the role of organizational cultures, built through adaptive structuration, in developing attitudes and subsequent occupational identities and actions. The ideal type suggested here positions PIOs, along with journalists, within an extended communicative model (Habermas, 1986; Salter, 2005).

The results of this study are generalizable only to the population from which the sample respondents were drawn. Additionally, it is recognized that survey methodology may not provide optimal data for examination of the questions addressed here. Analyzing origins of disconnects between PIOs' and journalists' praxis may be facilitated by such methods as in-depth interviews and case studies. Further, future research should reach beyond consideration of individual social-psychological cognitive and behavioral attributes to examine systemic attributes of distinct organizational cultures; occupational identities and ideologies such cultures engender; ideal types posited and effects on professionals of adoption of such ideal constructs; and applicability of historical theoretical models of communicative action to both journalists and PIOs.

### ACKNOWLEDGEMENTS

Thanks are extended to Gary Wingenbach, PhD, Professor of Agricultural Leadership, Education and Communications, Texas A&M University, College Station, Texas, USA, for assistance in programming and hosting online data collection instruments.

### NOTES

1. An analysis of media over five years identified 22 "hot" science, health and technology story topics: air pollution; autism; avian flu; BSE/Mad Cow disease; cancer; climate change/global warming; computer innovations; genetically modified foods; graying of Baby Boomers; hantavirus; heart disease/high blood pressure; Hurricane Katrina;

hurricanes/tornados/floods; lead content in toys; population control issues; post-partum depression; post-traumatic stress disorder; robotics; school shootings; stem cell research; women's health issues; and the World Wide Web.

2. A review of relevant scholarly literature on news story sourcing identified 11 source categories: (1) activists not from trade/professional associations; (2) business representatives, not scientists, doctors, engineers; (3) business scientists, doctors, engineers; (4) consumers/members of the public; (5) government, not scientists, doctors, engineers; (6) government scientists, doctors, engineers; (7) state extension, not scientists, doctors, engineers; (8) state extension scientists, doctors, engineers; (9) trade/professional association protagonists; (10) university official sources; and (11) university scientists, doctors, engineers.

## REFERENCES

- ABRAMS, LISA, CROSS, ROB and LEVIN, DANIEL (2002) "The Strength of Weak Ties You Can Trust: the mediating role of trust in effective knowledge transfer", Institute for Knowledge-based Organizations White Paper, [citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.132](http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.132), accessed 5 May 2011.
- AJZEN, ICEK and FISHBEIN, MARTIN (2000) "Attitudes and the Attitude-Behavior Relation: reasoned and automatic processes", *European Review of Social Psychology* 11, pp. 1-33.
- AVERY, ELIZABETH and KIM, SORA (2009) "Anticipating or Precipitating Crisis? Health agencies may not be heeding best practice advice in avian flu press releases", *Journal of Public Relations Research* 21(2), pp. 198-207.
- AVERY, ELIZABETH, LARISCY, RUTHANN and SOHN, YOUNGJU (2009) "Public Information Officers' and Journalists' Perceived Barriers to Providing Quality Health Information", *Health Communication* 24, pp. 327-36.
- BAUER, MARTIN and BUCCHI, MASSIMIANO (2007) *Journalism, Science and Society: science communication between news and public relations*, Florence, KY: Routledge.
- BEALL, GARY and HAYES, JAMES (1992) "Big Green and Careful: how major California newspapers covered two ballot initiatives in the 1990 General Election", *Journal of Applied Communications* 76(1), pp. 7-11.
- BEAM, RANDALL (2008) "The Social Characteristics of U.S. Journalists and Their 'Best Work'", *Journalism Practice* 2(1), pp. 1-14.
- BRIGGS, CHARLES and HALLIN, DANIEL (2010) "Health Reporting as Political Reporting: biocommunicability and the public sphere", *Journalism* 11(2), pp. 149-65.
- CHERMAK, STEVEN (1995) "Image Control: how police affect the presentation of crime news", *American Journal of Police* XIV(2), pp. 21-43.
- COHEN, ELISIA, VIJAYKUMAR, SANTOSH, WRAY, RICARDO and KARAMEHIC-MURATOVIC, AJLINA (2008) "The Minimization of Public Health Risks in Newspapers After Hurricane Katrina", *Communication Research Reports* 25(4), pp. 266-81.
- COOPER, CRYSTALE and ROTER, DEBRA (2000) "'If It Bleeds It Leads'? Attributes of TV health news stories that drive viewer attention", *Public Health Reports* 115, pp. 331-8.
- COOPER, CRYSTALE and YUKIMURA, DARCIE (2002) "Science Writers' Reactions to a Medical 'Breakthrough' Story", *Social Science and Medicine* 54, pp. 1887-96.
- DEUZE, MARK (2005) "What Is Journalism? Professional identity and ideology of journalists reconsidered", *Journalism* 6(4), pp. 442-64.
- DEUZE, MARK and MARJORIBANKS, TIMOTHY (2009) "Newswork", *Journalism* 10(5), pp. 555-61.

- DONSBACH, W. (2004) "Psychology of News Decisions: factors behind journalists' professional behavior", *Journalism* 5(2), pp. 131–67.
- DUNWOODY, SHARON and RYAN, MICHAEL (1983) "Public Information Persons as Mediators Between Scientists and Journalists", *Journalism Quarterly* 60, pp. 647–56.
- FENGLER, SUZANNE and RUSS-MOHL, STEPHAN (2008) "Journalists and the Information-attention Markets: towards an economic theory of journalism", *Journalism* 9(6), pp. 667–90.
- FIRTH, SIMON and MEECH, PETER (2007) "Becoming a Journalist: journalism education and journalism culture", *Journalism* 8(2), pp. 137–64.
- FONTENOT, MARIA, BOYLE, KAYE and GALLAGHER, ALICE (2008) "Information Subsidies and Disaster Coverage: a qualitative content analysis of press releases and newspaper coverage of Hurricanes Katrina and Rita", paper presented to the annual meeting of the International Communication Association, TBA, Montreal, 22 May, [http://www.allacademic.com/meta/p233873\\_index.html](http://www.allacademic.com/meta/p233873_index.html), accessed 18 October 2010.
- GANDY, OSCAR JR (1982) *Beyond Agenda Setting: information subsidies and public policy*, Norwood, NJ: Ablex Publishing Company.
- GIDDENS, ANTHONY (1984) *The Constitution of Society: outline of the theory of structuration*, Berkeley: University of California Press.
- GLANZ, KAREN, LEWIS, FRANCES and RIMER, BARBARA (Eds) (1997) *Health Behavior and Health Education: theory, research and practice*, 2nd edn, San Francisco: Jossey-Bass.
- HABERMAS, JURGEN (1986) *The Theory of Communicative Action*, Thomas McCarthy (Trans), Boston: Beacon.
- HANITZSCH, THOMAS (2007) "Deconstructing Journalism Culture: toward a universal theory", *Communication Theory* 17, pp. 367–85.
- HEINRICH, HARALD and PETERS, HANS-PETER (2004) "Media Communication on Climate Change and Coastal Protection: reception and interpretations by the audience", in: *Proceedings of the PCST International Conference*, Parallel Session 14: Science in Daily Press: a cultural question?, <http://www.pcst2004.org>, accessed 25 July 2005.
- KATZ, STEVEN (2004) "Language and Persuasion in Biotechnology Communication with the Public: how to not say what you're not going to not say and not say it", *AgBioForum* 4(2), <http://www.agbioforum.missouri.edu/v4n2/v4n2a03-katz.htm>, accessed 19 July 2009.
- KEPPLINGER, HANS, BROSIOUS, HANS-BERND and STAAB, JOACHIM (1991) "Instrumental Actualization: a theory of mediated conflicts", *European Journal of Communication* 6(3), pp. 263–90.
- KEPPLINGER, HANS and HABERMEIER, JOHANNA (1995) "The Impact of Key Events on the Presentation of Reality", *European Journal of Communication* 10(3), pp. 371–90.
- LARISCY, RUTHANN, AVERY, ELIZABETH and SOHN, YOUNGJU (2010) "Health Journalists and Three Levels of Public Information: issue and agenda disparities?", *Journal of Public Relations Research* 22(2), pp. 113–35.
- LEN-RIOS, MARIA, HINNANT, AMANDA, PARK, SUN-A, CAMERON, GLEN, FRISBY, CYNTHIA and LEE, YOUNGAH (2009) "Health News Agenda Building: journalists' perceptions of the role of public relations", *Journalism & Mass Communication Quarterly* 86(2), pp. 315–31.
- LEWIS, JUSTIN, WILLIAMS, ANDREW and FRANKLIN, BOB (2008) "A Compromised Fourth Estate? UK news journalism, public relations and news sources", *Journalism Studies* 9(1), pp. 1–20.
- LI, KIT-MAN (1999) *Western Civilization and its Problems*, Brookfield, MA: Ashgate.
- LOWREY, WILSON, EVANS, WILLIAM, GOWER, KARLA, ROBINSON, JENNIFER, GINTER, PETER, MCCORMICK, LISA and ABDOLRASULNIA, MAZIAR (2007) "Effective Media Communication of Disasters: pressing problems and recommendations", *BMC Public Health* 7(97), pp. 1–8.
- MACDOUGALL, CURTIS (1987) *Interpretative Reporting*, New York: Macmillan.

- MCCOMBS, MAX and SHAW, DONALD (1976) "Structuring the 'Unseen Environment'", *Journal of Communication* 26, pp. 18–23.
- MCQUAIL, DENIS (1994) *Mass Communication Theory*, 3rd ed, Thousand Oaks, CA: Sage.
- PETERS, HANS-PETER (2009) "Mass Media as an Information Channel and Public Arena", *Franklin Pierce Law Center Media Papers*, 26 June, <http://www.piercelaw.edu/risk/vol5/summer/peters.htm>, accessed 19 July 2009.
- PINHOLSTER, GINGER and O'MALLEY, CATHERINE (2006) "EurekAlert! Survey confirms challenges for science communicators in the post-print era", *Journal of Science Communication* 5(3), pp. 1–12.
- REBER, BRYAN and BERGER, BRUCE (2005) "Framing Analysis of Activist Rhetoric: how the Sierra Club succeeds or fails at creating salient messages", *Public Relations Review* 31, pp. 185–95.
- REED, ROSSLYN (2001) "(Un-)professional Discourse", *Journalism* 2(3), pp. 279–98.
- REICH, ZENO (2009) "Ethical Weaknesses in Emergency Communication Between National Authorities and the Public", *The Communication Review* 12, pp. 262–71.
- ROBINSON, SUE (2007) "'Someone's Gotta Be in Control Here': the institutionalization of online news and the creation of a shared journalistic authority", *Journalism Practice* 1(3), pp. 305–21.
- SACHSMAN, DAVID (1993) "Communication Between Scientists and the Media: introducing the concepts of risk, risk analysis and risk communication for reporters", in: *Proceedings of the Hazardous Waste Conference*, <http://www.atsdr.cdc.gov/cx12c.html>, accessed 28 July 2005.
- SALLOT, LYNNE and JOHNSON, ELIZABETH (2006a) "To Contact . . . Or Not? Investigating journalists' assessments of public relations subsidies and contact preferences", *Public Relations Review* 32, pp. 83–6.
- SALLOT, LYNNE and JOHNSON, ELIZABETH (2006b) "Investigating Relationships Between Journalists and Public Relations Practitioners: working together to set, frame and build the public agenda, 1991–2004", *Public Relations Review* 32, pp. 151–9.
- SALTER, LEE (2005) "The Communicative Structure of Journalism and Public Relations", *Journalism* 6(1), pp. 90–106.
- SCHEUFELE, DIETRAM (1999) "Framing as a Theory of Media Effects", *Journal of Communication* 49(1), pp. 103–22.
- SCHUDSON, MICHAEL (2001) "The Objectivity Norm in American Journalism", *Journalism* 2(2), pp. 149–70.
- SHAPIRO, BRUCE (2007) "Interaction of Journalists and Sources", *Nieman Reports* Spring, pp. 76–81.
- SIMMONS, HAVEN (1999) "Media, Police and Public Information: from confrontation to conciliation", *Communications and the Law* 21, pp. 69–75.
- SIMONSON, PETER (1999) "Mediated Sources of Public Confidence: Lazarsfeld and Merton revisited", *Journal of Communication* 49(2), pp. 109–22.
- SINGER, JANE (2006) "The Socially Responsible Existentialist: a normative emphasis for journalists in a new media environment", *Journalism Studies* 7(1), pp. 2–18.
- SPRINGSTON, JOHN and LARISCY, RUTHANN (2005) "Health Crises and Media Relations: relationship management-by-fire", *Health Marketing Quarterly* 24(3/4), pp. 81–96.
- TEWKSBURY, DAVID, JONES, JENNIFER, PESKE, MATTHEW, RAYMOND, ASHLEA and VIG, WILLIAM (2000) "The Interaction of News and Advocate Frames: manipulating audience perceptions of a local public policy issue", *Journalism & Mass Communication Quarterly* 77(4), pp. 804–29.

- TRIESE, DEBBIE and WEIGOLD, MICHAEL (2002) "Advancing Science Communication: a survey of science communicators", *Science Communication* 23, pp. 310–22.
- VANDERFORD, MARCIA, NASTOFF, TERESA, TELFER, JANA and BONZO, SANDRA (2007) "Emergency Communication Challenges in Response to Hurricane Katrina: lessons from the Centers for Disease Control and Prevention", *Journal of Applied Communication* 35(1), pp. 9–25.
- VEIL, SHARI and OJEDA, FRANCISCO (2010) "Establishing Media Partnerships in Crisis Response", *Communication Studies* 61(4), pp. 412–29.
- WALLACK, LAWRENCE (1994) "Media Advocacy: a strategy for empowering people and communities", *Journal of Public Health Policy* 15(4), pp. 420–36.
- WALLINGTON, SHERRIE, BLAKE, KELLY, TAYLOR-CLARK, KALAHN and VISWANATH, KASISOMAYAJULA (2010) "Antecedents to Agenda Setting and Framing in Health News: an examination of priority, angle, source and resource usage from a national survey of U.S. health reporters and editors", *Journal of Health Communication* 15, pp. 76–84.
- WANG, XIAO (2009) "Integrating the Theory of Planned Behavior and Attitude Functions: implications for health campaign design", *Health Communication* 24, pp. 426–34.
- WESTERSTAHL, JORGEN (1983) "Objective News Reporting: basic premises", *Communication Research* 10(3), pp. 403–24.
- WORCESTER, ROBERT and BURNS, THOMAS (1975) "A Statistical Examination of the Relative Precision of Verbal Scales", *Journal of Market Research Society* 17(3), pp. 181–97.
- ZHONG, BU and NEWHAGEN, JOHN (2009) "How Journalists Think While They Write: a transcultural model of news decision making", *Journal of Communication* 59, pp. 587–608.

**Judith McIntosh White**, Communication and Journalism, University of New Mexico, MSC03 2240, Albuquerque, NM 87111, USA. E-mail: jmw49@unm.edu