5.1

PETITIONS AND PRAYERS

An Analysis of Persuasive Appeals

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A social worker in a development town told us of two clients who came to her office with identical requests. One was a new immigrant from North Africa, who made his request and said, "If I don't get what I've asked for, I'll blow up the office!" The second client, an equally new immigrant from Eastern Europe, sat down and calmly put his request, following which he leaned toward the social worker and said confidentially, "Actually, I have a friend in your head office in Jerusalem to whom I could have taken my request. But I thought," he continued, "that it would be good for *you* if I channeled my request through your office."

From the point of view of the theory of bureaucracy, both of these are illegitimate appeals. The only legitimate appeal, in fact, is one to the laws or the organization. Yet, though they both may be "illegal," the two appeals represent very different kinds of deviations, and reflect different conceptions of the workings of bureaucracy. The first client sees the official as the locus of power and decision-making in the organization and assigns to himself enough power to disrupt the system or at least to deprive the official. The second client perceives the hierarchical nature of bureaucratic authority and implicitly offers the official a positive reward rather than a negative one, which is to come not from the client himself but from the official's superior.

DEVELOPMENT OF THE SCHEME

In attempting to devise a content-analytic scheme that would catch some of these differences, we began with a formula based on the idea that a persuasive appeal must consist of some motivating mechanism in which the promise of reward or the threat of deprivation plays a central role. This led to the development of a four-faceted formula in which one

actor (*X*) rewards or deprives another (*Y*) of some resource. In terms of this formula, the first of the two above-mentioned clients says, "I/will deprive/you/of (let's say) health or life," and the second says, "He/will reward/ you/with status." Table 1 presents the scheme as designed for a study of letters of appeal to the Israel Customs Authorities.

Note the range of *X's* and *Y's* in *facets 1* and *4* of this table: To these were added two modifiers (*facets 2* and *5*), which describe the roles played by *X* and *Y*. Thus, "I/as a person/ will deprive/you/as officials," and "He/as hierarchical authority/will reward/you/as an official." Note also that *X* and *Y* do not necessarily refer to client and official but may refer to any pronoun, which might feature in the appeal, including impersonal pronouns. For example, "They/circumstances in my country of origin/deprive/them/my family/of health." The roles in *facets 2* and *5* are classified into four large groupings, according to whether they are associated with the bureaucracy or not, and according to whether they are personal or impersonal.

Development of *facet 3,* the verb, was rather more complicated. We began with "will reward" and "will deprive," but very soon discovered that appeals are often couched in terms of the past or the present as well as the future. "Grant my request, because I have rewarded you," is a typical appeal to what Gouldner (1960) calls the norm of reciprocity. This distinction between future and past (or present) tends to coincide with conditional and unconditional appeals ("If you grant my request, I will reward . . . ," *vs.* "I have rewarded . . ."), although the offer of future reward or deprivation need not necessarily be conditional. That is, a client may say, "I will reward you," hoping that the promise will make an impression but not making the offer contingent on the official's action.

A second discovery was that conditional appeals—that is, those which are contingent on the official's actions—may involve any X or *Y,* as in "If you don't grant my request, it/the illness/will deprive/her/my wife/of health," or as in the case of a business relationship, "If you grant my request, I/ as a client (customer) or another organization/will deprive/it/the other organization (your competitor)/of cooperation (my business)."

The most important modification of the scheme occurred when we realized that the verbs "reward" and "deprive" were not adequate to the task we set ourselves. The rhetoric of appeals is not limited to the language of direct exchange; we had to make provision for the verb "to owe" which ushers in the entire normative realm. An example of appeals based on the verb "to owe" is: "Grant my request because it/the State/owes/me/as a new immigrant/this service."

We had, in other words, simply "rediscovered" in this very specific context the two bases of social control, which are operant in society—personal influence or direct surveillance on the one hand, and commonly held internalized social norms on the other. In the first case it is the manipulation of rewards and punishments by significant others in the immediate environment, which influences individuals to conform to pressures brought to bear on them. In the second, presumably, it is the individual's response to a felt moral (and/or legal) obligation, which leads to conformity, and not the ability of others to reward or deprive him of valued resources. Consequently, in order to make our scheme maximally applicable, we incorporated the verb "to owe." The two major types of appeals are, then, appeals to an individual's profit, and appeals to his obligation to some norm.[1]

Facet 6 refers to the resources, which are exchanged or made salient in persuasive appeals. Following Longabaugh (1963), who has developed an empirical method to analyze social interaction as an exchange process, we define a resource as simply, "anything one wants." The list of resources in Table 1 is derived from the data with which we worked and is *ad hoc,* although we have made several attempts to structure it theoretically and it appears to be quite general. Two classifications of dimensions, which appeal to us in particular, are (1) a "symbolic-material" dimension, and (2) a "personal-relational" dimension. Thus, happiness may be classified as "personal-symbolic," health or money are "personal-material," status and esteem are

Table 1   The Coding Scheme

"Grant my request because . . ."		
X—the Source *(facet 1)*	**Role of X** *(facet 2)*	**Verb** *(facet 3)*
	Group I: Bureaucratic-personal roles	**Group I**
	Official/client of the Customs	*A. If you grant the request*
	Official/client of other organization	
	Hierarchical authority in Customs	Will reward
	Hierarchical authority in other organization	Will not deprive
I (we)	Legal status: new immigrant/citizen/tourist	Will not reward
		Will deprive
You (singular, plural)		
	Group II: Bureaucratic-impersonal roles	*B. If you don't grant the request*
We (including official)		
	The Customs regulations	Will reward
He, They	Other organization, its regulations	Will not deprive
	Israeli law, government, State of Israel	Will not reward
It, they (impersonal)	Other law or government	Will deprive
	The press	
	Group III: Non-bureaucratic-personal roles	**Group II**
	Newcomer/veteran in Israel	Rewards rewarded, will reward
	The enemy, Gentiles, other people	Doesn't/didn't/won't deprive
	Ethnic group, pressure group, political party	Doesn't/didn't/won't reward
	Relative or friend of X	Deprives, deprived, will deprive
	Relative or friend of someone other than X widow, orphan, bereaved parent	
	Human being, a person	**Group III**
	Occupational role, a professional	
	Jew(s), Jewish nation, State of Israel	Owes, is obliged to . . .
	Public personalities, celebrities, leaders	Doesn't oblige, doesn't require
	Sick person, patient, disabled, aged person	Doesn't owe, is not obliged to
	Group IV: Non-bureaucratic-impersonal roles	Obliges, requires
	Profession, occupation, working conditions	
	Conditions in Israel, in foreign countries	
	An item, the goods (about which appeal is made)	
	Fate, objective circumstances, God	
	A principle, a general norm	

(Continued)

Table 1 (Continued)

"Grant my request because . . ."		
Y—the Recipient *(facet 4)*	**Role of Y** *(facet 5)*	**Resources** *(facet 6)*
Me (us)	***Group I: Bureaucratic-personal roles***	Health, life, years
You (singular, plural)	Official/client of the Customs Official/client of other organization	Happiness, peace of mind
Us (including official)	Hierarchical authority in Customs Hierarchical authority in other organization	Occupation (income), source of income
Him, them	Legal status: new immigrant/citizen/tourist	Material goods, money
It, them (impersonal)	***Group II: Bureaucratic-impersonal roles***	Voluntary services or behavior; favor, mercy, understanding, help, forgiveness, idealism, sacrifice
	The Customs regulations Other organization, its regulations	Obligatory services or behavior appropriate to a formal role: information, conformity, cooperation, attention
	Israeli law, government; State of Israel Other law or government	Rights, justice
	The press	Esteem, gratitude, thanks, trust, hope
	Group III: Non-bureaucratic-personal roles	Status, raise in job status, authority
	Newcomer/veteran in Israel	Convenience, comfort, standard of living
	The enemy, Gentiles, other people	
	Ethnic group, pressure group, political party	
	Relative or friend of X	
	Relative or friend of someone other than X, widow, orphan, bereaved parent	
	Human being, a person	
	Occupational role, a professional	
	Jew(s), Jewish nation, State of Israel	
	Public personalities, celebrities, leaders	
	Sick person, patient, disabled, aged person	
	Group IV: Non-bureaucratic-impersonal roles	
	Profession, occupation, working conditions	
	Conditions in Israel, in foreign countries	
	An item, the goods (about which appeal is made)	
	Fate, objective circumstances, God	
	A principle, a general norm	

"relational-symbolic," service and cooperation are "relational-material."

We are, of course, by no means the first to attempt to classify the various kinds of resources or values seen as desirable by individuals or society. Our list is somewhat similar to a typology of values proposed by White (1947) some time ago.

Another typology is that of von Mering (1961), though his comprehensive "grammar of values" focuses on values as "anything about which one can make a value judgment" rather than more specifically on "anything one wants."

Taken together, then, the scheme is a six-faceted sentence in terms of which we think we can classify any "persuasive reason" at all, with minor modifications of the roles and resources, which figure in particular situations. Grammatically, the scheme divides appeals into the subject, verb, direct and indirect objects of a sentence, plus two roles to identify the pronouns mentioned as subject and indirect object.

In developing the scheme, we encountered two related problems. First, we had to decide what exactly constitutes a persuasive appeal. Petitioners often make statements like "I am sick" or "I am a new immigrant." Are these statements to be understood and coded as persuasive appeals or are they merely statements of neutral information with no intent to influence the official? Our inclination, throughout, was to assume that all but the most rudimentary information was introduced to bolster the request.

The second problem has to do with the translation of appeals into the language of the scheme. Obviously, petitioners do not usually speak in neat six-faceted sentences. Whenever the language of the appeal did correspond to the categories of the scheme—about 25 percent of all appeals were "explicit" in this sense—the appeal could be coded directly. In doing so, we made a choice in favor of "representational" as opposed to "instrumental" coding, in the sense that we preferred to code the rhetoric of the appeal rather than the motive implicit in it (Pool, 1959:206–212). Take the example, "I was injured by a car." This might mean "You/the

official/owe/me/a sick person/consideration," but it was coded "It/fate/deprived/me/as human being/of/health." Many appeals, however, are not as readily codable as representational statements. "I am a new immigrant," for example, cannot easily be coded until its instrumental meaning is agreed upon. It might mean, "I have suffered hardship and therefore deserve consideration," or "The state owes me certain rights as a new immigrant," or "I am rewarding you by my coming here, therefore you ought to help me in getting settled." In such cases, there was no choice but (1) for coders to confer and agree on the most appropriate meaning for the statement, and (2) to code the statement rather more in terms of its instrumental than its representational meaning. Thus, "I am a new immigrant," is coded consistently as "It/the Customs/owes/me/as a client/rights," except where the context made some other meaning more appropriate. The central directive in the coding of appeals was to preserve as much as possible of what was explicitly said, to avoid interpreting the instrumental meaning, or motivating mechanism. Inclusion of statements like "I am a new immigrant" shows, however, that this was not always possible. To give some index of the extent to which coders made inferences—whether at the level of representational or instrumental meaning—we therefore coded with regard to each facet whether it was explicitly stated by the appellant or whether the coder made a judgment.

APPLICATION OF THE SCHEME: SOME EXAMPLES

To illustrate how the scheme may be applied, as well as to give the flavor of the kind of material with which we are working, we now present several more extended (but not necessarily representative) quotations from letters to the Israel Customs Authorities, sampled from the years 1959 and 1962. One man wrote as follows: "Two of my sons are studying at the University. If I have to pay the duty (on a car), they will have to leave the University and our nation will be deprived of

their services." We translated this as two separate appeals: (1) "If you don't grant my request, you/as an official/will deprive/them/my sons/of status." (2) "If you don't grant my request, you/as an official/will deprive/us/the nation of (their) service." Another client, a Chicagoan, offered a rare inducement: "I am in touch with some 20 families in Chicago who are considering the possibility of migration to Israel, and if my petition is successful it will certainly influence them." We render this as, "If you grant my request, they/as new (potential) immigrants/will reward/us/the nation, with a voluntary service, a sacrifice."

An even more colorful example is drawn from the letter of a man who is suspected by the Customs Authorities of importing 14 ladies' slips in order to sell them (all goods imported by individuals must be for personal use only). Claiming that the slips are for his daughters, he writes as follows: "Please consider the situation of my daughters so that I can marry them off as befits them. The hope of three girls lies in Haifa port. . . . Ask your wife how many slips she has in her wardrobe. . . . Are 14 slips so many for three who are about to be married?" The coders recorded the following three appeals: (1) "If you grant my request (let me have the slips duty-free), I/their father/will reward/them/my daughters/with happiness." (2) "If you grant the request, you/the official/will reward/them/my daughters/with hope." (3) "They/the slips/will not reward/them/my daughters/with (too high) a standard of living, luxury."

CODER RELIABILITY

The problem of coder reliability, always important in social research, was particularly crucial in the case of the rather, subtle kind of content analysis we wished to carry out. Our procedure was as follows: Each letter was broken down into discrete units of persuasive appeals and the various appeals coded by two individuals working independently. Then the pairs of coders met over each letter and came to an agreement as to the number of appeals to be coded and the precise coding for each appeal.

Three tests of coder reliability were carried out. The first was done at the beginning of the coding period and two others at later stages. The coding of the letters chosen for the tests was performed by the entire group of coders as individuals, working independently. Thus, if anything, the tests overstate discrepancy, since the regular coding was done in teams of two.

One kind of check was to determine the extent of coder agreement on the *number* of appeals in three test letters. Table 2 shows the modal number of appeals extracted, as well as the range, for each of the three tests.

Table 2 Reliability in Dividing Letters Into Coding Units (Appeals)

	Modal Number of Appeals in Test Letters	The Range
Test 1	16	12–19
Test 2	5	7–11
Test 3	14	11–19

Second, the reliability of the coding of content of appeals was checked for each of the facets separately, over all the appeals of each test letter. The degree of reliability here is expressed as percent of modal ("correct") decisions out of total coder decisions, and is shown in Table 3. In general, reliability was quite good, despite variation from one *facet* to another.

A TYPOLOGY OF APPEALS

We have come to classify appeals in five distinct categories. We divide appeals to profit into three basic types. First are *appeals to reciprocity,* in both positive and negative forms (inducements and threats, respectively). This type of appeal is best illustrated by "If you grant the request, I will reward you" (or "I will deprive you"). Second, there are appeals based on *pure persuasion,* as in "You will reward you (yourself)." Third, we include a category for appeals to altruism, for example, "If you grant the request, you will

Table 3   Reliability of Fact Coding of Appeals in the Three Tests (by Percent)

	X	Role-of-X	Verb	Y	Role-of-Y	Resource
Test 1	77.6	65.8	76.1	81.7	62.6	71.7
Test 2	77.2	81.8	86.3	95.4	95.4	77.2
Test 3	82.5	80.0	71.3	95.0	81.2	81.2

reward me." Interestingly, all these types of appeals require knowledge of at least three *facets (1, 3, 4)* for classification, but only the Signal "owe" (or "obliges") is needed for appeals to norms.

As for appeals to norms, we further divide this group into two types, which seem quite different. One basic type of normative appeal attempts to awaken in the other the obligation to comply with the directives of the norm of reciprocity. That is, "You owe it to me now because I have done favors for you in the past." The obligation here is confined to the relations of the two parties involved. In contrast, there are appeals to impersonal obligations of the other, which are independent of past interaction between the two parties involved. Thus, we distinguish between *appeals to the norm of reciprocity* on the one hand, and *appeals to impersonal norms,* on the other. These categories are, to some extent, similar to those of most writers who have concerned themselves with the bases of power and influence in interpersonal relations. In an analysis of the concept of influence, Parsons (1963), for example, has suggested a typology of "ways of getting results." Thus, in "situational" influence attempts, one person seeks to influence another to comply with his wishes by either offering a positive reward ("inducement") or threatening to change some aspect of the other's situation to his detriment ("deterrence"). Combined, these categories correspond to our *appeals to reciprocity.* In "intentional" attempts, a person may influence another by suggesting the ways in which the other will reward himself by complying (positive), or if he does not comply, will punish himself in some sense by violating a commitment he has already made (negative). The first of these categories,

obviously, corresponds to our category of *persuasion.* The second, called "activation of normative commitments," seems to incorporate *both* our normative categories.

A more recent paper by Raven (1965), extending earlier work with French and others (1960), presents a strikingly similar analysis of types of influence and their underlying dimensions, and although a recent review article by Cartwright (1964) concludes that no universally accepted set of categories of interpersonal power has been established, the paper goes on to describe three bases of power very similar to those suggested by Parsons, Raven, and others: (1) control over the other's rewards and costs; (2) control over information available to the others; (3) use of the other's willingness to accept (one's) authority. These three types of power form the bases for our appeals to reciprocity, persuasion, and appeals to impersonal norms. These is also a considerable overlap between our categories and those used by Rosenberg and Pearlin (1962), Kelman (1961), Etzioni (1965), and Marwell and Schmitt (1967), though none of these authors focus exclusively on strictly verbal strategies of persuasion.

SOME THEORETICAL CONSIDERATIONS

A. The Problem of Altruism: From Rhetoric to Motivation

With the exception of the paper by Marwell and Schmitt (1967), none of those reviewed above has dealt with the topic of altruism in interpersonal relations, probably on the assumption that to ask for a favor or to plead extenuating circumstances is a sign of weakness rather than of power, and therefore

is not likely to be an important basis for motivating another person to comply with one's wishes. In our own study of letters to the Customs, we were confronted with statements like "I lost all my possessions when I left Romania," or "We need a car because my wife is ill and it's too far to walk to the bus stop." Such statements turned up again and again. Intuitively, this type of appeal is oriented to the target's altruism. Now, both common sense and experimental evidence tell us that appeals to altruism are often effective. Studies by Leonard Berkowitz and his associates (1965), and by John Schopler (1966) and his colleagues (1965), have focused precisely on the determinants of the effectiveness of altruistic appeals. Schopler and Bateson (1965) were able to show that the greater the dependence of a person making an altruistic appeal, the greater the compliance of the more powerful ones (Schopler & Bateson, 1965).

These researchers explain the effectiveness of altruistic appeals by the concept of "norm of social responsibility," by which they mean that the appeal awakens in the target person a feeling of obligation to help the appellant.[2] Thus, they might argue that one must translate "I am needy" into "You/owe/me/an obligatory service," or "You are obliged to help needy people," thus appealing, in our terms, to an impersonal norm. This is an extension of the view of Thibaut and Kelley (1959) that one important function of norms is to protect the rights of the weak—power lies not in the person's ability to control the outcomes of the other, but in the norm itself.[3]

Even if we accept the notion that altruism is really normative in character, there is the general problem of the nature of conformity to norms. Some might hold, as Ladd (1957: 292–297) does, that conformity to norms is ultimately motivated by egoistic self-interest, and that altruism and egoism are entirely compatible. Others, however, might want to postulate an elementary, "purely" altruistic motive, refusing to accept the premise that all social behavior is ultimately motivated by self-interest, or even by obligation to reciprocate. To make things still more difficult, there seems to be a component of reciprocity in

altruism: one pays with deference when one portrays oneself as needy before a superordinate. Further evidence that reciprocity and altruism may have something in common comes from Marwell and Schmitt's (1967) factor-analysis of the dimensions of compliance-gaining strategies, in which their strategies of debt (i.e., activation of the norm of reciprocity: "You owe me compliance because of past favors") and altruism ("I need your compliance very badly, so do it for me") had high loadings on a common factor (Marwell & Schmitt, 1967). Finally, it is not enough for the observer to have his own theory of motivation—he must know those of the appellant and the target as well.[4] Since we have no information on the perceptions of appellants as they wrote their letters, we do not feel justified in classifying appeals to altruism in any of the other types, and we have therefore made a separate category for them.

B. Appeals to Norms—Two Types or One?

Since all appeals to norms ultimately say: "You owe it to me," one might argue that they should form one category, as Parsons has suggested. It seems to us, however, that the norm of reciprocity works quite differently from other norms. In their normative categories Parsons, Raven and Etzioni, among others, have in mind appeals to *legitimate authority.* Now, legitimate authority, as Weber (1964) has defined it, implies *suspension of one's own judgment,* and acceptance of the other's right to give a directive. This is true of all of the three types of legitimate authority described by Weber. Appeals to the laws of the Customs Authorities, in our own case, are clearly appeals to Weber's rational-legal authority. The norm of reciprocity, on the other hand, seems to us to be more closely related to the principles of elementary social exchange. Blau (1964) and Gouldner (1960) have shown how normative considerations emerge out of "primitive" exchange situations. One conforms to the norm of reciprocity because it is *worthwhile* and secondarily because of the obligation to comply. The clients of the Customs Authorities often say such things as "I filled out all the forms on

time," which we translate as "I rewarded the Customs with cooperation," and interpret as "Therefore you owe me something in return." Thus we can, in our own research, further distinguish between appeals to the norm of reciprocity where the two parties concerned are the Customs and the client, or appeals whose frame of reference is broader and not relevant to the bureaucratic role-relationships involved, as in "I sacrificed a great deal in order to come and live in the Jewish state" ("I rewarded the State with a favor, sacrifice").

The work of Marwell and Schmitt (1967) provides some support for our decision to divide appeals to norms into two groups. Their factor analysis of compliance-gaining strategies resulted in five factors, two of which they tentatively label "activation of impersonal commitments" and "activation of personal commitments." The first of these is defined by such strategies as Moral "Appeal" ("You are immoral if you do not comply"), "Self-Feeling," both positive and negative ("You will feel better about yourself if you comply"), "Altercasting," both positive and negative ("A person with 'good' qualities would comply") and "Esteem," positive and negative ("People you value will think better of you if you comply"). All of these either focus on the obligation to comply to an impersonal norm or to the state of one's conscience if one does or does not comply.

As mentioned above, the fifth factor in the Marwell and Schmitt (1967) study is defined partially by the two strategies of debt ("You owe me compliance because of past favors") and altruism ("I need your compliance very badly, so do it for me"). While the labeling of this factor is problematic, the fact the debt was not important in any of the other factors reinforces our view that appeals to the norm of reciprocity should be treated separately.[5]

The Problem of Data Reduction

It is apparent from Table 1 that the data generated by the coding scheme can be very complex. As the scheme was designed for the Customs study, there are no less than 2,500,000 possible theoretical types! In fact,

there were some 2,600 different empirical types in the nearly 10,000 appeals collected from the letters of 800 different clients of the Customs Authorities. As a first step to simplify the procedure of data reduction, we decided to work only with the appeals in letters written by clients themselves, thus omitting for the time being all letters written by various "go-betweens" writing on a client's behalf. This left a total of 7,423 appeals.

By inspecting the distribution of the data in various cross-tabulations of the facets, we were able to collapse closely related categories and to reduce the number of different empirical profiles to 45.[6] Decisions as to which categories might be combined were made almost totally on an empirical basis. These 45 types, in the language of the scheme, appear in Table 4.

At this point theoretical considerations were introduced and the 45 profiles regrouped into 17 subtypes, or "motive types," as we have come to call them. Table 5 lists these 17 motive types, now with a name which points to why they should motivate the other to comply. An example in the original language of the client is given for each of the 17, and in addition, we show how we collapse the 17 in terms of the basic five-part typology of persuasive appeals presented under the heading "A Typology of Appeals." Note that in the Customs data neither appeals to reciprocity nor those to pure persuasion were frequent enough to merit separate categories in the final analysis. Threats were virtually absent and the only positive inducements offered are a ritual "thank you" coded as "I will reward you (or the Customs) with thanks" (profile 15 in Table 4) and a promise to cooperate with the Customs in the future (profile 11 in Table 4). These have been grouped with appeals to the norm of reciprocity for purposes of analysis of the data.

Uses of the Scheme I: Bureaucracy and the Public

Little research has been done on the general topic of official-client relations, and consequently even less on problems of persuasion

Table 4   Appeals to the Israel Customs Authorities: 45 Empirical Types

  1. "You owe me cooperation." (41)
  2. "The Customs owes me rights." (399)
  3. "The Customs rewards me with rights." (110)
  4. "The Customs rewarded him with rights." (60)
  5. "Fate rewards me with status." (46)
  6. "My organization rewards me with status." (75)
  7. "My fate obliges me to have the goods." (308)
  8. "I owe my family a living." (92)
  9. "I rewarded the Customs with cooperation." (683)
10. "I rewarded you with cooperation." (52)
11. "I will reward the Customs with cooperation." (52)
12. "The Customs rewarded me with cooperation." (104)
13. "Another official rewarded me with cooperation." (47)
14. "You owe me esteem (trust)." (107)
15. "I will reward you with thanks." (146)
16. "I reward you with thanks." (358)
17. "I rewarded us Jews with a favor." (120)
18. "You will reward me with cooperation." (43)
19. "You will reward me with rights." (42)
20. "You will deprive me of goods." (90)
21. "The Customs deprives me of goods." (165)
22. "Another official deprived me of goods." (74)
23. "The Customs deprived me of cooperation." (99)
24. "Another official deprived me of cooperation." (99)
25. "The Customs deprived me of rights." (95)
26. "Another official deprived me of rights." (66)
27. "The Customs deprived me of happiness." (70)
28. "I deprived myself of rights." (71)
29. "I deprived myself of goods." (61)
30. "Fate deprived me of cooperation." (158)
31. "My fate obliges you (to give me) cooperation." (58)
32. "Fate deprived me of rights." (103)
33. "Fate deprived me of health." (170)
34. "Fate deprived me of happiness." (112)
35. "Fate deprived me of income." (119)
36. "Fate deprived me of comfort." (165)
37. "Fate deprived me of goods, money." (569)
38. "You will reward me with a favor." (86)
39. "My organization rewards me with a favor." (41)
40. "Fate rewards me with goods, money." (SO)
41. "Fate rewards me with income." (54)
42. "Fate rewards me with comfort." (54)
43. "I reward myself with goods, money." (113)
44. "My friend, relative rewards me with goods, money." (182)
45. "My friend, relative rewards me with a favor." (51)

Table 5   Seventeen Motive-Types in Appeals to the Israel Customs Authorities and the Re-grouping According to the General Typology of Persuasive Appeals

APPEALS TO IMPERSONAL NORMS

1. *Appeal to Explicit Rational-Legal Norm (1,2)*[a]
   ("I am a new immigrant.")

2. *Implicit Variants of the Appeal to* a *Rational-Legal Norm (3,4)*
   ("I understand that new immigrants are granted certain rights.")

3. *Appeal for Show of Deference (5,6)*
   ("I have a high-level job in the Ministry of Education.")

4. *Appeal for Support of Job Obligation (7)*
   ("I need the car for my work.")

5. *Appeal for Support of Family Obligation (8)*
   ("I have a wife and five children to support.")

APPEALS TO THE NORM OF RECIPROCITY

6. *Customs-specific Appeal to Norm of Reciprocity (9,10,11)*
   ("I filled out all the required forms on time.")

7. *Variant A of Customs-specific Appeal to Norm of Reciprocity—"Good Faith" (12,13)*
   ("You haven't given me any trouble till now, so why have you changed?")

8. *Variant B of Customs-specific Appeal to Norm of Reciprocity—"Notarized Declaration" (14)*
   ("I sent you a notarized declaration, so you should trust me.")

9. *Thank you—Norm of Reciprocity (15,16)*
   ("Thank you very much for considering this matter.")

10. *Appeal to Norm of Reciprocity to Fellow Jew (17)*
    ("I sacrificed a great deal in order to come and live in the Jewish State.")

APPEALS TO ALTRUISM

11. *Explicit Appeal to Official's Altruism for "Bureaucratic" Resource (18,19,20)*[b]
    ("If you don't grant this request, you will deprive me of my rights.")

12. *Appeal to Customs for Compensation because of Deprivation of "Bureaucratic" Resources—Customs' Fault (21–27)*
    ("The official in the Tel Aviv office refused my request without justification.")

13. *Implicit Appeal to Extend Client's "Credit"—"Bureaucratic" Resource (28,29)*
    ("When I came to the country I didn't take advantage of my rights.")

14. *Appeal for Compensation because of Deprivation of "Bureaucratic" Resource, Extenuating Circumstances (30,31,32)*
    ("I couldn't come to the office to fill out the form on time because I was sick.")

15. *Appeal for Consideration or Compensation because of Deprivation, Non-bureaucratic Resource (33–37)*
    ("I'm a sick man.")

16. *Explicit Appeal for* a *Favor (38)*
    ("Granting my request will help me a great deal.")

17. *Appeal for Support of Client's Good Luck (39–45)*
    ("My uncle is willing to send me the money for the car, though I can't afford the taxes on it.")

a. The numbers in parentheses refer to the profile types listed in Table 4, and thus show which types have been grouped together.
b. "Bureaucratic" resources are "cooperation-obligatory behavior," "rights," "authority." Also, "goods" are defined as "bureaucratic" if the subject of the sentence is The Customs, as in profile 21.

in this area. One study is that of Rosenberg and Pearlin (1962), who asked members of the staff of a mental hospital to choose the strategies they would use in getting a patient to change his sleeping habits. Results showed that staff members overwhelmingly preferred and said they actually used the strategy of *persuasion* ("You will reward yourself in some way"). Use of *legitimate authority* (appeals to an impersonal norm, in our terms) was related to amount of time on the job. Newcomers preferred more personal methods, while old-timers said they would rely more on legitimate authority. In addition, there was some interesting variation in choice of strategies or appeals by the status or rank of personnel. Their findings seem to confirm the notion that norms protect or are used by the weak.[7] This hypothesis was directly tested by Schmitt (1964) in a study of determinants of appeals to a "moral obligation."

In our own studies of bureaucracy and the public, we are relating analysis of appeals to such variables as personal attributes of clients, type of organizations, and extent of exposure to Israeli bureaucracy over time. The pilot study of our project produced some suggestive findings in each of these respects. There we asked a group of 116 respondents to tell what appeals they would use to influence officials in four hypothetical situations to grant four kinds of requests. The three main findings of that study were as follows. (1) Respondents of non-Western origin were more likely to appeal to the altruism of the official, while those of Western origin were higher on appeals to norms, suggesting that non-Westerners lack the proper "bureaucratic socialization" and deal with bureaucracy in ways more appropriate to personal relationships. (2) The type of appeals varied with the type of organization. Appeals to altruism were highest in the situation of a person attempting to convince a policeman not to give him a traffic ticket, suggesting that clients are weakest in organizations where the beneficiary is the public-at-large. Appeals to norms were highest in a mutual-benefit organization (prime beneficiary the member) i.e. a factory worker appealed to his union representative to argue his case for a raise before the management.

(3) Old-timers of both Western and non-Western origin were more alike in their appeals than the two groups of newcomers. This quite reasonably suggested a kind of leveling effect over time: former differences in attitudes and behavior are being smoothed out. However, the evidence for the precise effects of experience with Israeli bureaucracy, i.e., whether clients become more or less normative over time, was ambiguous.

Preliminary results from our study of persuasive appeals to the Israel Customs Authorities appear promising. For example, we hypothesized that persons of relatively higher socioeconomic status and background are more likely to appeal to the Customs in the language of bureaucracy, i.e., to invoke impersonal norms. Table 6 shows a clear relationship between a client's occupation and the type of appeal he uses. Appeals to impersonal norms are highest for professionals and salaried bureaucrats and lowest for farmers and skilled and unskilled workers. Appeals to the altruism of the official or the organization are *inversely* related to occupation: professionals are lowest, and farmers and workers are highest. Note also that for *all* groups altruistic appeals are the most frequent.

Two other uses of the scheme to study appeals can be suggested. First, types of appeals could be related to characteristics of the target—in this case, of the official. Are officials of various kinds addressed differently? Are high status officials more likely to yield to an altruistic or otherwise inappropriate appeal than lower-status bureaucrats? Again, one might compare the appeals which clients (or officials, as in the case of the nurses in Rosenberg and Pearlin's study) say they would use, with those they actually do use. . . .

CONCLUSIONS

In this article, we have introduced in some detail a method, which we have developed for the content analysis of persuasive appeals. While the scheme was mainly designed for studies of bureaucracy and the public, we think it should be applicable to any situation

Table 6　　　　Appeals to the Israel Customs Authorities by Client's Occupational Status %

| Occupation | Type of Appeal | | | |
	Impersonal Norms	Norm of Reciprocity	Altruism	% & n
Professionals	25.7	28.8	45.4	99.9 (1,734)
Salaried bureaucrats	23.5	29.8	46.7	100.0 (634)
Merchants	16.9	29.6	53.5	100.0 (355)
Transportation, communication, technical workers	15.0	23.9	61.1	100.0 (633)
Farmers, skilled, unskilled laborers	11.4	23.2	65.4	100.0 (367)

where one person makes a request of another, and offers "reasons" or appeals, as we have called them, in support of his request. In addition to summarizing some of the possible uses of the scheme in our initial area of interest, official-client relations, we have tried to suggest ways in which it might be applicable to such diverse fields as politics, advertising, socialization studies, and the comparative study of religions. One virtue of this scheme, therefore, is in pointing up the commonality of the structure of persuasive appeals in such disparate fields. Another is in its ability to take account of a larger number of the component elements of appeals than have heretofore been identified in content analyses of this sort. Most important, of course, is that it makes feasible the exploration of the interrelations among these components. The ultimate test of the value of the scheme, therefore, lies in the extent to which patterns of such interrelations emerge and are found to be meaningfully associated with the conditions and consequences of their use.

NOTES

1.　For an interesting and unusual kind of support for our argument that the verb is the "heart" of persuasive appeals, see Abelson and Kanouse (1966). Summing up results of studies of conditions under which individuals are likely to accept or reject verbal generalizations, they conclude that the verb of a sentence is the most important element: "*Verbs trigger subroutines.* That is, we postulate that incoming assertions are processed by individuals with a variety of packages of subjectively logical steps, and that the choice among these packages is made primarily on the basis of the type of action encoded in the verb of the incoming assertion" (pp. 196–197). A comprehensive discussion of the interrelations between principles of exchange or profit and normative aspects of social life can be found in Blau (1964).

2.　The concept was first used in Berkowitz and Daniels (1965).

3.　Schmitt (1964) expresses essentially the same view in a study of the determinants of the appeal to a norm, or moral obligation, as he puts it. Contemporary social scientists are, in fact, expressing a view, which goes back at least as far as Nietzsche's (1956) *The Genealogy of Morals.*

4.　Ideally, one should be able to distinguish "pure" altruism from situations where one does a favor for another and is able to expect reciprocation some time in the future. Giving a man a dime for a cup of coffee, when you know you will never see the man again, might be construed as "pure" altruism, though some would argue that the reward is the good feeling one gets.

5.　Marwell and Schmitt (1967) admit that the various strategies which have high loadings in the fifth factor do not have a visibly common characteristic. They argue that altruism and debt, at least, have in common the appeal to the system of rights and obligations characterizing a personal

relationship. One can, however, ask a perfect stranger for a favor. On the other hand, as we have suggested above, there may be an element of reciprocity in asking someone, even a stranger, for a favor.

6. A residual category of deviant types is not shown in Table 4. This category contained about 20 percent of the 7,423 appeals. Since deviant cases were found to be randomly distributed throughout the sample, and since their total proportion was relatively low, they were omitted from all further analysis.

7. High-status nurses preferred the technique of benevolent manipulation or indirect influence, to direct verbal or other behavioral methods, while the lowest-ranking group, nursing assistants, was highest on appeals alluding to their legitimate authority to give the patient an order.

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5.2

CHANGING NATIONAL FOREST VALUES

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The evolution of forest values is currently being widely discussed and debated in the forestry community. It is often claimed that a fundamental shift in forest values has taken place in recent decades. For example, historian Samuel Hays (1988:550) suggested, "New values have emerged about what the forest in America is and what role it ought to play in modem society." Shands (1991) stated that managing the national forests in ways that are responsive to changing public values is the core problem faced by the USDA Forest Service. Gordon (1993) argued that a shift in public values is part of the explanation for the declining influence of the multiple-use sustained-yield paradigm of forest management. It is increasingly recognized that the values people hold about forest ecosystems are an important part of the social underpinning of ecosystem management, the emerging forest management paradigm. Grumbine (1994:34) went further, arguing that "Ecosystem management is an early stage in a fundamental reframing of how humans value nature." Thus, ecosystem management can be viewed as a response to changing values or as a driving force that is creating value change. In either case, values play a critical role in identifying ecosystem management goals, setting the context for decision-making, and guiding our choices.

Forest values are defined here as relatively enduring conceptions of "the good" related to forests and forest ecosystems. Value in this sense is sometimes referred to as an ideal or a held value. A more systematic understanding of recent changes in forest values is needed to develop resource management approaches that are responsive to changing forest values and to anticipate the future evolution of forest values. Several recent studies have analyzed forest and related value systems at a particular point in time (e.g., Holler, 1990; Steel, Ust, & Shindler, 1994; Vining & Ebreo, 1991). But there has been little research on how forest values—or environmental values in general—have changed over time. This is

due in part to the limited number of approaches available to analyze the evolution of abstract constructs such as values. . . .

In this study, we used computer-coded content analysis to empirically analyze the evolution of forest values in the United States from 1982 through 1993. We developed a classification system that identifies four broad categories of forest values: economic/utilitarian, life-support, aesthetic, and moral/spiritual values (Bengston, 1994). A content analysis procedure was developed to identify expressions of these values related to public forests in databases of text representing the views of three groups: the general public, forestry professionals, and mainstream environmentalists. The value system of each group was quantitatively summarized, and changes in value systems—i.e. changes in the relative frequency of expression of forest values— were tracked over time. Our main working hypotheses in this study were that 1) forest value systems have shifted over the study period, and 2) significant differences exist between the forest value systems of the three groups. In a concluding section, we discuss the implications of this study for ecosystem management.

METHODOLOGY

The basic idea of content analysis is that the large numbers of words contained in a piece of text are classified into content categories of interest. This requires the development of a coding scheme—a system for classifying text designed to achieve the objectives of a particular study. The coding scheme is the heart of any content analysis. The first step in developing a coding scheme is to define the content categories, which in this study are the four types of forest value described above. Therefore, our objective was to produce a set of reliable and valid indicators of the expression of our four broad categories of forest value.

A second step in developing a coding scheme is to define the basic unit of text to be classified. Individual words and phrases, sentences, paragraphs, and whole texts may be used as the unit of text for analysis. Choice of an appropriate unit of text depends on the specific research questions of interest. For certain purposes, large units of text are quite appropriate. But Weber (1990) noted that it is often difficult to achieve high reliability when coding large units of text. In this study, we have chosen to use individual words and phrases as the basic unit of text to be classified. This approach is most appropriate given the interweaving of forest values. For example, the sentence, "The production of goods and services is essential, but it does not preclude maintaining the natural beauty of forests" expresses both economic/utilitarian value (as indicated by the phrase "goods and services") and aesthetic value (as indicated by the word "beauty"). By classifying individual words and phrases rather than larger units of text, our content analysis procedure can account for multiple expressions of forest values within a given unit of text.

The third step is to develop lists of words and phrases—"dictionaries" in the nomenclature of content analysis—associated with each of the content categories. These words and phrases serve as indicators of the concepts of interest. Forest values are abstract concepts not capable of being directly observed. The dictionaries enable us to indirectly observe and quantify expressions of forest values. Development of the forest value dictionaries involved an iterative process.[1] Initial dictionaries were developed for each value category by examining forestry related texts that clearly express a particular type of value. Texts that emphasize a particular value are common in forestry. Classic examples include the writings of Gifford Pinchot, which tend to emphasize the economic/utilitarian value of forests, in striking contrast to the writings of John Muir, which frequently and strongly express aesthetic value. Articles by forest economists, traditional foresters, and others focusing on the economic or utilitarian value of forests were examined to identify an initial list of words and phrases expressing economic/ utilitarian value. Similarly, the writings of forest ecologists and others focusing on ecological functions and values were examined

to identify words expressing life support value; the writings of landscape architects, aestheticians, environmental philosophers, and others were examined to identify indicators of aesthetic value; and the writings of environmental philosophers, environmental psychologists, Native Americans and others were examined to identify indicators of moral or spiritual value. Almost 80 documents were examined to develop the initial forest value dictionaries.

The initial value dictionaries were then sent to subject matter specialists for review and refinement. A landscape architect, who conducts research on the aesthetic value of forests, reviewed the initial aesthetic value dictionary, an environmental psychologist, involved in research on the spiritual value of forests, reviewed the moral/spiritual value dictionary, and so on. The subject matter specialists were asked to comment on the dictionaries and suggest additional words and phrases that express forest values within their area of expertise.

The next step—examining the use of the words and phrases in our databases of text—was crucial in refining the value dictionaries and ensuring their validity. Weber (1990:15) noted, "A content analysis variable is valid to the extent that it measures the construct the investigator intends it to measure." Using three databases of text on the national forests, we examined computer-generated key-word-in-context (KWIC) lists to determine which of the words and phrases contained in the draft value dictionaries were accurate indicators of the expression of the four values. Table 1 illustrates KWIC records for selected words from each of the value categories. Words and phrases found to be used ambiguously or incorrectly for this study were dropped from the dictionaries. For example, the word "spirit" was originally included in the moral/spiritual value dictionary, but we found it was used as an expression of the moral or spiritual value of forests only about 16 percent of the time. We also found phrases such as "a spirit of compromise" and "a cooperative spirit." which do not express the moral/spiritual value of forests. The word "spirit" was

therefore dropped from the moral/spiritual value dictionary. We could cite many other examples of words and phrases that were dropped because they were found to be inaccurate indicators of the expression of particular values.

The process of refining the dictionaries by applying them to a large sample of text, assessing the accuracy of coding in context, and revising the dictionaries as needed was repeated until a satisfactory level of validity was achieved. We defined a "satisfactory level" as correct usage 80 percent of the time or more. A final validity check of each of the four dictionaries on a representative, random sample of text from each of the three databases revealed that the dictionaries accurately captured expressions of value with a minimum of 80 percent accuracy, and most of the words and phrases contained in the dictionaries were valid value indicators 90 to 95 percent of the time.

In addition to concerns about validity in content analysis, the reliability or consistency of text classification is a concern when multiple human coders are used. Despite a well-conceived set of coding rules and careful training of human coders, people inevitably introduce variability in how they interpret and apply category definitions or other coding rules. In this study, we used computer coding to avoid problems with coder reliability—the computer always applies the coding rules consistently.

Table 2 shows the final forest value dictionaries. Words and phrases in the economic/utilitarian value category include participants or actors that fill various roles related to utilitarian values (e.g., logger, tree farmer), various objects of utilitarian value (e.g., goods and services, raw materials), ends or goals related to utilitarian value (e.g., economic development, economic growth), and various means to achieve these ends (e.g., exports, intensive management).

The life support value dictionary shown in Table 2B includes both the specialized language of ecologists and many words used by non-ecologists to describe various ecological functions and to express life support value. Included are actors that fill roles related to life

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Table 1   Key-Word-in-Context Records Illustrating the Expression of Each Value

Economic/Utility Value Expressions	*Aesthetic Value Expressions*
. . . at least some insulation of the plan from legal challenges in order to quickly get more **timber** moving through the pipeline in **economically** depressed communities.	Of all the leafless trees, I think the most beautiful against the winter sky is the little flowering dogwood with its **graceful** horizontal limbs that reach skyward at their tips and form a fine lace pattern
A third reason for concern about the decay of biodiversity is purely **economic.**	. . . **spectacular** areas of natural **beauty** — national parks, forests and historic sites. . . .
Intensive management must be increased to meet our projected population increases which will bring about a 75 percent increase in **timber** demand in the next three decades.	Finally, and most **gloriously**, trees: More than 130 flowering trees and fourteen native conifers, as many total species as are to be found in all of Europe
Life Support Value Expressions	*Moral/Spiritual Value Expressions*
It is a subsidy for which Americans pay dearly. An obvious cost is in the **degradation** of streams and the rich terrestrial ecosystems that border them.	At one time, the chestnut occupied a **cherished**, seemingly unshakable place in the landscape
Like any other timber cut, salvage sales punch roads into hitherto roadless areas, compact and erode soil, wound **watersheds,** and **fragment** forests.	It is fresh and new-looking, a dark slash through the forest, a **desecration**, as out of place among these old trees as. . . .
The values of southern forested wetlands to society relate to each of the three major wetland functions—**habitat**, hydrology, and biogeochemical cycling.	First and foremost, my forester must have a land ethic. They must feel the same bond to the land that they feel for one close to them.

NOTE: Abridged from the original.

support values (e.g., restoration ecologist, landscape ecologist), various ecosystem functions (e.g., carbon storage. soil stabilization, water purification), ends or goals related to life support value and indicators of the achievement of these goals (e.g., biodiversity, ecosystem health, keystone species), and various indicators of problems with environmental functions and loss or degradation of life support value (e.g., acid rain, erosion, degradation, fragmentation, unraveling). Creighton (1983:153) noted that one of the strategies for communicating values is prediction of dire consequences of a certain course of action: "The kind of consequence they fear will reflect their values. The man from the Chamber of Commerce will predict a loss of jobs, while the preservationist will predict a total disruption of the ecosystem." Our experience developing forest value dictionaries

confirms Creighton's observation: Words expressing negative, undesirable consequences were outstanding value indicators.

Table 2C, our aesthetic value dictionary, includes words such as "ugly," which expresses aesthetic value by calling attention to a loss or lack of aesthetic value, as in the phrase "clear-cuts are ugly scars on the land." This word list should pick up both personal reflections on the aesthetic value of forests as well as expressions of aesthetic value found in the research literature on forest aesthetics. Our aesthetic value dictionary is based on fairly traditional notions of forest aesthetics, but it does reflect the wide range of senses, intellectual powers, and emotions involved in the perception and appreciation of aesthetic beauty, not just visual perception (e.g., words like emotive, fragrant, musical, orchestral, poetic, savor).

Table 2   Value Dictionaries

A: Economic/Utilitarian Value Dictionary

benefits of timber	harvest level	market price	timber plantation
bid price	harvest timber	market value	timber-producing
commercial	harvest tree	market system	timber production
commodity,	harvesting timber	non-market, nonmarket	timber sale
commodities	harvesting trees	monetary	timber shortage
crops of tree, tree crop	harvesting of timber	monetizing	shortage
dollars in timber	harvesting of trees	monetization	of timber
earning, earnings	timber harvest	plantation	timber supply
economic, economical	tree harvest	processed timber	timber supplies
economically	housing market	profits, profitable	supply of timber
economic analysis	industrial forest	rangeland	timber value
economic development	industrial forestry	raw log, raw materials	timberland
economic effect	industrial land	scarcity	tree farmer
economic growth	industrial interests	stumpage	tree farming
economic impact	intensive culture	supply and demand	tree plantation
economic sense	intensive forest	supply-demand	utilization
economy, economies	management	timber harvest	utilize, utilized
exports, exporter	intensive forestry	timber-dependent	underutilized
exporting	intensive management	timber export	wage
exploited	intensively managed	timber industry	willing to pay
firewood	log price	timber job	willing-to-pay
forest product	log export	timber loss	willingness to pay
goods and services	lumber price	timber management	willingness-to-pay
grazing fee	limber product	timber operation	workforce

B: Life-Support Value Dictionary

absorb air pollutants	biotic diversity	soil-binding	degrading
absorption of pollutants	ecosystem diversity	buffer strip, buffer zone	detritus
air purifier	genetic diversity	carbon cycle	downstream habitat
air purity	landscape diversity	carbon dioxide	ecological
air purifying	species diversity	carbon fixation	ecological benefits
air and water	structural diversity	carbon sequestration	ecological communities
air quality	biological diversity	carbon sink	ecological community
assimilative capacity	biological health	carbon storage	ecological diversity
waste assimilation	biological integrity	CO_2 fixation	ecological functions
aquatic life	biological legacy	CO_2 sequestration	ecological health
aquatic zone	biological legacies	CO_2 sink	ecological integrity
breakdown of pollutants	biological processes	CO_2 storage	ecological processes
acid drainage	biological systems	climate amelioration	ecological restoration
acid precipitation	biological wealth	climate ameliorate	ecological services
acid rain	biosphere, biospheric	climate ameliorating	ecological values
biodiversity	biota, biotic	climate buffer	ecologically valuable
bio-diversity	binding of soil	degrade, degradation	ecologically complex

Table 2 (Continued)

B: Life-Support Value Dictionary (Continued)

ecosystem diversity	erosion	landscape ecologist	self-sustaining
ecosystem complexity	eutrophication	life-support	siltation
ecosystem functions	exotic species	life-supporting	species abundance
ecosystem functioning	extinct species	life supporting	species loss
ecosystem health	extinction	life-sustaining	species-poor
healthy ecosystem	endemic species	life sustaining	species-richness
ecosystem integrity	endangered species	life-cycle	soil conservation
ecosystem maintenance	filtration	life cycle	soil erosion
ecosystem processes	flood control	material cycling	soil formation
ecosystem resilience	controlling flooding	mycorrhizae	soil movement
ecosystem restoration	flood mitigating	mycorrhizal	soil nutrients
ecosystem services	flood mitigation	nature's services	soil structure
ecosystem structure	storm abatement	nitrogen cycle	generation of soil
ecosystem sustainability	food chain	nitrogen cycling	topsoil loss
ecosystem values	food level	fixation of nitrogen	unstable soil
energy value	food web	nitrogen-fixing	solar energy
energy capture	forest health	nitrogen-fixation	solar equivalents
energy cycling	fragment	nutrient cycle	solar radiation
energy exchange	fragmentation	nutrient-cycling	streamside buffers
energy flow	fragmented	nutrient export	stream sedimentation
flow of energy	fragmenting global change	nutrient uptake	threatened species
energy flux	global climate	old growth corridor	trophic activity
energy transfer	global warming	ozone depletion	trophic flow
environmental cost	greenhouse effect	ozone hole	trophic functioning
environmental concern	greenhouse gases	ozone layer	trophic interactions
environmental degradation	groundwater	stratospheric ozone	trophic level
environmental function	ground water	pollution	trophic organization
environmental health	ground-water	oxygen production	trophic specialization
environmental impact	groundwater contamination	production of oxygen	trophic structure
environmental processes	habitat	photosynthesis	trophic transfer
environmental quality	habitat protection	radiation balance	trophic web
environmental restoration	habitat loss	radiation flux	unraveling
environmental services	habitat fragmentation	restoration ecologist	water cycle
environmental toxin	wildlife habitat	restoration ecology	water-purification
environmental value	fish habitat	restored ecosystem	water-purifier
environmentally beneficial	homeostasis	riparian	water-quality
environmentally sensitive	homeostatic	riparian area	water purification
environmentally sustainable	hydrologic cycle	riparian boundary	water purifier
erode, eroded	hydrological cycle	riparian communities	water quality
erodible, eroding,	indicator species	riparian system	watershed
	integrity of ecosystem	riparian zone	watershed stabilization
	jeopardized species	revegetate	watershed stabilizer
	keystone species	self-maintenance	wetland restoration
	landscape ecology	self maintenance	valuable wetland
		self-replicating	wildlife habitat
		self-sustaining	wildlife population
			wildlife support

C: Aesthetic Value Dictionary

adorn, adorned
aesthetic
aesthetically
affective
artistic
artist, artist's
awe, awesome
awe-inspiring
beauteous
beautiful
beautifully
beauty
natural beauty
breathtaking
breathtakingly
captivate, captivating
charming
dazzling
delight
delights
delightful
delighted
ecstasy, ecstatic
elegant, elegance
emotive
enthrall, enthralling
evoke
evocative

evocatively
evocation exhilarate
exhilarated
exhilarating
exhilaration expansive
exquisite
exquisiteness
fragrance
fragrant
glory, glories
glorify, glorious
graceful
grandeur
harmony
harmonious
heart-stopping
hue
landscape architecture
landscape architect
lavish
lovely
lush
luxuriant
magnificence
magnificent
majestic, majesty
marvelous
musical

natural setting
noble
orchestral
ornate
ornament
ornamented panorama
panoramic
poetry, poems
pristine
rapture, rapturous
resplendent
restorative
rustic
savor, savored
savory
scenery
scenic, scenically
scenic beauty
scenic value
sensibility
sensibilities
sensory
sensual, sensually
sensualness
sensuous
sensuously
sensuousness stately
stateliness

spectacular
splendor
splendorous
splendorous
stunning
stunningly
stupendous
sublime
sublimely
sublimeness
sublimity
sumptuous
sumptuousness
superb
symphony
symphonic
towering
ugly
unspoiled
untrammeled
vast expanse
vast wilderness
visceral
vista, vistas
visual
visual quality
visual resources
woodland realm

D: Moral/Spiritual Value Dictionary

ancient forest
ancient tree
anthropocentric
nonanthropocentric
bio-centric
cathedral
cathedrals
cherish
cherished
cherishing
consecrate
consecrated
consecration
desecrate
desecration
dignity
divine, divinity
duties and obligations
ecocentric

eden, edenic
environmental ethics
exalted
exaltation
exaltedness
exaltedly
future generations
good steward
heritage
holier, holy, holiness
immortal, immortality
inherent value
intrinsic value
inspiration
inspirational
inspire
inspired
inspiring
irreplaceable
land ethic

legacy
meditate
meditation
meditative
morals
morality
mythic
mythical
mythological
mythology
national treasure
natural treasure
normative
paradise
posterity
profaned, profaning
religion, religious
revered
reverence

reverential
reverently
rights and duties
sacred
sacredness
sanctity
sanctuary
sanctuaries
sanctum
shrine, enshrine
spiritual
stewardship
tabernacle
transcendence
transcendent
transcendental
transcending
venerate
venerable

NOTE: Abridged from the original.

The final moral/spiritual value dictionary is shown in Table 2D. This dictionary contains words and phrases found to be good indicators of the expression of the moral and spiritual value of forests, such as the following: biocentric, cherish, future generations, heritage, irreplaceable, land ethic, revered, sacred, and venerate. Although moral value and spiritual value are usually expressed in distinctive language, we combined them into a single category because they are closely related values and they are expressed relatively infrequently in the text we analyzed. This dictionary also includes words such as "desecrate" and "profaned," which indicate a loss or abuse of spiritual value.

It should be noted that the four value dictionaries do not each contain the same number of words and phrases. The life support value dictionary is the largest due to the inclusion of technical terms describing ecological functions and services, and the moral/spiritual value dictionary is the smallest. In developing these dictionaries, we found that their relative size has little impact on their ability to capture the bulk of the expressions of forest value contained in text because many of the words and phrases, while accurate indicators of the expression of values, are used infrequently. The results of our analysis would not change significantly if we limited each dictionary to the ten most frequently used words and phrases expressing a particular value. Therefore, we have focused on the quality of the words and phrases contained in each of our value dictionaries rather than on the quantity.

In the course of developing our four value dictionaries, we quickly discovered that the words and phrases in the economic dictionary were good indicators of the expression of economic/utilitarian value for forestry professionals and the public or news media, but they were poor indicators when applied to environmentalists. We found that in the environmental literature, economic/utilitarian words and phrases were usually cast in a negative or skeptical light; environmentalists frequently use economic words and phrases while expressing concern about the harmful environmental impacts of economic activities, rather than in positive expressions of economic/utilitarian value. For example, we found many phrases such as "destructive logging practices,"

in which the word "destructive" appearing in close proximity to the word "logging" clearly indicates the perceived negative consequences of an economic activity. To handle simple cases such as this example, it would be possible to develop a set of transition rules as part of a content analysis procedure, which describe how two ideas in the text, represented by individual words or word groups, are combined to give a third idea. For example, the use of words such as "abuse," "devastating," "indiscriminate," "misuse," and "ravaged" in close proximity to certain economic words would be counted as expressions of negative economic value.

We developed a set of transition rules to capture negative expressions of economic/utilitarian value, but found that negative expressions of this value were much more subtle in most instances and could not be captured by a simple set of rules. The complexity and nuances of the language exceeded the ability of our transition rules to capture more than a small portion of the negative or skeptical expressions of economic/utilitarian value. For example, the phrase ". . . harvest levels are higher than what is sustainable on a long-term basis" (Watson, 1990:25) expresses concern about an economic activity rather than positively expressing economic value. But no word of phrase within this phrase indicating this attitude of concern can be generalized to a large body of text.

To account for the negative expressions of economic/utilitarian value in the environmental literature, we conducted a human-coded content analysis on a representative random sample of our database. This involved examining the text in which economic/utilitarian words and phrases were used and coding it into two categories: positive and negative expressions. . . . We found that the use of words and phrases from our economic/utilitarian dictionary was associated with positive value only 25 percent of the time in the environmental literature, and the remainder of the uses was clearly negative or skeptical. This percentage was found to be stable over the time period covered by our data and was used as a correction factor to adjust the computer-coded counts of expressions of economic/utilitarian value in the environmental literature.

We also found many qualified expressions of economic/utilitarian value in the environmental literature, i.e., expressions of economic value that were positive but which clearly ranked economic value below other values, such as the following example: "While the forests can and should help serve the immediate commodity needs of American citizens, this should not be allowed to compromise those priceless assets which are becoming increasingly unique to the national forests—and are no less real than our economic demands for lumber and paper, oil and iron" (The Wilderness Society 1983:33,38). Qualified but positive expressions of economic value such as this were coded as positive expressions.

Once the value dictionaries and coding rules were finalized, expressions of forest values were measured by applying them to databases of text, i.e., using the InfTrend software;[2] we searched our databases for the words and phrases contained in the four dictionaries. Each use of one of the words or phrases that was found counted as one expression of the particular value. For example, the sentence "Of all the leafless trees, I think the most *beautiful* against the winter sky is the little flowering dogwood with its *graceful* horizontal limbs that reach skyward at their tips and form a fine lace pattern" (Borland, 1984:5) would be counted as two expressions of aesthetic value because of the use of the words "beautiful" and "graceful," which are included in our aesthetic value dictionary. The sentence "At one time, the chestnut occupied a *cherished* seemingly unshakable place in the landscape" (Toner, 1985:27) would be counted as one expression of moral/spiritual value due to the presence of the word "cherished." which is included in our moral/spiritual dictionary. The value expressions were then aggregated by each type of value, database, and year to develop time trends.

DATA

We developed databases of text on the national forests for three populations of interest: 1) the general public, 2) forestry professionals and 3) environmentalists. The content of newspaper articles was used as a proxy for the expression of public forest values. Kellert, in his landmark study of wildlife values and attitudes, argued that newspaper articles ". . . can be relatively good indicators of generally held views and interests" (Kellert, 1985:20). Others have argued that, rather than reflecting the attitudes and values of their readers, the news media shape the opinions and attitudes of the public (Fan, 1988). We argue that there is some truth to each of these positions—the news media both reflect and shape public values to some degree—and therefore the news media may serve as a rough proxy for the values of the public. It is important to recognize that the use of news media text to identify expressions of national forest values for the public is a proxy and not a direct measure. Therefore, the value trends for this group should be interpreted more cautiously than trends for the other two groups.[3]

News media stories were obtained from the NEXIS electronic database, which contains the full texts of a large number of major and minor newspapers from all regions of the United States and a large number of national regional and state news services. Stories included in our database were located using the search command "national forest." For the period 1982 to 1993, NEXIS was found to contain more than 15,000 stories that included the phrase "national forest." and out of this total population, we randomly retrieved 2,000 stories for inclusion in our database.

To minimize the inclusion of irrelevant text, the retrievals did not include the full text of stories. Only text within 100 words of the phrase "national forest"—50 words on either side—was downloaded. This greatly reduces the amount of irrelevant text that would have been retrieved from stories that mention the national forests only in passing and helps ensure that the measured expressions of value are linked to national forests as opposed to other types of owners or land. Experience with many electronic text retrievals from news media sources on a wide range of topics has shown that text outside of a 50- to 100-word window around the search words is often not relevant to the topic of interest.[4] The public/news media database consists of 5.5 megabytes of text.

The values of forestry professionals were represented in a second database consisting of two components: 1) the complete text of keynote and general session papers presented at the Society of American Foresters National Conventions from 1982 through 1993, and 2) the complete text of articles in the *Journal of Forestry* that dealt specifically with national forests over the same period. This database was constructed by using an optical scanner to enter the text of the papers and articles. The database representing the views of forestry professionals consists of 415 articles and 6.7 megabytes of text.

Similarly, a database to represent the values of mainstream environmentalists was constructed by scanning in the complete text of articles dealing with the national forests from magazines published by three major forest-related environmental groups: the National Wildlife Federation's magazine *National Wildlife,* the Sierra Club's *Sierra,* and the Wilderness Society's *Wilderness.* The National Wildlife Federation was the largest U.S. forest-related environmental organization in 1993 with 6,200,000 members (Hendee & Pitstick, 1994). The Sierra Club and the Wilderness Society were also among the largest forest-related environmental groups in 1993, with 650,000 and 310,000 members, respectively. Taken together, text from the magazines published by these three groups should contain a good cross-section of expressions of the values held by mainstream environmentalists about the national forests. This database contains the full text of 238 articles and 3.1 megabytes of text.

RESULTS

A generalized logit model was used to test hypotheses concerning differences in forest value systems between the three groups and to test for a shift in forest value systems over time. . . . To mention just one example of the latter, the trends in relative frequency of life support value are almost a mirror image of the economic/utilitarian trends. The trends for environmentalists and forestry professionals are upward and fairly dramatic. The public/news media group seems to be lagging behind the other groups, with no discernible trend until the upturn in the expression of life support value in the early 1990's. . . .

To facilitate comparison between groups in recent years, Figure 1 summarizes the forest value system of each of the three groups for the last four years of our data (1990–93). This figure shows the average relative frequency of expression of each value, to portray only the current value system of each group. Economic/utilitarian value clearly still dominates the forest value systems of forestry professionals and the public/news media, accounting for more than half of the value expressions in recent years. Environmentalists place much less emphasis on the economic/utilitarian value of the national forests. Expressions of life support value clearly dominate the value system of environmentalists, and life support value is a strong second for the other groups. Life support value accounts for about 40 percent of total value expressions in recent years for forestry professionals and about 30 percent for the public/news media.

The aesthetic value of the national forests is expressed least often relative to the other values among forestry professionals and significantly more often in the news media and environmental literature in recent years. Finally, Figure 1 reveals that moral/spiritual value plays a significantly larger role in the current value system of environmentalists than for the other groups, and it plays the smallest role in the value system of forestry professionals.

DISCUSSION

The trends revealed in this study suggest that a gradual shift has been occurring in the structure of national forest values in the United States since the early 1980's, at least among forestry professionals and mainstream environmentalists. Given our definition of forest values as relatively enduring conceptions of what is good or desirable about forests and forest ecosystems, we would expect gradual change. If this analysis had found dramatic shifts in forest values over this short span of time, it would

be reasonable to conclude that we were measuring something other than values, such as attitudes or opinions, which tend to be more variable. Value systems are relatively stable and change slowly. But, as our results suggest, even gradual shifts in the relative importance of values may eventually result in a significant reordering of priorities among values. . . .

The decline in the relative frequency of expression of economic/utilitarian value and concomitant increase in life support value among forestry professionals and environmentalists are the most striking aspects of the shift in national forest values revealed by our analysis. The shift away from economic/ utilitarian value is especially noteworthy for forestry professionals, because the philosophical base of traditional forestry is utilitarianism and the forestry profession has been heavily influenced by economic concepts of value (Kennedy, 1985; McQuillan, 1993). Thus, the decline in economic/utilitarian value suggests a fundamental change in the culture of forestry professionals. . . .

Finally, our finding that the life support value of the national forests plays a prominent and growing role in the value systems of forestry professionals, environmentalists and, in recent years, the public/news media suggests that this concept of what is good about forests is now widely recognized and appreciated. The importance of life support value that we found tends to confirm environmental historian Donald Worster's observation about the influence of ecology on our culture: "So influential has their branch of science become that our time might well be called the 'Age of Ecology'" (Worster, 1994:xiii). The increase in the expression of life support value that we observed suggests that ecosystem management—often characterized as being based on ecological principles and placing greater emphasis on ecological values than traditional forest management—may indeed be an idea whose time has come.

NOTES

1. The iterative process we used is similar to what David Fan . . . [calls] successive filtrations. [He] explained the method as follows: "From biochemistry, I learned that the study of complicated materials frequently benefits from a series of
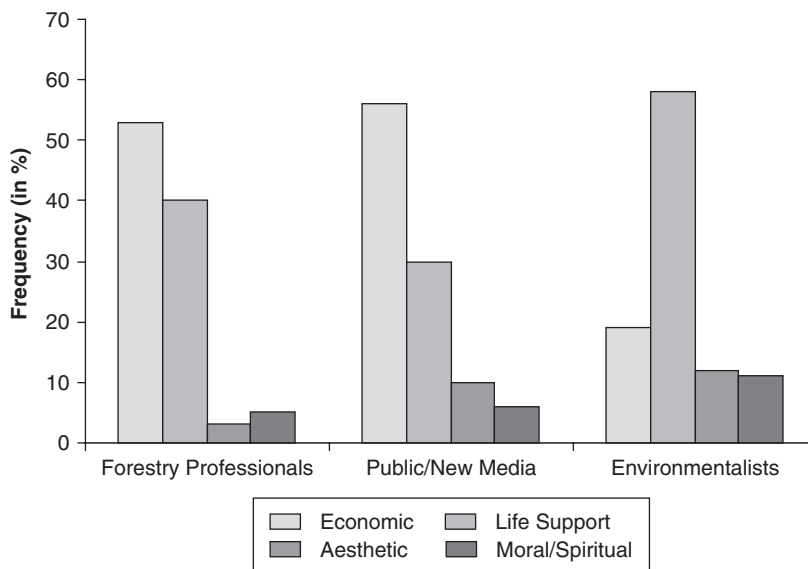

Figure 1   Forest Value Systems by Group, 1900–1993

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purification steps, each one removing extraneous components to yield progressively more homogeneous preparations enriched in relevant materials. This logic led to the strategy of successive 'filtrations' during the text analyses" (Fan, 1988:xvii) [Editors' note: See also reading 7.6, this volume].

2. The computer software to generate the KWIC lists and carry out the actual content analysis was InfoTrend, developed by Prof. David Fan, Department of Genetics and Cell Biology, University of Minnesota.

3. Strictly speaking, the databases of text for forestry professionals and environmentalists are also indirect reflections of the values of these groups, because the included texts are the outcome of editorial decisions by people in leadership positions rather than a random sample of the populations of interest.

4. Personal communication, David Fan, University of Minnesota, February 15, 1994.

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5.3

THE WORLD ATTENTION SURVEY

HAROLD D. LASSWELL[*]

We gain insight into the lives of others when we know what they read, see and hear. This is one of the chief purposes to be served by any systematic survey of public attention. One general, though far from universal, human attribute is the tendency to over-estimate the amount of attention given to the self by other persons. Everything concerning the precious ego is so intimate and immediate that it is difficult to accept a realistic picture of what other people are thinking and feeling about us. We know this is true in our person-to-person relationships. It is equally true when we think of ourselves as Americans in contrast to Germans, British, or Russians.

. . . [A] World Attention Survey [can] . . . correct any tendency to over-estimate the amount of attention given [to a symbol]. . . . [Moreover, it] is useful in correcting any false ideas about the [attention paid, for example, to the United States by charting whether it] is favorably or unfavorably presented to foreign peoples. The *Excelsior,* an important paper in Mexico City, was publishing news relatively unfavorable to the United States in the autumn of 1939. Since that time, the presentation of this country has been more favorable, or more balanced.

PUBLIC ATTENTION

The stream of public attention is related to policy. This is particularly true in totalitarian countries, where the press and other agencies of mass communication are under strict discipline. [Figure 1] shows something about totalitarian press strategy. The summer of 1939 was a period of active negotiation between Germany and the Soviet Union. The amount of attention paid to Germany in the influential Russian newspaper *Pravda* remained steady during the summer. Not so the references to Russia in the *Völkischer Beobachter.* Here we see less and less attention paid to the Soviet Union, previously a target of bitter hostility. This indicated that Germany was clearing the path for a sudden change in diplomatic orientation, as was learned when the pact was announced.
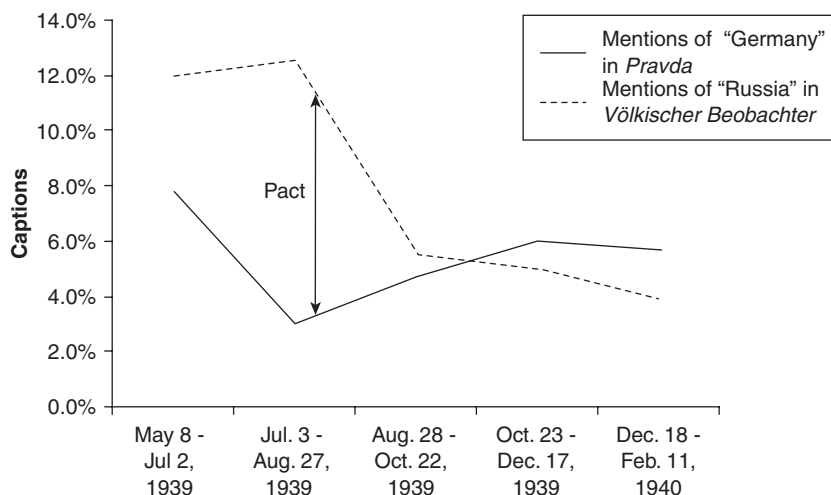
Figure 1   Comparing Coverage in *Pravda* and *Völkischer Beobachter*

BRIDGING OPINION AND ACTION

The survey of world attention is able to supply us with data about many of the missing links in the process of political and social development. For a great many years scientific students of politics have been concerned about the connection between "material" and "ideological" factors. The propagandists of Marxism have contended for the primacy of the material over the ideological. Many anti-Marxists have indignantly rejected the primacy of the material and asserted the power of ideas in shaping society. It has been difficult to discuss these questions objectively for lack of data about ideological changes through time. Part of the deficiency is to be attributed to inadequate technique; but this limitation is in process of being superseded. The symbols that come to the focus of attention can be objectively described, and their changes can be presented in convenient graphical form.

The attention survey is needed to supplement our knowledge of opinion and of material shifts in the environment. Between "opinion" and "material" change lie important intermediate events; namely, the focusing of public attention. People cannot respond to an environment that is not brought to their notice. Hence, we must describe the fluctuating focus of collective attention if we are to trace the connection between environment and response.*

SCOPE AND TECHNIQUE

It is impossible to rely upon any single channel of communication if we are concerned with the total focus of attention. The charts in this article depict certain changes in the press. A total survey would supplement them with data about other publications and about the contents of radio, newsreel and other agencies of mass communication. It should not be forgotten that the mass agencies themselves account for but a fraction of the daily span of attention. After all, most of the hours of the day are given over to other activities than reading newspapers, listening to broadcasts or looking at motion pictures.

TECHNIQUE OF ANALYSIS

. . . The general purpose of the technique is to describe the field of attention, to show the relative prominence of selected symbols, like the names of leaders, nations, policies, institutions.

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*See Lasswell (1935) for a statement of the scientific importance of the focus of attention.

One index of prominence is appearance in a news caption; the charts show the percentage of total captions (words) containing significant symbols. Where captions are missing, or de-emphasized (as on the editorial page), the number of inches (or words) is taken.

In the interest of objectivity papers are described according to a code that is applied by workers who have learned how to use it. Coders are given regular tests to verify the comparability of their results. When the problem is to count the frequency of occurrence of explicit unit symbols—like "Germany"—the reliability is, of course, very high (99% agreement).

VALUE OF SYMBOLS

Since we are not only interested in the frequency of occurrence of specific symbols, but in the plus or minus character of the presentation, additional rules are laid down for coders. A *plus* presentation of a symbol puts it in a favorable light (an "indulgence"); a *minus* presentation puts it in an unfavorable setting (a "deprivation"). A symbol is presented favorably when shown as strong, or in conformity with a normative standard (or morality, legality, or divinity, for example). Properly applied, the reliability of plus and minus coding is high.

It may be of general interest to publish some of the distinctions that have proved of value in content analysis. The following kinds of "indulgence" and "deprivation" may be distinguished:

1. *Indulgence*

2. *Positive Indulgence Realized*

The gain is realized when the environment has already treated the object of reference indulgently: "British Win Battle."

3. *Negative Indulgence Realized*

Sometimes the gain is in the form of avoided loss: "British Evacuate Dunkirk Successfully."

4. *Positive Indulgence Promised*

Gains may be promised for the future, or presented as bound to occur in the future: "British Victory Sure."

5. *Negative Indulgence Promised*

Avoided losses may be promised for the future, or shown as certain: "British Squadron Will Escape Destruction."

6. *Deprivation*

7. *Positive Deprivation Realized*

Losses may already be sustained by an object of reference: "London Bombed Severely."

8. *Negative Deprivation Realized*

Gains may have been blocked in the past: "British Plans Thwarted."

9. *Positive Deprivation Threatened*

The losses may be referred to the future: "Britain Will Lose."

10. *Negative Deprivation Threatened*

Also blocked gains may be deferred to the future: "British Advance Will Be Blocked."

A representative—certainly not an exhaustive—list of standards is the following:

1. *Expediency: (strength)* describes the position of the object or reference in regard to such values as safety, power, goods, respect (power and respect are sub-categories of deference.).

   1a. *Safety:* Refers to physical integrity of persons, groups or things. "British Lives Lost;" "British Pilots Rescued;" "King Escapes Bombs;" "Air Minister Dies in Plane Collision."

   1ab. *Efficiency (Safety):* Efficiency refers to level of performance of a function: "Health of Evacuated Children Improves" (biological efficiency); "Resistance to Diphtheria in Deep Bomb Shelters Decreases."

   1b. *Power:* In the most general sense, power is control over important decisions. It is measured according to the means of decision-making—fighting, diplomacy, voting, for example. "Germans Break Through at Sedan," "German Peace Offer Rebuffed," "Labour Gains in By-Election," "Court Revokes License of Communist Periodical."

1bb. *Efficiency (Power):* "Superiority of New Anti-Aircraft Devices," "Clever Axis Gain," "Prime Minister Splits Opponents and Wins Vote of Confidence."

1c. *Goods:* This term refers to volume and distribution of goods and services: "Food Reserves Doubled," "South American Market Preserved."

1cb. *Efficiency (Goods):* "War Plants 80 Per-Cent Efficient," "Highly Skilled German Opticians."

1d. *Respect:* "British Prestige Suffers," "British Respect German Airmen," "Carol Booed as He Leaves Roumania; Speaks Contemptuously of Italian Army."

1db. *Efficiency (Respect):* "Ribbentrop Received With Great Pomp," "Exquisite Courtesy of Chinese Diplomats Extolled."

2. *Morality*

2a. *Truth/Falsehood:* "German Lies are Bolder," utilizes a moral standard, the obligation to refrain from the deliberate dissemination of falsehood. "BBC Sticks to the Truth."

2b. *Mercy/Atrocity:* "German Atrocities Multiply"—the term "atrocity" makes use of a moral standard to justify acts, the obligation to refrain from inflicting unnecessary cruelty in the conduct of war. "Germans Rescue British Sailors."

2c. *Heroism/Cowardice:* The obligation to act courageously; "Risks Life to Rescue Comrade," "Soldier Deserts Wounded Comrade."

2d. *Loyalty-Disloyalty:* The obligation to serve a common purpose; "All Sections of Population Patriotic," "Fifth Column Active in Norway."

3. *Propriety:* The obligation to learn a conventional code; "Germans Are a Crude and Barbarous People," "His Manners Are Perfect." If a code is deliberately violated, we have an example of disrespect (1).

4. *Divinity:* The standard is an obligation to abide by the Will of God; "God Is on Our Side," "God Will Punish Our Enemies."

5. *Legality:* The standard is the obligation to abide by law; "Japanese Government Violates International Law," "Court Upholds International Law."

6. *Beauty:* The standard is aesthetic; "Beautiful Equipment Designed by United States of America," "Hideous German Art on Display."

7. *Consistency:* The standards are logical relationships among proposition; "Hitler Contradicts Self," "Churchill States Logical Case."

8. *Probability:* Probability of a statement with no imputation of deliberate falsification; "Einstein's Theory Is Confirmed."

9. *Euphoria/Dysphoria:* The standard is agreeable or disagreeable subjective states; "Terror Grips Brussels," (terror is dysphoric); "Festive Spirit in Rome," (festive spirit is euphoric). "Hate" is dysphoric unless explicity qualified; "Glorious Hate Sung by Poet."

10. *Omnibus:* Statements fusing many standards, "The Unspeakable Hun."

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5.4

CONSTRUCTING CONTENT ANALYSIS SCALES IN COUNSELING RESEARCH

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Counselors who conduct research need to have available to them a variety of assessment devices, the scores for which are reliable and valid. Qualitative tools can be helpful to these researchers when meanings of verbal communications are important (Elliott, 1999). Quantitative tools are equally important, however, and content analysis scales to assess psychological states can provide meanings together with rigorous, scaled measurement. Winter (1992) has recommended content analysis scales to counseling researchers. Gottschalk, who in the 1960s in the United States developed the first content analysis scales to assess counseling processes in verbal communications, still uses them for this purpose (Gottschalk, 1996).

In this article, we define content analysis and content analysis scales, as well as provide the nine steps necessary to develop such scales. The types of verbal communications to which the scales can be applied are also considered, with a discussion of the limitations of the scales. We . . . review the psychometrics of their scores. Their roles in counseling research are considered, that is, in assessing clients and counselors, in outcome and prediction, as well as process research. . . .

Recent research . . . used content analysis to (among other purposes) identify the words chosen by music therapists as they worked with clients (Wolfe, O'Connell, & Epps, 1998) and to better understand the processes in counseling sessions (Richards & Lonborg, 1996). Content analysis has also been used to describe the emotional reactions of clients to traumatic experiences (Murray & Segal, 1994) and to determine whether psychoanalytic concepts are used by the Malan counselors (de Wolf, 1993).

WHAT IS A CONTENT ANALYSIS SCALE?

How does a content analysis scale applied to verbal communications differ from content analysis of those communications? The scale meets the same criteria. However, this tool also provides a continuously scaled quantitative summary of a series of qualitative content analyses. The scale results in normally distributed scores amenable to complex statistical analyses, such as analysis of variance and regression. This tool, the content analysis scale, is best understood through a description of its construction. There are nine steps involved in this process before reliability and validity can be established. We provide a description of the development of a content analysis scale, including these steps. We have chosen the Origin and Pawn Scales (Westbrook & Viney, 1980) for this purpose.

1. *Describe the psychological state to be assessed and define all its dimensions.* The Origin and Pawn Scales grew out of the conceptual work of De Charms (1968). De Charms chose the term *origin* to describe the state in which people see their actions as primarily determined by themselves and the term *pawn* for the state in which people believe themselves to have no choice of action. His concepts are similar to that of Rotter's (1966) *locus of control.* The Origin and Pawn Scales were devised to avoid the unidimensionality of questionnaires that measure these states.

2. *Define the unit of content to be analyzed.* The next step was to select the clause as the unit of measurement for a verbal communication. We followed Gottschalk, Winget, and Gleser (1969) in this decision, because the clause, as parsed as a group of words with a finite verb (Gore et al., 1981), focuses on action in meaning.

3. *Describe the content of the verbal communications or the cues from which the psychological state is to be inferred.* De Charms's (1968) accounts of differences in the perception of action, together with readings of a range of samples of verbalizations, led us to select five types of verbal content from which origin- and pawn-like experiences were to be inferred.

4. *Add, if appropriate, any cues used to demonstrate the intensity of the psychological state.*

5. *Apply the differential scoring weights to these cues.* These two steps are not taken if the intensity of the state is not considered to vary, as for the Origin and Pawn Scales. The Cognitive Anxiety Scale is the only scale included in our discussion for which Steps 4 and 5 are followed.

6. *Because participants will give communications of different lengths, include a scaling or correction factor, taking into account the number of words in the verbal communication.* When time sampling is used, this step is important because of the differing opportunities participants have to express the content they intend and the differing number of words they might choose in each case. We used, with all of these scales, the Gottschalk-Gleser Correction Factor (*CF;* Gottschalk et al., 1969), that is, the number of words in the scored communication, divided into 100, $CF = 100/N$.

7. *Derive* a *total score or, in the case of multidimensional concepts,* a *set of subscores.* This step followed Gottschalk and Gleser (Gottschalk et al., 1969) again in calculating the Total Scores: Total Raw Score (*f*) $\times$ *CF* plus *CF*/2. Adding *CF*/2 is useful with communications that have little of the sought content to score because by spreading the scores, it discriminates between them. This procedure does not appear to distort, in the final score, the amount of the content assessed (again see Gottschalk et al., 1969).

8. *Examine the distributions of scores for each scale and transform, when necessary, for greater normality.* The penultimate step that examined the distributions of these scores led to a square root being used for normality.

The calculation of the final, Total Score

$$= \sqrt{(f \times CF) + CF/2}$$

9. *Collect normative data from specified samples.* Normative data for the Origin and Pawn Scales were available from 524 participants: street youth (97), psychology students (47), successful students (33), external students (48), relocated women (25), child-bearing women (200), relatives of emergency patients (30), people with quadriplegia (15), and people with psychiatric disorders (29).

TYPES OF COMMUNICATIONS TO WHICH THE CONTENT ANALYSIS SCALES CAN BE APPLIED

Data collection and data analysis are two separate phases of the process of measurement. Content analysis scales provide a form of data analysis. These scales can be applied to verbal communications that have been spoken or written, spontaneous or planned, public or private. They can also be applied to counseling transcripts (Viney, 1994) or to suicide notes (Gottschalk & Gleser, 1961). Units of communication can be sampled in two ways: by the number of words (e.g., 500-word samples of communications from clients, counselors, or both in counseling transcripts) or by duration (e.g., 5-minute samples of verbal communications). The instructions to participants for providing communication samples, which can be useful for outcome research, can vary from the highly structured to much less structured, depending on the purpose of the research. The instructions need to be sufficiently open-ended so that participants have a wide range of meanings they can choose to use. An example of such instructions is:

> I'd like you to talk to me for a few minutes about your life at the moment—the good things and the bad—what it is like for you. Once you have started, I shall be here listening to you, but I would rather not reply to any questions you may have until the 5-minute period is over. Do you have any questions you would like to ask now, before we start? (Viney, Rudd, Grenyer, & Tych, 1995:7)

Responses to such instructions are usually transcribed from tape recordings for analysis, but participants can also reply by e-mail.

LIMITATIONS OF THE CONTENT ANALYSIS SCALES

All content analysis scales are limited in at least six ways. First, they are based purely on verbal cues and ignore extra-verbal cues, such as "ums" and sighs; they deal exclusively with conscious, verbalized experiences. Second, they can be developed only if the psychological state to be measured is clearly conceptualized so that criteria and scoring examples can be devised. Third, they should not be applied to verbal communications from people who cannot adequately express themselves in the language being used. Translations of the five content analysis scales we are discussing have been made. The usual criterion of back translation, for example into Mandarin Chinese in the Peoples' Republic of China, has been applied successfully (Wang & Viney, 1996, 1997), but there are still likely to be problems of communication. Fourth, the scale scores from the Chinese translations show none of the normative differences we have observed for some other content analysis scales in English-speaking countries, such as the United States, Britain, and Australia; they cannot be assumed to tap into concepts and experiences represented in the languages of other cultures. Fifth, in their application, the content analysis scales can be time-consuming. Sixth, they can require extra resources for the training of judges.

THE PSYCHOMETRICS OF THE CONTENT ANALYSIS SCALES

Reliability

Reliabilities are most important, especially *inter-judge* reliability, examining the agreement between, in these cases, two independent users of the scales. . . .

Evidence for the internal consistency of these scale scores is also only useful for certain scales. Scales that are independent can then be used together in the same multivariate analyses of variance. However, with these scales, it is also helpful to know that pairs of these scale scores show inter-correlations

(e.g., Trust with Mistrust, Autonomy with Constraint, and so on; Viney & Tych, 1985).

The other form of reliability to be reported here is *stability* of scores over time. This reliability is only useful for some types of concepts, and so it is applicable only for certain types of psychotherapy research. For example, the Origin Scale scores, assessing potentially variable psychological states, show low stability (.22; Westbrook & Viney, 1980). Whereas, for its companion, the Pawn Scale scores, the high degree of stability (.51) is impressive, as is that for the Cognitive Anxiety Scale (.63; Murphy & Davidshofer, 2001; Viney & Westbrook, 1976). These stabilities differ appropriately according to the intervals between testing.

Validity

Validity becomes evident in networks of correlations with extreme variables. The Origin Scale scores are independent of gender and age, but are related to occupational status, higher scorers having higher status (.12). They are also related to scores on other positively toned measures (Positive Affect, .21 to .43; and Sociality, .25 to .50; Westbrook & Viney, 1980). . . . They also discriminate people who are in controllable situations from those who are not in controllable situations (Westbrook & Viney, 1980), youth workers from their clients (Viney, 1981), and those who face their own death in a psychologically healthy way from those who have a less healthy approach to death (Viney, Walker, Robertson, Pincombe, & Ewan, 1994). The validity of the Pawn Scale scores is similar, as it should be, to that for its partner, the Origin Scale.

Discussion

Content analysis scales are of value to counselors who are researchers because they allow responses that preserve the intended meanings expressed by the study participants while their scaling makes possible complex statistical analyses of their data. In the following paragraphs, we summarize examples of scale score findings that are of particular interest to researchers; the first two focusing on clients, representing dependent variables.

First, there are those findings related to the psychological functioning of clients. Content analysis scales can differentiate one group of clients from another, for example, needy youth from their youth workers, people who stutter from people who speak fluently, ill people from those who are not ill, and those not in controllable situations from those in controllable situations.

Second, these scale scores can be responsive to counseling of both individual and group types and with personal construct and psychodynamic approaches to counseling. For example, the scale scores for people who were ill showed immediate improvement after these individuals had received counseling sessions, with the increase being maintained at follow-up 12 months later.

Third, the scales, with their meaning-based measurement, can also be used to assess the psychological functioning of counselors. One existing study dealt directly with verbal reports from counselors. Three other studies have dealt with nurses. The first, in 1983, examined differences in professionally trained and non-professionally-trained telephone counselors. The predictions that the non-professionally-trained counselors would report their clients to be less helpless, more powerful, and with more positive feelings than would the professionally trained counselors were supported. The second study showed the impact on nurses who worked in nursing homes of an intervention to give these nurses a greater sense of power in their work with residents. The same Origin and Pawn Scales identified nurses who were more concerned about causing pain to their patients and, together with the scale measuring Positive Affect, distinguished palliative care nurses from nurses specializing in burns (Grenyer, Viney, & Luborsky, 1996; Nagy, 1998).

CONCLUSIONS

Content analysis of free verbal communications overcomes many of the problems that are involved in asking participants to describe their states. Content analysis scales, in turn, make possible an approach that reduces intrusiveness and demands characteristics for both clients and counselors, while giving clients opportunities to deal with what is important to them. The scales are preferable to standardized tests and

questionnaires, which can be seen as assessing the meanings of the test creators rather than the meanings of the participants who respond to them (Child, 1976; Wallerstein, 1986). Future research with content analysis scales should confront the questions that have become increasingly more crucial: Who benefits from counseling and who makes a good counselor? In both outcome and process research, the advantages of the content analysis scales have withstood thorough scrutiny.

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5.5

HOW OFTEN IS OFTEN?

MILTON HAKEL[*]

Is "almost never" almost always never? Which is more frequent: "frequently" or "often"? And anyway, how often is "often"? We use frequency words imprecisely. Worst of all, it is difficult to say just how imprecisely.

Frequency words are frequently ambiguous. Sometimes (occasionally?) we need to be reminded of that ambiguity. Thus, 100 students from an introductory psychology course at the University of Minnesota complete the following questionnaire (Simpson, 1944):

Table 1   "What Do These Words Mean to You?"

1. almost never	11. often
2. always	12. once in awhile
3. about as often as not	13. rarely
4. frequently	14. rather often
5. generally	15. seldom
6. hardly ever	16. sometimes
7. never	17. usually
8. not often	18. usually not
9. now and then	19. very seldom
10. occasionally	20. very often

SOURCE: Simpson, R. H. (1944). The specific meanings of certain terms indicating different degrees of frequency. *Quarterly Journal of Speech 30:*328–330. Reprinted with permission from Taylor & Francis Ltd., http://informaworld.com.

[Table 1 lists] a group of words that we use to indicate differing degrees of "oftenness" with which events tend to happen. Obviously, some of the words mean different things to different people. We wish to determine what each word means to you.

For instance, if "almost never" indicated to you that a thing would happen about ten times out of a hundred, you should mark in the space before the expression "10." If it means about one time out of 100 to you, you should put "1" in the space before the expression. Simply indicate how many times out of 100 you think the word indicates an act has happened or is likely to happen.

All responses were tabulated, and the results are shown in Table 2: some precise data about imprecision.

Variability is rampant. Someone's "rarely" is someone else's "hardly ever." "Often" and "rather often" have the same medians. "Rather" is rather meaningless. "Very seldom" is very seldom less than "seldom."

Simpson (1944) obtained similar results. How similar? The correlation between the rank orders of the medians is .99. The correlation between the rank orders of the quartile ranges is .78. We are exceedingly stable about being exceedingly imprecise.

*Hakel, M. D. (1968). How often is often? *American Psychologist 23:*533–534.

Table 2   Medians, Quartiles and Quartile Ranges for 20 Frequency Words

Word	Median	Q_1	Q_2	QR^a
Always	100	98	100	2
Very often	87	81	92	11
Usually	79	73	83	15
Often	74	69	82	13
Rather often	74	65	79	14
Frequently	72	68	75	7
Generally	72	60	84	24
About as often as not	50	50	50	0
Now and then	34	22	39	17
Sometimes	29	21	45	24
Occasionally	28	21	38	17
Once in awhile	22	14	30	16
Usually not	16	9	20	11
Not often	16	9	24	15
Seldom	9	7	15	7
Hardly ever	8	4	12	8
Very seldom	7	4	10	6
Rarely	5	3	10	7
Almost never	2	1	5	4
Never	0	0	0	0

a. $Q_2 - Q_1$.

In view of the magnificent imprecision of frequency words, it is amazing we can communicate at all. Do you know what I mean?

REFERENCE

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5.6

RELATIVE RISK IN THE NEWS MEDIA

A Quantification of Misrepresentation

KAREN FROST, ERICA FRANK, AND EDWARD MAIBACH[*]

INTRODUCTION

Although the news media's representation of health risk information is often lamented, the extent to which the media distort the causes of mortality has never been adequately quantified. The American public depends on news media for reliable health information (Gellert, Higgins, Lowery, & Maxwell, 1994; Nelkin, 1985; Singer & Endreny, 1987). Previous studies, however, indicate that the public has a skewed perception of relative mortality rates (Fischhoff, 1985; Lichtenstein, Slovic, Fischhoff, Layman, & Combs, 1978; Slovic, 1987). Biases such as the overestimation of infrequent causes of mortality and the underestimation of frequent causes may be, in part, attributable to the media's misrepresentation of mortality (Lichtenstein et al., 1978).

The print news media exert an agenda-setting function in that issues reported in the media are more likely to be seen as important and meritorious of public discourse (Jones, Beniger, & Westoff, 1980; McCombs & Shaw, 1972; Meyer, 1990, Wallack & Dorfman, 1992; Weiner, 1986). Amount of copy space is an important indicator of perceived newsworthiness** (McCombs & Shaw, 1972).***

A limited number of previous studies have investigated disproportionate reporting of

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**The amount of newsprint devoted to an issue can be interpreted as indicating its newsworthiness. Although there is little doubt that the mass media set the agenda of public discussion, newsworthiness, however, is often conflated—incorrectly—with relevance or importance to the public and others. Misperceptions of reality, truths, are another matter. Lack of correlation between the volume of coverage of mortality and statistics of the causes of death may have many reasonable explanations, for example, a lack of public health initiatives, impossibility of prevention, or simply dramatic accidents.

mortality; however, they either failed to quantify the disproportion (Singer & Endreny, 1987), used extremely limited samples (Combs & Slovic, 1979), or are outdated (Combs & Slovic, 1979). The current study employed content analysis to compare representations of mortality in national print media with actual mortality and risk factors for mortality in 1990.

METHODS

The *World Almanac and Book of Facts 1992* (Hoffman, 1991) was used to determine the 1990 circulation figures for periodicals in the following categories: weekly news magazines; general interest women's magazines; general interest monthly magazines; and daily newspapers (Hoffman, 1991:311–313). The publication with the widest circulation in its category was selected to represent that category. The following publications were selected: *Time* (weekly news magazine, circulation 4,094,935); *Family Circle* (general interest women's magazine, circulation 5,431,779); *Readers Digest* (general interest monthly magazine, circulation 16,264,547); and *USA Today* (daily newspaper, circulation 1,347,450). A random sample of 12 issues of each periodical from 1990 (except for *Readers Digest,* of which all issues were used) was selected for analysis.

Each of the periodicals was coded for mortality-related text (measured square centimeters) based on definitions of the nine leading risk factors for death (McGinnis & Foege, 1993) and the 11 leading causes of death in 1990 (National Center for Health Statistics, 1993). Only text involving mortality of Americans was eligible for coding. Advertisements (including classifieds), photographs, obituaries, fiction, and text about war were excluded. All other text, including relevant photograph captions, tables of contents, and magazine covers, was considered eligible. Causes of mortality were coded in all instances where they were mentioned. The sentence in which the mortality cause appeared was considered the least measurable unit; for example, when an article contained only one sentence referring to a cause of mortality, that sentence alone was measured for analysis. To be coded as a discussion of a risk factor, text must have clearly stated that the mortality was due explicitly to a risk factor or must have implied or stated the potential for mortality at some time in the future due to the effects of the risk factor.

When necessary, selections were coded under more than one heading. For example, text regarding an instance of lung cancer stated to have been caused by smoking cigarettes was classified as an issue involving both malignant neoplasms and tobacco. When a cause of or risk factor for mortality appeared in a title, both the title and the accompanying text were measured in full; this was likewise the case when a title included the word "death" or some variation thereof, as in "Twenty Confirmed Dead in Accident," or "Lethal Injections Claim Lives of Two." Titles were otherwise not coded, and full articles were otherwise dissected for relevant passages. A single investigator iteratively coded all of the content; as protocol modifications were made, all previously coded material was re-coded. For every cause of and risk factor for death, a risk ratio was calculated to compare the proportion of actual deaths attributable to the cause with the proportion of copy accorded to the cause.

RESULTS

There were substantial disparities between actual causes of death and the amount of coverage given those causes in the print media. For most causes of and risk factors for death, there was a substantial disproportion between the amount of text devoted to the cause and the actual number of deaths attributable to the cause (Figures 1 and 2).

Most underrepresented by the news media were tobacco use (which received 23% of expected copy), cerebrovascular disease (31%), and heart disease (33%). Illicit use of drugs (1740%), motor vehicles (1280%), toxic agents (1070%), and homicide (733%) were most over-represented.
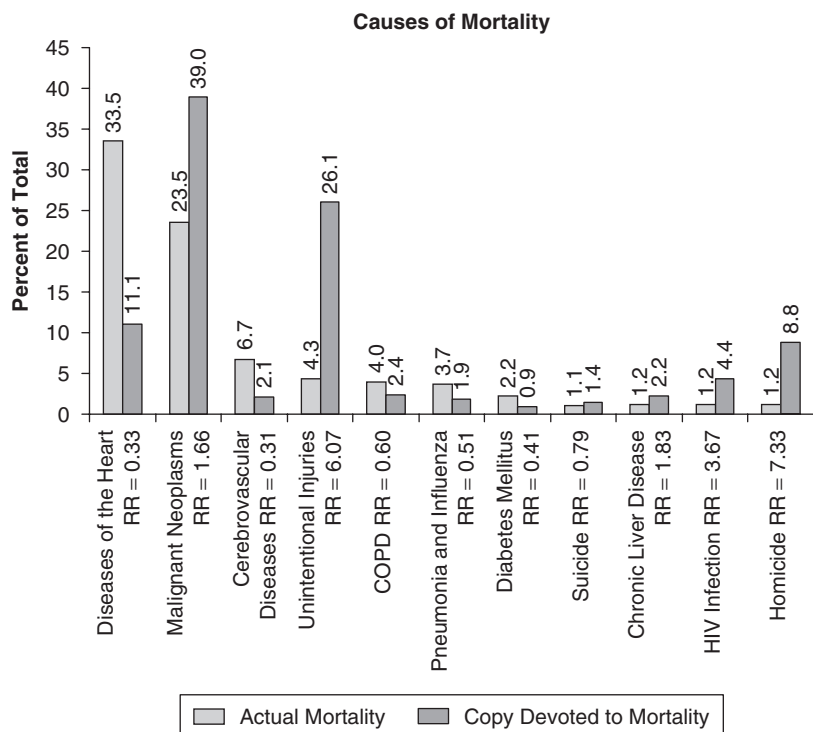
Causes of Mortality

Figure 1   Percentages of Actual Mortality vs. Copy Devoted to Mortality in Print Media, by Cause of Death, 1990

SOURCE: Actual mortality percentages are from the National Center for Health Statistics.

NOTE: COPD = chronic obstructive pulmonary disease, RR = Relative Risk.

CONCLUSIONS

The amount of print media devoted to certain causes of mortality is impressively disproportionate to the actual number of deaths attributable to those causes. While a few risk factors (alcohol, firearms, diet, and sexual behavior) and one cause of mortality (suicide) were reported at a frequency proportionate to their occurrence, the 11th-ranked cause of death, homicide, received virtually the same amount of news media coverage as heart disease, the top-ranked cause. Similarly, the lowest-ranking risk factor for mortality, use of illicit drugs, and the number-2 risk factor, diet and activity patterns, received nearly equal news media coverage. This study is the first to quantify the extremely disproportionate representations of mortality causes and risk factors in the national print media.

News media over- and under-emphasize certain causes of death for a variety of reasons, including competition for viewers and commercial interests (Meyer, 1990). This pattern has been particularly well documented in the case of the leading risk factor for death, tobacco use, where the relative lack of news coverage has been attributed to the influence that tobacco companies, with their enormous advertising budgets, have over media organizations (Warner, Goldenhar, & McLaughlin, 1992). News reporting is also driven by rarity, novelty, commercial viability, and drama more than by concerns about relative risk (Adams, 1992). Yet the unusual, novel, lucrative, or dramatic report must be placed in a broader context to help the reader better interpret the story's implications.
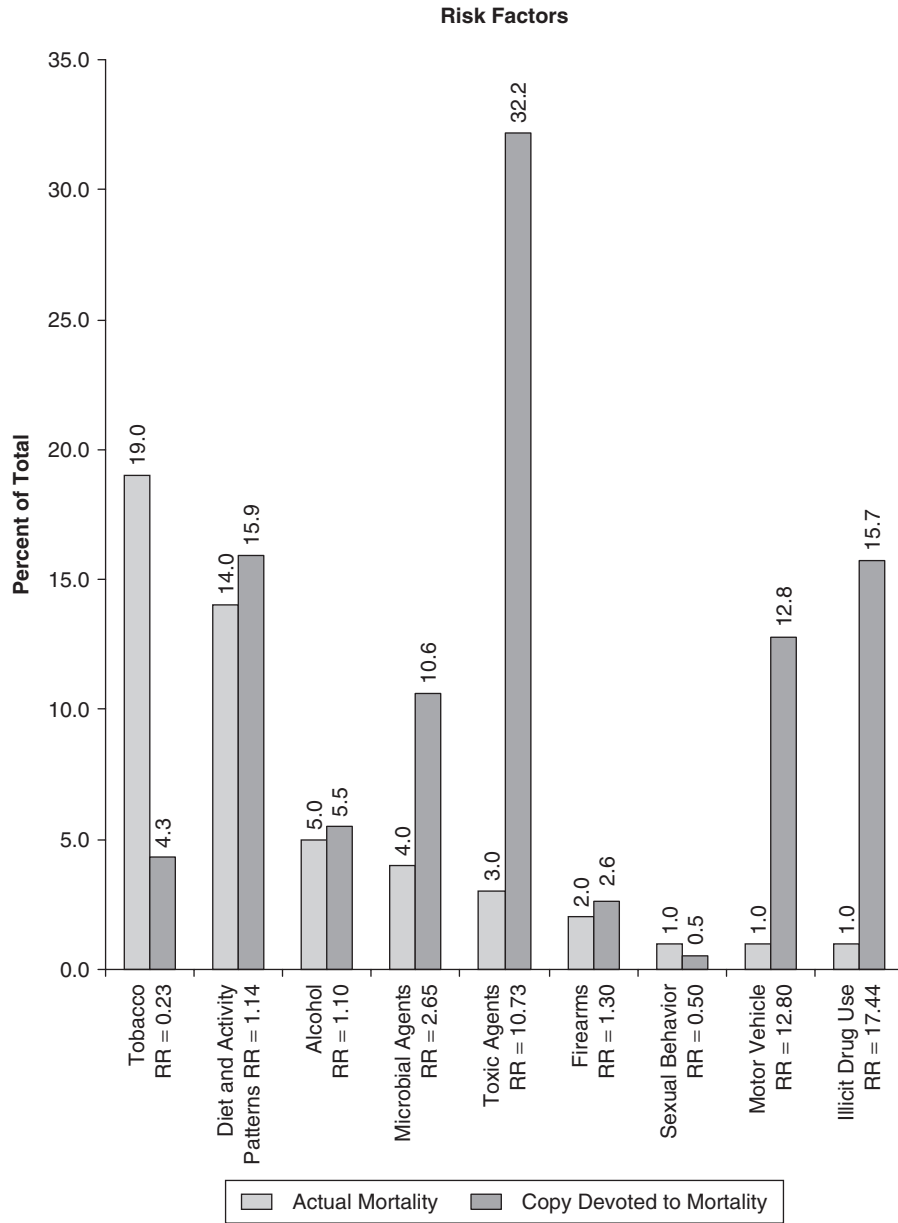
Risk Factors

Figure 2   Percentages of Actual Risk Factor–Related Mortality vs. Copy Devoted to Risk
Factor–Related Mortality in Print News Media, by Risk Factor, 1990

SOURCE: Actual risk factor–related mortality percentages are from McGinnis & Foege (1993).

Studies of cognition indicate that people judge the frequency or probability of an occurrence by the ease with which they can retrieve relevant instances from memory or imagination (Tversky & Kahneman, 1974).

This bias of cognition is referred to as the availability heuristic. The media's overemphasis on certain causes of death helps distort public risk perception by making these causes more available and thus more easily retrieved

(Lichtenstein et al., 1978; Tversky & Kahneman, 1974; Warner et al., 1992). The print news media's distorted representations of mortality likely skew the public's perceptions of risk through a second cognitive mechanism as well. Studies of risk perception indicate that threats that are perceived to be externally imposed loom larger than self-imposed threats (Slovic, 1987). Thus, not only do the news media emphasize relatively rarer causes of and risk factors for death, but those causes emphasized are those that are instinctively overestimated (Frank, 1989).

These data quantify the extent to which modern journalistic practices distort the portrayal of the leading causes of death and their risk factors. Merely quantifying these pervasive and widely discussed reporting biases is unlikely to affect the output of the journalistic process. Rather, we believe that the primary value of such quantification is to persuade health professionals to aggressively and proactively work with the news media to produce a more balanced agenda and to counteract the effects of journalistic practices that distort accurate presentations of relative risk. Health professionals must focus the attention of the news media and the public on the health issues of greatest concern so that the most prevalent health risks receive appropriate attention.

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5.7

TELEVISION VIOLENCE

A Coding Scheme

ANU MUSTONEN AND LEA PULKKINEN[*]

We define TV violence as actions causing or designed to cause harm to oneself, or to another person, physically or psychologically, including implicit threats, nonverbal behavior, and outbursts of anger directed towards animals, and inanimate objects. Portrayals of the mere victims of violence were also included in the definition, if the connection between violent behavior and a victim's injuries was reliably cued. Antisocial activities with no aggressive connotations, such as deceit and theft; or mere negative affective or hostile reactions unaccompanied by physical injury or damage, were excluded from the analysis as well as verbal reports of violence.

Definitions and scales of psychological violence were formulated utilizing Greenberg (1980), and Yudofsky, Silver, Jackson, Endicott, and Williams (1986) ideas. Psychological harm was understood as assaulting another person's self by noxious symbolic messages (e.g., by verbal insults, threatening, scorning gestures, forcing, or pressuring). Verbal and nonverbal modes of aggression were further classified.

The wide definition of violence applied here did not interfere with the comparability of our study and with other content analyses (of TV violence).[**] Rather, separate coding of varying forms of violence enabled the breakdown of certain forms and thus promoted comparability between our findings and those of other studies applying a variety of definitions. In addition, because it covered programs of every type, this study made possible the comparisons between different studies focusing on only selected TV genres.

**The original paper reviews many content analyses of TV violence. It is noteworthy that the authors are cognizant of the need to refine previously used coding schemes, where possible, to retain comparability of findings.

Amount of Violence

In measurement of the frequency of TV violence, we employed a basic unit identical to that used by Gerbner et al. (Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, 1979; Gerbner, Gross, Morgan, & Signorielli, 1980) since 1967 and Cumberbatch, Lee, Hardy, and Jones (1987). Hence, the basic unit of our analysis was a violent act, which referred to a coherent, uninterrupted sequence of violent actions (one or several) involving the same agents in the same roles. The conservative basic unit was selected in order to promote the comparability and reliability of the coding. Because the duration of TV programs varies considerably, we assessed the frequency of TV effective and attractive violence on the basis of the number of violent acts per hour, standardized for the length of each program. This rate is preferred to the rate of violent acts per program in most of the previous TV studies of violence.

Intensity of Violence

Based on the findings (reviewed in the original article) and our own viewer interview, we defined intensity of TV violence as the degree to which violence is obtrusive, or able to arouse and frighten viewers. We interpreted intensity of TV violence from several viewpoints: seriousness, realism (fictionality), and the mode of dramatization (clarity and vividness).

Attractiveness of Violence

Attractive violence referred to attitudinal, or moral features of TV violence, which we coded separately from the intensity of violence. We defined attractiveness of violence as depictions in which violence is seen as a justified, glamorized, and effective behavior model. Attractive scenes usually romanticize aggressive action, and minimize the portrayal of the negative consequences of violence.

METHODS

Sample

The new coding scheme was applied to analyze a program sample of the Finnish network television. The program sample consisted of 259 programs (153 hours) of all genres presented during one week in November 1991, on the three TV channels of the Finnish Broadcasting Company (FBC). The analysis included all programming of six randomly selected days per a channel. The FBC provides public service broadcasting (see Slade & Barchak, 1989) and sells broadcasting time to commercial companies. Therefore, about 20 percent of the programs were of commercial production. Two programs out of three were of Finnish origin, one out of five was produced in other European countries, and one out of ten in the United States. Few programs came from South America, Australia,
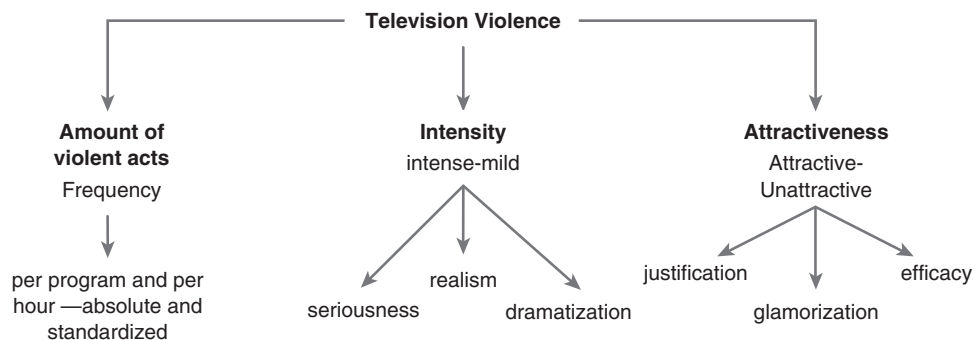

Figure 1   The Themes of the Analysis of Television Violence

or Asia. The imported programs seen on the Finnish TV are not dubbed, but translated into Finnish in textual form. No seasonal programs, sports games, or acute international crises characterized the programming of the sample. The war in former Yugoslavia dominated the news themes.

The Coding Scheme

The final coding scheme was a result from pilot content analysis process during which we identified the elements of TV violence, which were theoretically valid and reliably codable in terms of general TV conventions. Because the TV world is not a replica of the real world, all the elements relevant to real world violence did not appear as relevant in TV violence. We found that information of some aspects concerning the motivation of violence (e.g., first strike vs. retaliatory motivation; masochistic or (offensive) altruistic motivation) was casually, or genre-specific represented by TV narration. Some of the relevant topics proved not to be reliably measurable because their interpretations were culture-specific, or because they required special expertise on the part of the coders (e.g., legal vs. illegal violence), or because they were a matter of taste (gratuitous violence; surprising vs. anticipated violence). Furthermore, identifying the principal and minor characters, as well as punishment of violence, proved to be problematic, particularly in the case of non-fictional material. We decided to exclude these unclear themes from the scheme, as well as the themes whose intercoder agreement in our pilot analysis was not sufficient (Mustonen, 1991).

Our final coding scheme involved two levels. General program level information (ten items, see Appendix) included background data of every program such as the program genre, country of production, channel, TV company, broadcasting time, popularity, and duration of a program which themes can be coded before viewing the sample. Additionally, the number of violent acts identified in the program was added to program level coding after viewing each videotaped program.

At the level of a violent act, each violent act of a program was coded separately during the viewing of the programs. When a violent act was identified, the viewing was interrupted, and the scene was viewed again. The act was then coded for 13 variables concerning modes and intensity of the violence, and for another 13 variables concerning attractiveness of violence (Appendix).

Classification of certain variables to either intensity or attractiveness was not totally unambiguous. The themes were subsumed based on the more relevant properties. Generally, if a variable contained an attitudinal/moral dimension, we saw it as an element of attractiveness. For instance, justification of violence was seen as an element of the intensity (called brutality in Mustonen & Pulkkinen, 1993) of violence in the earlier phase of our study. However, our preliminary analysis showed that it is semantically nearer to the attitudinal dimension and thus it needs to be subsumed under attractiveness. Similarly, the realism (fictionality) of violence can be seen bearing elements of both intensity and attractiveness. Because we had observed both attractively depicted realistic violence and unattractively portrayed violence in cartoons, we did not see realism to present a factor determining attractiveness, but rather, an element of intensity. Our coding scheme includes also a suggestive method of summing up the information on both of the basic themes (i.e., intensity and attractiveness). The more accurate operationalizations of the intensity and attractiveness ratings are elaborated below.

Intensity of Violence

The intensity of violence was measured using several variables concerning seriousness, realism, and mode of dramatization (Appendix). First, the modes of physical and psychological violence were coded separately to enable comparisons to be made between the present study and other studies, which have ignored psychological damage. The seriousness of violence was estimated as the degree to which the violence was realized (i.e., whether the violent act portrayed the actual insulting or

killing) out of the attempts to hurt or kill. Additionally, the seriousness of the consequences of violence was assessed ranging from the complete escape to the death of the victim.

Violent acts occurring in psychologically realistic (i.e., believable or familiar settings) were seen as more intense than those portrayed in psychologically distant or fantasy settings). The nearer the temporal and cultural setting, the more threatening and intense the portrayal appears to viewers. We measured psychological realism as the cultural, linguistic, and temporal distance between the program context and the life contexts of the Finnish audience. Additionally, realism was evaluated as a function of the degree of fictionality of the films, ranging from fantasy to complete authenticity.

The more detailed and exciting the method of dramatization, the more intense it appears to the viewers. Thus, dramatization was coded for the duration of the act in seconds, for the atmosphere, and for the clarity and vividness of the depiction. As for the ratings of atmosphere, humorous aggression referred to caricatured, funny depictions, in which antisocial acts were portrayed as hilarious or in which quite neutral scenes were presented in an ambiguous context (serious violence accompanied with background laughter). Frightening or horrific violence was most typically characterized by anticipation, accompanied by threatening visual and audible climaxing effects. The vividness of violence was judged on a scale running from scant to very graphic and detailed portrayals.

In order to summarize the information described above, the coding system also included a summative three category rating of the intensity of TV violence. Only the three elements seen as the most crucial—severe consequences, non-fictionality, and graphic presentation—were considered in the rating. Thus, the category of intense violence (rated 3) referred to scenes, which contained highest ratings in at least two of these themes. Most typically intense violence referred to threatening portrayals of killing, or attempts to kill. Violent portrayals were evaluated as intermediate (rated 2), if they were neither intense nor mild, or if serious violence was moderated by symbolic context, or scant presentation.

Conversely, a rating of intermediate violence could apply to relatively non-serious, but realistic acts, the violence of which was exaggerated by detailed or frightening portrayals. Mild violence (rated 1) referred to fantastic or scant portrayals of unharmful aggression, or even to severe, or realistic acts, which were hinted at, but not explicitly portrayed. An act of mild violence was supposed to contain lowest ratings in at least two of the three elements of intensity.

Attractiveness of Violence

Attractive violence was defined as portrayals in which violence is seen as a justified, glamorized, and effective (profitable) model of behavior (Appendix). *Justified violence* was defined as externally (see Potter & Ware, 1987) and reactively (see Pulkkinen, 1996) motivated violence between equal partners, whereas internally and proactively motivated violence between unbalanced partners was seen as unjustified. In the coding, intentional and unintentional violence (e.g., violent acts performed in an unconscious state) were firstly separated, and intentional violence was divided into internally (personal interest) and externally (role-bound violence) motivated forms. For further semantic analyses, reactively and proactively motivated violence were distinguished. Since, for instance, Lagerspetz, Bjorkqvist, Bjorkqvist, and Lundman (1988) have shown that altruistic motives for aggression are interpreted as more justified than selfish motives, reactive/ altruistic violence was separated from reactive/ selfish violence. Proactive violence was divided into instrumental and angry (expressive) forms (see Buss, 1988). In addition, spontaneous (impulsive) aggression was distinguished from planned acts of violence. Finally, the gender and age of the characters involved were classified in order to evaluate the power relationships between the partners. Violence between characters who are unequal (a male hurting a female, or an adult violating a child/elderly person) is seen as less justified than violence between equal partners (e.g., Gunter, 1985).

The *glamorization of aggression* was conceptualized as the degree to which formal features are used to portray violence as heroic

and romanticized action. Violence appears more glamorized if the aggressors are seen as heroes, rather than villains. Violence of "bad guys" towards "good guys" is generally approved less readily (Gunter, 1985; Van der Voort, 1985). Furthermore, the dramatization of violent action accompanied by various audiovisual TV effects, such as slow-downs, replays, and musical effects, was seen as an element of glamorization.

The way in which effective, or profitable violence is seen is strongly moderated by the way in which the producer depicts the victims of violence. Thus, efficacy ratings were measures of the way in which producers had manipulated the portrayal of the consequences of violence. Ignoring the consequences of violence represents an effective strategy for increasing the attractiveness of violence. If a violent act seemingly has no negative effects, it is readily interpreted as profitable and effective.

Depictions of the *gratification* derived from violence were also considered as an element of its *efficacy*. If the aggressor completely achieves the desired ends by violent means, his/her behavior was interpreted as more effective and attractive than the unsuccessful use of violence. In the interpretation of the gratification the type of violence has to be considered: gratification of angry aggression (pain, discomfort of the victim) differs from gratification of instrumental aggression (material reward, or dominating, see Buss, 1988).

Attractiveness of violence (Appendix) was also rated on a summative three-point scale. As the equivalent summative variable of the intensity of violence, also this scale consisted of three basic themes which we saw as the most relevant: justification (reactive motivation), glamorization (aggressor as a hero), and efficacy of violence (consequences are ignored). If a violent act earned highest ratings in at least two of these elements, it fulfilled the criterion of attractive violence (rated 3). Unattractive perspective (rated 1) characterized acts, which were rated with the lowest ratings in at least two of the three critical variables. Typically, unattractive violent scenes emphasized the consequences of violence

more than violent action. Portrayals in which violence was presented as neutral or unclear, or in which the elements of glamorization, justification, and efficacy were rated un-homogeneously, formed the intermediate category (rated 2).

Some genre specific qualitative information was needed to complete the final coding. For sports programs, for instance, commentators' glorified style (see Sullivan, 1991) was seen as a crucial determinant of attractiveness, together with detailed replays of violent acts. As for the dramatic films, we paid attention to the type of humor: overtly ironic portrayals of violence were usually interpreted as unattractive, whereas funny and permissively humorous depictions were evaluated as attractive violence.

INTERCODER RELIABILITY OF THE CODING SCHEME

In order to test the reliability of the coding we double-coded sufficient programs to yield a sample of 9% of the total violent acts included in the program sample ($N = 259$) of our final analysis. The coders (students of psychology) were first given an introductory course in the psychology of aggression, and to the concepts and definition applied in our analysis. To test the intercoder agreement of the definition of TV violence, all test coders were asked to identify the violent acts seen in a sub-sample representing programs of different genres (new, documentaries, cartoons, dramatic fictions, music programs). Of all acts identified as violent by any of the coders, 83% were seen as violent by all the coders.

In order to compute the Scott's pi reliability coefficients (see Krippendorff, 1980) for the 26 variables concerning intensity and attractiveness of violence, each test coder analyzed her own sub-sample of the programs (one-third of the test material). For the pairwise calculations, the test coder's ratings were compared to the equivalent ratings of the main coder. For Likert scales*—which were mainly 5-point scales—a deviation of one point was accepted.

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*Scott's π is applicable for nominal data only. Likert scales have an ordinal metric. Applying π to them is insufficient. A nominal statistic can over- or underestimate their reliability—see reading 6.2, this volume.

The reliabilities varied between .65 (motivation of violence) and .95 (the age of the aggressor; fictionality of the program). The modes of physical and psychological violence, and the seriousness of the consequences of violence were among the variables with lower reliabilities (approximately .70), whereas the variables concerning cultural and temporal program context, and the demography of the characters involved were more reliably codable (Scott pi's of approximately the .90 level). For the variables concerning the intensity of violence, the average Scott's pi was .82, and .74 for the variables concerning the attractiveness of violence. For the summative coding of the intensity and attractiveness of violence, the reliabilities were .87, and .81, respectively.*

RESULTS

Overall Rates

The rate of violence was calculated in three different ways: as a rate per program, as a rate per hour, and as a rate per hour standardized for the length of the show. In the program sample, there were seen 1.51 violent acts per a program and 2.55 violent acts per broadcasting hour, when all programs and all types of violence were considered. Thus, the rate of violence was slightly higher than the rate of 1.98 acts per hour found in the BBC programs. In the British study (Cumberbatch et al., 1987), verbal threats represented the only modes of psychological violence, which were included. When violence was standardized for the length of the show, the average rate of violent acts/hour in a program was 3.43. This is very similar to the average rate of violence (3.46) found in our preliminary study (Mustonen & Pulkkinen, 1993). Following Gerbner's methodology in which only physical violence in dramatic prime time setting is considered, the average rate of violence was 5.66 acts per hour. This represents just the rates of around 5–6 reported by researchers following the methodology by Gerbner in most countries (Cumberbatch, Jones, & Lee, 1988).

Elements of the Intensity of TV Violence

Seriousness of TV Violence

Physical violence, or the combination of physical and psychological modes of violence, dominated psychological violence. Only one in ten violent acts represented threats, while 90% of acts depicted aggressive attacks. In accordance with the findings of Cumberbatch et al. (1987), both extremes of the consequences (escape and death) were most frequent. Moderate and severe injuries together formed only 11% of violent acts (see Appendix). The most frequent modes of violence included shooting, scuffle or hitting. Extremely shocking and unusual forms of violence like slashing, suicides, or sexual violence, did not appear.

Realism

Violence took place mainly in fictional and psychologically distant settings rather than in realistic contexts. Violent acts in non-fiction, or in psychologically proximal Finnish contexts were more untypical. As for temporal proximity, present time appeared more frequently than distant—historical or future—settings.

Dramatization

Different means of audiovisual dramatization, as well as changes in tempo and music, generally accompanied violent acts. However, time devoted to each violent act was quite short. The majority of all violent acts lasted less than 30 seconds. Violent acts were typically characterized by a quarrelsome or exciting atmosphere. In 39% of the violent acts, violent action was depicted in a graphic, or a very graphic way.

Elements of the Attractiveness of TV Violence

Justification

The elements of justification of violence were diversely represented. As for the motivation of violence, intentional, proactive, and internally motivated violence dominated the violent portrayals, which refer to typically

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*For an argument against reporting averages of reliability coefficients, see Krippendorff (reading 6.2, this volume).

unjustified violence. On the other hand, because violence occurred mainly between adult males, violence between unequal or unbalanced partners (i.e., unjustified violence) was rarely observed.

Glamorization

There were more moderately presented portrayals of violence than glamorized ones. In fact, less than half of the violent programs provided viewers with clear personifications of good and evil. Typically, heroes were more likely to be victims than aggressors were. On the contrary, villains acted more likely as aggressors than as victims of violence. One in three violent acts was presented with glamorizing audiovisual effects, such as replays, slowing ups, or climaxing music effects.

Efficacy

Violence was more often portrayed as a profitable than as an unprofitable behavior model. The desired ends were achieved at least partially by violent means in every second violent act. Similarly, in every second violent act the consequences of violence were presented only as hints or ignored which may also contribute to the overall evaluations of the efficacy of violence.

Combination of Intense and Attractive TV Violence

The summative three category ratings of intensity and attractiveness also supported our assumption that TV violence does not exist as a uniform entity. Overall, two thirds of violent acts were evaluated as mild whereas less than one tenth as intense. In general, unattractive depictions, which showed the consequences

of violence, were observed more frequently (28%) than attractive (16%) presentations. In 56% of violent acts, the elements of attractiveness were inhomogeneously represented. Correlation analysis (Pearson) showed intensity and attractiveness to form independent elements of TV violence ($r = -.011$; n.s.). Neither was there a relation between the intensity and frequency of violence of a program ($r = .025$; n.s.). Attractiveness of violence in a program correlated, however, with the frequency of violence in a program ($r = .337$; $p < .0001$).

In order to analyze portrayals of violence both in terms of their intensity, and of their attractiveness, violent acts were cross-tabulated according to their summative ratings for both of these variables (Table 1). The most typical group of violent acts combined portrayals of mild and intermediately attractive (neutral) violence ($\chi^2(8) = 3.47$, n.s.). If only the extreme groups of intensity and attractiveness were considered, scenes of mild and unattractive violence dominated other extreme groups. The combination of intense and attractive violence represented the most infrequent type of TV violence.

DISCUSSION

Measuring the Content of TV Violence

The coding scheme established in our study outlined ways of producing more exhaustive and valid analyses of the nature of TV violence, and of the messages it conveys. In agreement with most contemporary analysts (e.g., Potter & Ware, 1987; Williams, Zabrack, & Lesley, 1982), we considered all overt physical and psychological modes of

Table 1   Violent Acts Groups According to the Intensity and Attractiveness of TV Violence

	Intensity		
Attractiveness	*Mild*	*Intermediate*	*Intense*
Unattractive	62 (16%)	34 (9%)	11 (3%)
Intermediate/Neutral	145 (37%)	59 (15%)	16 (4%)
Attractive	35 (9%)	22 (6%)	6 (1%)

human aggression in our definition. Like Kunkel et al. (1995) and Potter and Ware (1987), we went on to analyze the context of violent portrayals and to link the content analysis categories to the research evidence documenting the viewer reactions to TV violence. Following Cumberbatch et al. (1987), we designed an analytical scheme, which would be applicable to TV violence across all genres of network television.

Our analysis differed from previous analyses in the more detailed descriptions of the intensity (seriousness, realism, dramatization) of filmed violence in different contexts. To accomplish our semantic analysis we turned our attention also towards the elements of attractiveness of violence, which referred to violence portrayed as a justified, glamorized, and effective type of behavior. Therefore, along the lines with the previous Scandinavian communication studies (see Rosengren, 1981), our study basically dealt with the objectivity and rationality of communications. Our analysis showed that intensity and attractiveness are independent elements of filmed violence and they can be utilized in extending the contextual analysis of TV violence. It is possible to utilize the themes of our coding system selectively depending on the purpose of the study. Certain items can be relevant for several purposes. For instance, the variables concerning the gender, age, and character of the persons involved in violence can be utilized in analyzing the demography of the TV violence, or in examining the power relationships of the aggressors and victims. Besides analyzing several sub-categories of intensity and attractiveness, we suggested summative categorization, which combines information obtained on different elements.

Regardless of some stereotypes, TV violence cannot be seen as a homogenous entity. Rather, we observed much stylistic and semantic variation in the portrayals. Generally, the elements of intensity and attractiveness of violence were diverse, allowing plenty of room for the viewers to interpret the messages conveyed by violent acts. Finnish network TV as a whole was mainly characterized by a combination of mild and neutrally, or unattractively presented violence, rather than by a combination of intense and attractive depictions of violence. In the TV discourse, developmentally earlier, primitive modes of aggression, such as physical attacks (see Buss, 1988) appeared more often than the later, more sublimated forms of aggression, such as threat, or psychological aggression, which are typical modes of aggression in the real world. This may reflect general TV conventions, which prefer physical action and dramatic events to the static, dramaturgically unattractive everyday affairs. On the other hand, the most extreme modes such as slashing, suicides, or sexual violence were not presented in the programs.

The moderate nature of violence on Finnish TV is probably due to the parliamentary controls governing the Finnish TV companies. However, the control system does not seem to influence the frequency of TV violence: amounts of violence in the prime time fiction in Finland proved to be very similar to the rates of TV violence reported in international studies. Because TV programs are universal mass media products with relatively uniform genres, our analytical scheme can be utilized in future comparative content analyses focusing on the nature of violence in different TV cultures.

Identifying Harmful and Harmless TV Violence

Based on a mere content analysis we cannot locate "harmful" violence. Therefore, our analysis was not constrained by any fixed presuppositions of effects of TV violence on the viewers. Rather, all possible modes of filmed violence were covered, even though in some of them the scenes are capable of promoting prosocial behavior, as well as antisocial models. The cutting back process of TV companies can be more efficient if we know which types of television violence are more and which less harmful (Belson, 1978). Future research concerning the influence of TV violence will benefit from our classification of certain elements of violence, whether the focus is on affective, cognitive, or behavioral effects of TV violence.

Appendix: The Coding Scheme of TV Violence

Program Information & Amount of Violence	**%**
1. The number of the program	
2. The name of the program	
3. The program genre	
4. The country of origin	
5. The date of the production	
6. The broadcasting channel	
7. The TV company	
8. The day of broadcasting	
9. The hour of broadcasting	
10. The duration of the program	
11. The amount of violent acts in the program	

Intensity of Violence   **%**

12. Mode of violence:
    1 = physical   61
    2 = psychological   15
    3 = physical and psychological   24

13. Mode of physical violence
    0 = no physical violence   15
    1 = shooting   24
    2 = threatening or forcing with guns   5
    3 = fist-fighting, pushing, striking   14
    5 = strangling   1
    6 = poisoning   0.5
    7 = slashing   3
    8 = sexual violence   0.5
    9 = kidnapping/tying up/arresting   9
    10 = damaging property   5
    11 = other   14

14. Mode of verbal aggression
    0 = no verbal aggression   58
    1 = angry talk   12
    2 = mild personal hurt   16
    3 = verbal threat or humiliating   10
    4 = serious threatening
        "I'll kill you!"   4

15. Mode of nonverbal psychological
    aggression
    0 = no nonverbal aggression   36
    1 = forcing, subjection, pressuring   31
    2 = threatening, intimidation   7
    3 = violating one's human rights   10
    4 = irony, scorning gestures   3
    5 = other   1

16. Seriousness: realization of violence
    0 = cannot code   13
    1 = playful aggression   1
    2 = threatening/hostile gesturing   4
    3 = trying to insult   6
    4 = insulting   45
    5 = trying to kill   18
    6 = killing/suicide   13

17. Seriousness: the consequences of violence
    0 = portrayed not at all   18
    1 = no harm   28
    2 = only material harm   11
    3 = mild harm or injuries   20
    4 = moderate injuries   7
        (medical care needed)
    5 = severe injuries (hospital care needed)   4
    6 = death   13

18. Realism: cultural distance
    1 = Finnish/Swedish language and culture   12
    2 = Finnish/'Swedish language,   14
        foreign culture
    3 = foreign culture and language   59
    4 = fantasy (scifi, cartoons)   15

19. Realism: temporal distance   10
    0 = cannot code   10
    1 = modern (the 90's)   53
    2 = near past (from the 50's-90's)   8
    3 = near history (1900–1950)   20
    4 = earlier than 19th century   8
    5 = future   1

20. Realism: fictionality
    1 = a cartoon/animated program   13
    3 = unrealistic fiction (caricatured and
        fantasy characters involved)   21
    4 = realistic fiction   47
    5 = authentic   19

21. Dramatization: duration of the act
    1 = 1–5 seconds   29
    2 = 6–15 seconds   28
    3 = 16–30 seconds   25
    4 = 30–60 seconds   9
    5 = more than 60 sec.   9

22. Dramatization: atmosphere
    1 = humorous, comic   15
    2 = neutral or unclear   14
    3 = quarrelsome   37
    4 = exciting, adventurous   21
    5 = frightening, threatening, horrific   14

(Continued)

Appendix (Continued)

Intensity of Violence (cont.)	%
23. Dramatization: clarity and vividness	
0 = cannot code	4
1 = very scant/unclear depiction	4
2 = quite scant/unclear depiction	20
3 = moderate depiction	33
4 = quite detailed and graphic depiction	34
5 = very detailed, graphic depiction	5
24. Intensity of violence (a summative rating)	
1 = mild	62
2 = moderate	30
3 = brutal	8

Attractiveness of Violence	%
25. Justification: intentionality	
0 = cannot code	3
1 = intentional, internally motivated	73
2 = intentional, externally motivated (e.g., in the role of a police)	22
3 = unintentional, unconscious	2
26. Justification: motivation of violence	
1 = cannot code	8
2 = defensive, altruistic	3
3 = defensive, self-preservation	2
4 = both offensive and defensive	15
5 = offensive, instrumental	41
6 = offensive, angry (reactive-expressive)	31
27. Justification: planned violence	
0 = cannot code	5
1 = spontaneously produced violence	57
2 = planned, systematic violence	38
28. Justification: the sex of the aggressor	
0 = cannot code/fantasy character	17
1 = a male	41
2 = a female	10
3 = a group of males	23
4 = a group of females	0
5 = a mixed group	9
29. Justification: the age of the aggressor	
0 = cannot code	15
1 = child, 0–13 yrs.	9
2 = young, 13–20-yrs.	2
3 = adult, 20–60-yrs.	61
4 = adult, 60 or older	6
5 = people of several age groups	7
30. Justification: the sex of the victim	
0 = cannot code/fantasy character	14
1 = a male	41
2 = a female	10

	%
3 = a group of males	9
4 = a group of females	1
5 = a mixed group	19
6 = an animal	2
7 = unanimated objects	4
31. Justification: the age of the victim	
0 = cannot code	18
1 = a child, 0–13 yrs.	12
2 = a young person, 13–20 yrs.	1
3 = an adult, 20–60 yrs.	49
4 = an adult, 60 or older	5
5 = people of several age groups	15
32. Glamorization: nature of the aggressor	
0 = cannot code	5
1 = a villain, "a baddy"	29
2 = neutral, ordinary	49
3 = a hero, "a goody"	16
33. Glamorization: nature of the victim	
0 = cannot code	9
1 = a villain, "a baddy"	9
2 = neutral, ordinary	57
3 = a hero, "a goody"	25
34. Glamorization: audiovisual effects	
1 = no audiovisual glamorization	17
2 = some audiovisual glamorization	22
3 = moderate audiovisual glamorization	28
4 = much audiovisual glamorization	26
5 = very much audiovisual glamorization	7
35. Efficacy: ignoring the consequences of violence	
0 = no consequences to be depicted	2
1 = suffering specially emphasized	1
2 = quite a lot of portrayals of suffering	11
3 = consequences partially depicted	38
4 = the consequences depicted as hints	38
5 = no depictions of the consequences	10
36. Efficacy: achieving the desired ends/ gratification by violent means	
0 = cannot code	23
1 = not at all/no gratification	10
2 = only a little	14
3 = partially	21
4 = quite well	19
5 = completely	13
37. Attractiveness of violence (a summative rating)	
1 = unattractive	16
2 = moderate, neutral	56
3 = attractive	28

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5.8

THE OPINIONS OF LITTLE ORPHAN ANNIE AND HER FRIENDS

LYLE W. SHANNON[*]

Public speculation and a number of earlier articles on the effects of reading comic cartoon strips directed the author's attention to the problem of determining the social idealism expressed in such cartoon strips as Little Orphan Annie, Dick Tracy, Li'l Abner, Joe Palooka, Terry and the Pirates and others.[1] It has been said that Joseph Patterson guided his comics as cunningly as his anti-Roosevelt campaigns. "By design or not, they all seem to be in harmony with the editorial views of the cartoonist's bosses, Capt. Joseph Patterson and Col. Robert McCormick" (*Newsweek,* 1945: 67–68). It is the purpose of this article to present a detailed analysis of Little Orphan Annie, a strip, which has, unlike many others, a record of more adult than child readers. . . .[2]

METHODOLOGY

The Sunday comic section of Little Orphan Annie was collected for the period from April 18, 1948, through July 2, 1950, a period of some 116 weeks. Six sections were lost and were unobtainable from library files. It is believed, however, that the missing sections were not atypical of the cartoon as their loss on certain weeks was merely a chance affair.

In this analysis, we shall define an *appearance* as the inclusion of a comic character in the cartoon section on the particular date referred to. The character may appear in the section one or more times on a particular date but we shall count an appearance on this date as *one* appearance regardless of the number of times that the artist shows the character. Thus, a character could have a maximum *appearance* of 110. The same approach has been used in measuring the relative importance of various goals in life suggested by Annie or her friends. Methods of reaching life's goals have likewise been enumerated in order to obtain some idea of the means most frequently suggested by Annie or her friends.

Approved and condemned symbols are treated in the same fashion.

Each week's cartoon section of Little Orphan Annie was carefully read by two persons who answered the following questions in writing as they proceeded from week to week.

1. Which villains are pursuing Annie; which persons are in opposition to her?

2. What is the occupation, overt and covert, of the persons mentioned above?

3. Which opponents are killed or injured, how and by whom?

4. Who are Annie's friends?

5. What is the occupation, overt and covert, of the persons mentioned above?

6. Which friends of Annie are killed or injured, how and by whom?

7. What goals in life are approved by Annie and her friends?

8. What means or methods for reaching these goals are suggested by Annie and her friends?

9. What symbols are approved by Annie and her friends?

10. What symbols are condemned by Annie and her friends?

The author likewise read the entire series of Little Orphan Annie and collated the answer sheets of the other readers, thus arriving at a third set of answers, which represented a consensus of three persons' answers to the questions listed above. These answers were further summarized in certain categories and will be presented later in the article.

Observation of the Data

But let us see what adventures Annie has had for this period of 110 weeks. It should not be too surprising to most readers to find that 39 weeks were spent in conflict with foreign agents whose identities were thinly disguised and presumably Russian with names such as Ivan Ichalotski, Andrei and Alex. For another period of 15 weeks, Annie had numerous encounters with a gang of young hoodlums working the protection racket. Thus 50 percent of Annie's time was devoted to conflict with specific persons and to definite causes, namely preservation of capitalism in the struggle against Communism and aid to small, honest, decent businessmen having difficulty with young hoodlums engaged in the protection racket.

The other 50 percent of Annie's time was devoted to helping the poor and unfortunate with money, which she obtained either from the sale of her store or the vast treasure which she discovered with the aid of a magic whistle. As a result of her find, Annie undertook construction of an entire community for orphans to live in and run in their own way. This project collapsed, however, when government men inadvertently toppled a mountain over the entrance to the treasure cave in their effort to retrieve and impound the treasure until the law was determined and taxes were computed.

The setting in which Annie's adventures took place changed from time to time and the people with whom she lived during this period of 110 weeks are listed below in chronological order:

27 weeks: Patrick and Mrs. Puddle, wealthy millionaire who immigrated to U.S. as a boy and became a great steel mill owner (mansion)

29 weeks: Jeb and Flossie Jitters, poor n'er do well farmers, happily married but without children (farm)

15 weeks: Rocky and Lena, rugged rolling-stone and girl whose wife-beating husband had left her (barge)

16 weeks: Mr. and Mrs. Dan Drift and eight children, unemployed husband and sick, pregnant mother (small house)

13 weeks: Daddy Warbucks, wealthy industrialist who uses his fortunes to battle enemy countries in his own way (estate)

10 weeks: On the road

The above data indicate that Annie has an amazing ability to rub elbows with people in extreme walks of life, but it is rather

noticeable that she has never lived with coal-miners, steel-workers, punch-press operators or laboring people in general. Annie's associates tend to be either the great captains of industry or the poor and unfortunate who lack initiative or are unwilling to work for a living. The latter usually benefit from their contact with the ambitious and always energetic Orphan Annie. Her poor associates are not the great masses of people whose daily labors barely keep them above the subsistence level, but instead are the poor whose personal disorganization clearly has no connection with the disorganization which exists in our economic system. Thus we see that Annie is concerned with the unfortunate, but the causes of their poverty are carefully shown to be of a non-social nature. This will be evident in more detail as we proceed. An examination of Table 1 reveals the nature of Annie's opponents and the methods used in combating them. Table 2 describes Annie's friends.

Annie's opponents are polished off with a clock-like regularity. Foreign spies and their radical American counterparts are far and away the wiliest opponents Annie meets; their numbers are overwhelming as contrasted to other opponents, such as hoodlums, young and old. In almost every instance the criminals in this comic strip are the dirty-collar type of offender; the white-collar criminal is seldom seen. The etiology of crime as presented in this strip has all the authoritarianism of Ivan's pronouncements on the class struggle, and less accuracy. The causes of juvenile delinquency are likewise stated with the finality of holy writ.

We have already noted the frequent appearance of the needy, but we may also observe that many of Annie's associations are with millionaire leaders of industry. Professional and middle class people appear as frequently as the wealthy but most interesting is the appearance of tough guys, largely in the employ of Daddy Warbucks, the benevolent millionaire. Small business men appear often, but not as frequently as people in the categories already mentioned.

Many of Annie's opponents are removed from the scene by the Pied Piper-like schemes of Annie's friend Kansk while others disappear under the magic cloak of Punjab, the giant Oriental. Annie's opponents are not always removed with such convenience; others are drowned, shot, hanged or their necks are broken. Some of Annie's adversaries receive rather bad beatings and others are merely frightened away in one manner or another. Annie is quite willing to use force when necessary.

Actually, Little Orphan Annie presents a picture of the world about us as many see it, one in which the hard-working captains of industry struggle against a vicious and uncompromising underground in order to protect capitalism, earn large profits and thus assume their social responsibilities, i.e., be charitable to the needy. A much fuller elaboration of this may be found in Max Weber, *The Protestant Ethic*.

ANNIE'S LIFE GOALS

Let us consider the goals in life approved by Orphan Annie and her friends and the methods which are proposed for their attainment. The goals suggested in Little Orphan Annie do not appear to be greatly divergent from the goals which people in our own society have. Their similarity to Weber's *Protestant Ethic* has already been noted. Making a large amount of money was mentioned as a goal six times; doing charitable works appeared seven times. We are told on three different occasions that the country should be kept free from the slavery of foreign lands. Being a law-abiding citizen is mentioned with the same frequency. At other times we are told that one should marry the rich and beautiful daughter of the boss, have a happy marriage, have a large happy family and bring up one's children to be good citizens. Money is both a means and an end in Annie's life. The methods suggested for reaching goals place considerable emphasis on the forceful techniques so eloquently condemned in the larger society. The use of force of one kind or another was mentioned nine times; hard work was mentioned five times; and wealth was mentioned on three other occasions. Annie's methodology is that of the Rockefellers, Carnegies and other captains of industry of the Nineteenth Century. How much of it is the methodology of mid-century government today is debatable. The most forceful

Table 1   Frequency and Type of Annie's Opponents

Number of Appearances	*Annie's Opponents*	*Who They Are & What Happens to Them*
9	Axel	Head of foreign spy ring, sent away on ship by Kansk
7	Max	Handyman & chauffeur, member of spy ring, sent away on ship by Kansk
6	Ivan Ichalotski	Foreign agent, sent home in box by Warbucks
4	Peter Petard & Pola Petard	Run second-hand store, member of Axel's spy ring, sent away on ship by Kansk
3	Andrei	Foreign spy with Axel, pushed into sewer by Annie
1	Axel's messenger	Foreign spy, neck broken by Kansk
1	Michail	Scientist, gives secrets to foreign agent, sent away by Punjab
1	Unnamed foreign agent	Gets secrets from scientist, sent away by Punjab
1	Three foreign agents	Pursuing Warbucks, stumble into quicksand and Annie misleads them
0	Agent disguised as crewman	Pursuing Warbucks, shot by other crew members
0	Unnamed "party" member	Leaving country, killed by Peter Petard
0	Unknown member of Ivan's gang	Pursuing Warbucks, sent away by Punjab
0	Unnamed foreign agent	Pursuing Warbucks, killed by Asp
6	Mrs. Puddle	Wife of millionaire, sympathetic to radicals
3	Little Monster and gang	In the protection racket, beat up and reformed by Big Monster
2	Snozz	Member of Little Monster's gang, sent to reformatory
2	Goldtooth and gang	In the protection racket, beat up by Annie's gang
2	Big Monster and gang	Older hoods, racketeers, four killed by Big Monster
1	Dotty the Dip	Mother of Snozz, a fence and former thief
1	Blackjacker #1	Held by Mrs. Jot, hit on head with rock by Annie
1	Blackjacker #2	Hit Annie over head for money, hit on head with cane by Mr. Puddle
1	Armed robbers #1 & #2	After Annie's money in safe, fell into river through Annie's trap door
1	Two tough guys	After treasure in cave, scared away by python of Gypsy Belle
1	Ex-convict	After treasure in cave, killed by the hoodlum
1	Three hoodlums	After treasure in cave, 2 killed by the ex-convict
1	Stranger	From SE Asia after treasure, killed by Punjab
0	Three gangsters	After treasure in cave, apparently killed by Punjab
3	Cap'n Krok	Wife-beating husband of Lena; muscles in on barge business, falls into own trap and drowns in bay
2	Prissy Putsch	Housewife, reformer campaigning against comics, etc.
2	Two government agents & soldiers	Attempt to impound treasure
2	Angry people of the village	Anxious to receive some of Annie's treasure and then angry when it is lost

Table 2   Frequency and Type of Annie's Friends

Number of Appearances	Annie's Friends	Who They Are & What Happens to Them
19	Daddy Warbucks	Millionaire industrialist
6	Patrick Puddle	Millionaire steel man (killed in an airplane crash)
5	Mrs. MacBond	Former hasher come rich on oil wells
15	Doc Croaker	Doctor who gave up practice because of drink and now returns in a pinch and reforms
5	Mr. Locust	Annie's lawyer
4	Kurt Kolly	Small town sheriff
2	Two uniformed police	Sympathetic policemen who arrest Rocky
2	Mr. Starr	Plainclothes policeman who enjoys seeing Annie's gang beat up "Clipper" Gang
1	Jerry	Truck driver who gives Annie a ride
13	Punjab	Giant Oriental assistant to Warbucks
11	Rocky	Rolling-stone tough-guy, leader of wharf rats
11	The Asp	Tough-guy Asiatic assistant to Warbucks
7	Gypsy Belle	Tough old witch living alone in forest
5	Funjab	Small nephew of Punjab
4	Kansk	Counter espionage agent from Eastern Europe
4	Seeress Kahn Kahn	Hypnotist from Middle East
4	Big Monster	Reformed gangster
1	Little Monster	Reformed son of Big Monster
4	Mr. Mustard	Small business man with general store
4	Business and Junior Grade Gang	Small business people on Annie's street organized to oppose protection rackets with force
2	Mr. Jolt	Ran store for Annie
1	Mr. Wire	Bought store from Annie
32	Melissa	Orphan child
12	Mrs. Drift	Sick, pregnant mother of 8 children
12	Drift children	8, later increased to 11
11	Dan Drift	Unemployed father
9	Lena	Farmer's daughter married to wife-beating husband
6	Jeb Jitters	Poor n'er do well farmer
5	Flossie Jitters	Jeb's loving wife
3	Mrs. Jot	Elderly domestic servant in wealthy home
3	Aunt Ivy	Wife of Uncle George, business ruined by Dan Drift
0	Jack Sack	Janitor friend of Dan Drift
1	Irene	Daughter of Big Monster

246 = Total appearances of friends of Annie

speeches of Oliver Warbucks could well have come from the mouths of prominent leaders in either of the two major political parties. The greatest divergence from today's ideology would probably occur in Warbucks' emphasis on doing things in his own way rather than appealing to the law. Other means of attaining goals mentioned are: thinking fast, outguessing the other boys, outtalking the other boys, using all the angles, taking chances, accepting poverty, providence, magic, and hope.

While a rather crude attempt to quantify goals and methods of reaching them has been made, there is considerable room for improvement and this aspect of the analysis should be treated as a first approximation rather than any final estimate of the relative importance of values stressed in Little Orphan Annie. The list of symbols approved or condemned by Annie and her friends is another aspect of the analysis in which our method of quantification cannot be considered too reliable but in which the results are suggestive enough to be included in this preliminary paper.

Orphans are approved five times and work is approved four times. Other symbols mentioned favorably are: honest merchants, smart business men, little business men, people with class whether they are rich or poor, honest-to-goodness people and the Horatio Alger type. In addition, Little Orphan Annie approves of honesty, brains, going straight, decency and fair dealing, curiosity, love of countrymen, Santa Claus, Providence, school, peace, prosperity and equal opportunity.

On six occasions Annie vigorously condemns lazy, mean people who are unwilling to work. She refers to them as lazy, whining failures who sneer at success. Stupid radicals who do not know how well off they are, who follow the party line like sheep and who sell out their friends and country are criticized four different times. On eleven occasions Annie condemns slave labor camps; truth treatments; fake confessions; the five year plan; those who would make everybody equal to the lowest village idiot; and makes other similar references to conditions in the Soviet Union. Hitler and book-burning are condemned three times. Braggarts and fatheads are mentioned six times. Annie also disapproves of parents who do not take care of their children, the "bleeding hearts"

who spend too much time worrying about the troubles of other people, the belief that wealth is a sin, people unwilling to pay the price for peace, and those who become too concerned with great causes and crackpot schemes.

Here again we see that the symbols approved or condemned are very similar to the symbols approved or condemned by the upper and middle classes in the United States. It is difficult to show the extent to which Gray leans in approving one set of symbols and totally ignoring others which are approved by a large section of the population, albeit by persons on a lower socio-economic level than many of the characters in Little Orphan Annie. The experience gained in our analysis of Little Orphan Annie suggests a larger project in which more refined techniques could be used in an analysis and comparison of the content of several comic strips.

NOTES

1. The entire issue of the *Journal of Educational Sociology,* December 1944, was devoted to a discussion of comic cartoon strips. A few but very inadequate articles have appeared on the effect of cartoon strips. The best empirical study to date is (Wolf & Fiske, 1949). Also see Muhlen (1948), Bender and Lourie (1941), and Hadsel (1941).

2. Harper, M., Jr., and Epes Harper, V. M. *4500 Newspaper pictures and their significance for advertisers,* McCann-Erickson Advertising Agency. *The Daily Oklahoman* reports for every 100 adult readers, Little Orphan Annie has 95 child readers as compared with Dick Tracy who has 161 child readers.

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5.9

GENDER EQUITY IN MANAGEMENT EDUCATION

Inferences From Test Bank Questions

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The Sapir-Whorf theory suggests that the language that we use may reflect or shape our thoughts (Whorf, 1956; as cited in Merritt & Kok, 1995). Research suggests that sexist language supports and encourages sexist thinking and action (Cronin & Jreisat, 1995; Gastil, 1990; McMinn, Williams, & McMinn, 1994). For example, Gastil (1990) concluded that the use of *he* as a generic pronoun is not generic, but clearly biases the reader toward imagining a male person. "Most agree that passages using sexist language affect the way a reader interprets the passage" (McMinn, Lindsay, Hannum, & Troyer, 1990:390). Thus, the study suggests that sexist language and a bias toward male managerial examples will support and encourage negative stereotypes against women as managers.

Pirri, Eaton, and Durkin (1995) proposed that the knowledge of a person's gender is enough to invoke preconceived stereotypes about expected performance. McGlashan, Wright, and McCormick's (1995) study found that negative stereotypes against women as managers led to lowered performance evaluations by the respondents, even when there were no actual performance differences between male and female managers. A number of other researchers (Hartman, Griffeth, Crino, & Harris, 1991; Maurer & Taylor, 1994; Shore, 1992) have demonstrated similar findings. "Research on occupational stereotypes confirms that images of jobs are actually images of people who hold those jobs" (Glick, Wilk, & Perreault, 1995:565). For example, undergraduate students were found to be significantly influenced against career choices that were described using sex-biased language (Benoit & Shell, 1985). Thus, it is suggested that when management students read predominantly

about male managers, stereotypes that all managers should be male are reinforced. Given the implications of the use of sexist and biased language within management education, in this study we evaluate the content of management test bank questions for sexist language and gender equity.

METHOD

Sample

All the test questions contained in the test banks for 17 management books were included in the sample.

Procedure

. . . A content analysis was conducted for each question in the test banks. Test bank questions referring to a person included hypothetical situations and references to popularly known entrepreneurs or managers. Management theorists or historical figures known for their contributions in the development of the management field were not included in the analysis. Questions were evaluated for gender role in the question and name. To test for reliability of the evaluation, one test bank was evaluated by two independent raters (one male and one female) and the results compared.

Measures

Gender: Each person referred to in the test question was evaluated for gender and by name and/or pronoun and was counted only once, no matter how often the single question repeated reference to the person.

Role: The role the person played in the test question was measured as one of three categories: The first category included managers, supervisors or owners; the second, employees or subordinates; the third, co-workers, students or any other role that would fall outside the first two categories.

Name: The way the person was referred to in the question was categorized as either "first name only," Mr. or Ms, Mrs., or Miss, or "other," which included he or she only, and

full name. Each person was categorized for name only once per question. For example, if a person was called both Mr. Jones and John, the classification was given to Mr. because the first name classification was given only when the first name was used exclusively.

RESULTS

The first book contained 2,662 test items. Most books contained over 1,500 items to be evaluated. All but the first test bank were evaluated by only one researcher.

The results indicate that for all 17 tests combined, males were referred to significantly more often (frequency = 1,803) than females (frequency = 1,003). Based on a Z test of proportion, the findings indicate that males are referred to 64% of the time ($Z = 15.45$; $p < .01$). Evaluation of each test independently showed results indicating that males were referred to significantly more often ($p < .05$) than females in 15 of the 17 test banks reviewed. The test banks that did not portray males significantly more often than females were the VanFleet and Peterson book (males were portrayed 53% of the time; $Z = 0.65$) and the Dubrin book (males were portrayed 44% of the time; $Z = –0.36$). For the test banks that portrayed males significantly more often, the percentage of questions using males in the examples ranged from a low of 60% ($Z = 3.46$, $p < .01$) for the Lewis, Goodman, and Fandt test to a high of 79% ($Z = 4.88$, $p < .01$) for the Plunkett and Anner test.

In addition to the percentage of test items that referred to males, the role the person played in the test item was also evaluated for gender equity. The test items that referred to a managerial role were classified as either a male or a female manager. In Table 1, I provide a breakdown of frequencies, percentages, and tests of proportions of managerial role by gender and test bank. Using a Z test of proportion, I found that managers were males 68% of the time ($Z = 15.67$; $p < .01$). When evaluating the tests independently, I found that males were used significantly more often ($p < .05$) as managerial examples than were females in 14 of the 17 books. Females were not portrayed significantly more often as

Table 1   Gender Equity by Test Bank: Frequencies and Tests of Proportion

Book Author and Publisher	Gender Male	Female	% Male	Z- Score
Bedeian, A.G. (1993). *Management* (3rd Ed.) Dryden Press. Test bank author: Foegen, G.	53	15	78	5.57[††]
Bounds, G. M., Dobbins, G. H., & Fowler, O. S. (1995) *Management: A Total Quality Perspective.* (1st Ed.), South-Western. Test bank author: Hastings, B.	112	44	72	6.12[††]
Certo, S. C. (1994). *Modern Management: Diversity, Quality, Ethics, and the Global Environment* (6th Ed.) Allyn & Bacon. Test bank author: Kemper, R.	60	19	76	5.41[††]
Daft, R. L. (1995). *Understanding Management* (1st Ed.) Dryden Press. Test bank authors: Vincent, W. E. & Murphy, D.	93	59	61	2.78[†]
Dessler, G. (1995). *Managing Organizations in an Era of Change* (1st Ed.). Dryden Press. Test bank authors: Clinebell, S. & Peluchette, J.	53	18	75	4.86[††]
Donnelly, J. H., Gibson, J. L. & Ivacevich, J. M. (1995). *Fundamentals of Management* (9th Ed.) Irwin. Test bank authors: Kroot, I. B. & Gorski, B. A.	81	27	75	6.00[††]
Dubrin, A. J. (1994) *Essentials of Management* (3rd Ed.). South-Western. Test bank author: Dubrin, A. J.	2	2	50	0
Dubrin, A. J. & Ireland, R. D. (1993) *Management and Organization* (2nd Ed.). South-Western. Test bank authors: Dubrin, A. J. & Ireland, R. D.	9	3	75	2.00[††]
Gatewood, R. D., Taylor, R. R. & Ferrell, O. C. (1995). *Management: Comprehension, Analysis and Application* (1st Ed.). Irwin. Test bank author: Gardiner, G.	73	12	86	9.57[††]
Griffin, R. W. (1993). *Management* (4th Ed.). Houghton Mifflin. Test bank author: Kacmar, K. M.	48	35	58	1.48
Hellriegel, D. & Slocum, J. W. (1992). *Management* (6th Ed.). Addison & Wesley. Test bank authors: Fischthal, E. & Fischthal, S.	206	106	66	5.97[††]
Kreitner, R. (1995). *Management* (6th Ed.). Houghton Mifflin. Test bank author: Kreitner, R.	35	14	71	3.24[††]
Lewis, P. S., Goodman, S. H. & Fandt, P. M. (1995) *Management: Challenges in the 21st Century* (1st Ed.). West. Test bank author: Young, N.	89	56	61	2.72[†]
Plunkett, W. R. & Attner, R. F. (1994). *Introduction to Management* (5th Ed.). Wadsworth Publishing. Test bank author: Herrik, R.	19	3	86	4.87[††]
Robbins, S. P. (1994). *Management* (4th Ed.). Prentice Hall. Test bank author: Schrantz, D.	33	16	67	2.06
Stoner, J. A. F., Freeman, R. E. & Gilbert, D. Jr. (1995). *Management* (6th Ed.). Prentice Hall. Test bank author: Quirk, T. J.	129	67	66	4.73[††]
VanFleet, D. D. & Peterson, T. O. (1994). *Contemporary Management* (3rd Ed.). Houghton Mifflin. Test bank author: Wagner, F.	31	28	53	0.46
Total	**1126**	**524**	**68**	**15.67[††]**

NOTE: Total number of male managers referred to. Total number of female managers referred to.

[†] $p < .05$.

[††] $p < .01$.

managers in any of the books. The tests that were not found to be biased toward males as managerial examples were the Dubrin, the Griffin, and the VanFleet and Peterson books.

The name used to refer to the managers was also evaluated by gender. A Z-test of independent proportion indicated that male managers were referred to by their first name 29% of the time and female managers were referred to by their first name 42% of the time ($Z = -5.22$; $p < .01$). When I evaluated the tests independently, I found that in 11 of them female managers were referred to by their first name only more often than male managers were referred to by their first name only. For example, the Dessler test referred to female managers by their first name 72% of the time, whereas male managers were referred to by their first name 49% of the time. Z-tests of independent proportions were not calculated for each test because of the rather small subgroups (11 of the 17 tests have fewer than 30 female managers referred to).

DISCUSSION

The results of this study demonstrate that the test banks for management books are not written in an unbiased and non-sexist manner. These results actually support other research studies that have demonstrated that gender stereotypes continue to exist within the business and educational environments (Bergen & Williams, 1991; Cooper & Lewis, 1995; Norris & Wylie, 1995; Scheidt, 1994; Street, Kimmel, & Kromrey, 1995; Ware & Cooper-Studebaker, 1989). "There still appears to be a need for education to eliminate outworn stereotypes about women and men" (Street et al., 1995:199). However, because of legislation and greater societal awareness of the problem of gender bias, current forms may be more subtle than in the past (Shore, 1992).

University faculty are often seen as role models for students (Street et al., 1995). In fact, Cronin and Jreisat (1995) found that students who were given nonsexist instructions were less likely to use sexist language than students who were given sexist

instructions or no instructions at all. Unlike the way they view most textbooks, students often view exams as written by their own instructor. Thus, through our exams, we have the opportunity to model nonsexist, nonbiased writing for our students. "Identifying and correcting sexist language is an important part of any educational program that attempts to move students beyond sexist stereotypes" (McMinn et al., 1994:742).

The sample size of management test banks used in this study appears to adequately represent the population of management test banks. We do not know, however, if the evaluation of management test banks is representative of other subject areas within management. Future research could determine if other management area test books are similarly biased.

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5.10

MATHEMATICS COMPUTER SOFTWARE CHARACTERISTICS AND GENDER

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Many studies have argued that preschool children's attitudes toward computers are more similar than different (Sherman, Divine, & Johnson, 1985; Williams & Ogletree, 1991). Unfortunately, by high school, females tend to have developed more negative attitudes toward computers than males (Collis, 1985; Fetler, 1985). The way in which many children were first introduced to computers may have fostered gender differences. A review of the literature suggests that girls' negative attitudes have been exacerbated by gender role socialization coupled with a bias in computer software. Educational software programs, often modeled after video games, have been accused of serving as a gateway to technology for boys, but not for girls, as they reinforce the societal programming that males have received but conflict with the societal programming that females have received (Braun, Goupil,

Giroux, & Chagnon, 1986). Past studies have found that females dislike the typical video game format (Dolan, 1994). This dislike is disturbing since frequent video game use by girls has been positively correlated to achievement, improved attitudes, and motivation in computer related areas (Gibb, Bailey, Lornbirth, & Wilson, 1993). Thus, it is crucial that educators begin to consider the aspects of video games and the educational software modeled after video games, which distract from girls' attitudes and interest in using the software.

From this literature review, a trend emerged. Several studies that claimed to introduce gender-neutral computer materials prior to attitude assessment manifested similar attitudes toward computers across gender groups (Forsyth & Lancy, 1989; Johnson & Swoope, 1987). Whereas, when studies claimed to introduce girls to "male biased"

computer materials, interest decreased and attitudes became more negative (Dolan, 1994; Johnson & Swoope, 1987). Thus, evidence indicates that girls' attitudes toward using video games and educational software were strongly influenced by the format of the computer software.

Overwhelmingly, the literature suggests that violence, competition, and the under-representation of female characters have been the main factors negatively affecting girls' attitudes and interests in using computer software (Biraimah, 1993; Braun et al., 1986; Fisher, 1984; Johnson & Swoope, 1987). However, no empirical evidence exists which systematically considers the impact of each of these factors on girls' attitudes. This study presumes that these three elements may affect girls' attitudes and, thus, warrant attention. Therefore, this study will analyze, via a content analysis, the role these three elements play in recently published mathematics software programs.

Ultimately, it is important to systematically discern whether these elements influence the attitudes of girls toward computers. However, it is first important for educators to determine if these elements prevail in the software currently being purchased by schools. Especially, do these elements, previously identified in educational software, continue to pervade the more recently purchased educational software programs? This exploratory analysis seeks to uncover whether or not these aspects prevail in current software.

This study considers mathematics software specifically. Although content analyses of software have been conducted, many are based on the assumption that certain elements, such as competition and violence, are masculine and, thus, of more interest to males than to females. It is questionable whether these assumptions are valid or faulty overgeneralizations. Thus, the terms *masculine* and *feminine* are reserved. Finally, the software is analyzed as a function of grade level. According to the literature, the attitudes toward computers that girls exhibit depend largely on grade level. Recall, preschool children's attitudes toward computers were more similar than different. Unfortunately, by high school, females tend to have developed more negative attitudes toward computers than males. Therefore, it is reasonable to question whether the elements contained in the software programs designed for pre-schoolers differ from the elements contained in the software programs designed for high school use.

METHODOLOGY

Software

This study analyzes seventeen educational software programs designed for use in the mathematics classroom as a function of grade level, the representation of gender, competition, and violence. Each program was listed on the Educational Resources' top-ten top-seller list for either the 1993–1994 school year or the 1994–1995 school year. Educational Resources' primary clients are school districts, schools, teachers and administrators in both the United States and Canada. Educational Resources is the leading distributor of software to schools in North America. Therefore, these top-selling products are a real reflection of the software purchased for use in classrooms.

Design

This study analyzes latest developments in mathematics software (1990–1994) including interactive CD-ROMs and videodiscs. Each software program is evaluated on the basis of gender representation, violence, and competition. This content analysis is strictly exploratory and descriptive. The percent of male characters and voices portrayed and the percent of female characters and voices portrayed are reported for each software program. A violence percentage is reported for each software program. Both a competition against the program percentage and a competition against a peer percentage are reported for each program. A mean percentage of each variable is recorded for each grade level. The variable definitions and calculation procedures are described in the following sections.

Variables

Violence is defined as actions which cause (or intend to cause) injury, damage, destruction or devastation to another being or object.

Competition against a Peer involves any situation in which two persons are striving for the same goal (prize, high score, end result etc.) but only one person can win by achieving this goal. If the student's performance in an activity affects or determines whether the outcome will be a win or defeat, this activity is considered to contain competition.

Competition against the Program involves any situation in which the player will either win by achieving the desired end or be defeated by the program. If the student's performance in an activity influences or determines whether the outcome will be a win or defeat, this activity is considered to contain competition.

Gender Representation: A character's sex is only reported if it could be accurately determined by either appearance or voice. Therefore, non-gendered characteristics with no voice are not reported.

Procedures

Violence: The seventeen software programs are each composed of one or more distinct activities. The percent of violence in a particular program = (the number of the program's activities containing violence ÷ the total number of activities in the program) × 100.

Competition Against a Peer: The percent of competition against a peer = (the number of activities containing competition against a peer ÷ the total number of activities in the program) × 100.

Competition Against the Program: The percent of competition against the program = (the number of activities containing competition against the program ÷ the total number of activities in the program) × 100.

Gender Representation: The percent of female characters = (the number of characters determined to be female ÷ the number characters to which a gender could be attached) × 100. Likewise, the percentage of male characters in the program = (the number of characters determined to be male ÷ the number of characters to which a gender could be attached) × 100.

Mean Percentages: Each mean percentage serves to describe (in a single number) the overall level of the variable present at a particular grade level. For instance, the mean violence percentage for a particular grade is the mean of the individual violence percentages of the programs designed for that grade. Three programs are designed for twelfth grade use with individual violence percentages of 100 percent, 50 percent, and 0 percent. Thus, the mean violence percentage for the twelfth grade is [(100 + 50 + 0)/3] percent = 50 percent.

Educational Level Means: Each educational level mean percentage serves to describe (in a single number) the overall level of the variable present at a particular educational level (i.e., preschool, elementary school, middle school and high school). Elementary school is considered to include kindergarten through fifth grade. Middle school is considered to include sixth through eighth grade. High school is considered to include ninth through twelfth grade. For instance, the mean violence percentage for high school is the mean of the violence percentages of the programs designed for use in at least one of the high school grade levels. In calculating the mean violence percentage for each educational level, the violence percentages are differentially weighted by the number of grades for which the corresponding program is appropriate. The violence percentage of a program designed for ninth through twelfth grade use is weighted by four, whereas a violence percentage of a program designed only for ninth grade is weighted by one.

Results and Discussion

Results

A violence percentage, a competition against program percentage, and a competition against peer percentage are reported for each software program (arranged by grade

level appropriateness) in Table 1. The percent of female characters and voices portrayed and the percent of male characters and voices portrayed are also reported for each software title in Table 1. When the data in Table 1 are reviewed from a quantitative perspective, patterns of gender imbalance emerge. Of the 112 characters to which a gender could be attached, twenty-eight (or 25%) are female and eighty-four (or 75%) are male.

A mean violence percentage, which serves to describe the overall violence level of a particular grade, is reported for each grade level in Table 2. The results indicate that the mean percentages of violence increase across grade level. The programs designed for preschool use contain a mean

violence percentage of 4.2 percent. In contrast, the programs designed for high school use contain a mean violence percentage of 46.2 percent (see Figure 1).

The results in Table 2 further indicate that the mean percentages of competition against the program increase across grade level. Of the programs designed for preschool use, none requires the student to compete against the program. The programs designed for high school use contain a mean competition against the program percentage of 53.8 percent (see Figure 1).

The results in Table 2 indicate that the mean competition against a peer percentages increase across grade level. Of the programs designed for preschool use, none requires the student to compete against a peer. The

Table 1   Characteristics of Each Software Program Arranged by Grade-Level Appropriateness

Title of Software	Violence		Competition Against Program		Competition Against Peer		Female Characters		Male Characters	
Millie's Math House	0%	(0/6)	0%	(0/6)	0%	(0/6)	41.7%	(5/12)	58.3%	(7/12)
Kidsmath	12.5%	(1/8)	0%	(0/8)	0%	(0/8)	all characters non-gendered			
Thinkin' Things 1	0%	(0/6)	0%	(0/6)	0%	(0/6)	38.1%	(8/21)	61.9%	(13/21)
Treasure MathStorm	43%	(3/7)	100%	(7/7)	0%	(0/7)	27.3%	(3/11)	72.7%	(8/11)
Stickybear's Math	0%	(0/12)	50%	(6/12)	50%	(6/12)	50%	(2/4)	50%	(2/4)
Number Maze	0%	(0/1)	0%	(0/1)	0%	(0/1)	0%	(0/9)	100%	(9/9)
Countdown	0%	(0/3)	0%	(0/3)	100%	(3/3)	100%	(1/1)	0%	(0/1)
Coin Critters	10%	(1/10)	10%	(0/10)	0%	(0/10)	20%	(1/5)	80%	(4/5)
Turbo Math Facts	80%	(4/5)	100%	(5/5)	0%	(0/5)	0%	(0/2)	100%	(2/2)
Math Blaster Plus	50%	(2/4	50%	(2/4)	25%	(1/4)	0%	(0/2)	100%	(2/2)
Math Blaster 1	75%	(3/4)	100%	(4/4)	0%	(0/4)	25%	(1/4)	75%	(3/4)
Math Workshop	0%	(0/7)	28.6%	(2/7)	28.6%	(2/7)	16.7%	(5/30)	83.3%	(25/30)
Math Blaster 2	50%	(2/4)	100%	(4/4)	0%	(0/4)	25%	(1/4)	75%	(3/4)
Tesselmania	0%	(0/1)	100%	(0/1)	0%	(0/1)	no characters			
Cruncher, The	0%	(0/3)	0%	(0/3)	0%	(0/3)	25%	(1/4)	75%	(3/4)
Number Munchers	100%	(1/1)	100%	(1/1)	100%	(1/1)	all characters non-gendered			
AlgeBlaster 3	50%	(2/4)	75%	(3/4)	0%	(0/4))	0%	(0/3)	100%	(3/3)

Table 2   Mean Percentages by Grade Level

Grade Level	Number of Programs[a]	Mean Violence	Mean Competition Against Program (%)	Mean Competition Against Peer (%)	Mean % Female Representation
Pre K	3 (2)	4.2	0	0	39.9
K	9 (8)	11.4	21	19.8	33.3
1	12 (11)	22.5	36.6	17	29
2	12 (11)	22.5	36.6	17	29
3	15 (12)	28.0	42.6	20.2	27.3
4	13 (11)	28.1	41.4	23.4	27.3
5	12 (10)	30.4	44.9	25.3	26.2
6	11 (9)	33.2	44.4	23.1	23.5
7	6 (4)	33.3	50.6	21.4	16.7
8	6 (4)	33.3	50.6	21.4	16.7
9	4 (2)	37.5	43.8	25	12.5
10	3 (2)	50	58.3	33.3	12.5
11	3 (2)	50	58.3	33.3	12.5
12	3 (2)	50	58.3	33.3	12.5

a. The number of data points (number of programs) upon which each mean percentage is based is uneven across grade levels. It is important to consider that the preschool and ninth through twelfth grade means are based on relatively few data points, as only a few of the top-selling software programs are designed for use in these grades. The numbers in parentheses indicate the number of data points upon which each mean percentage of female characters is based.

programs designed for high school use contain a mean competition against a peer percentage of 30.8 percent (see Figure 1).

In contrast, the mean percentages of female characters portrayed decrease with grade level (see Table 2). The mean percentage of female characters and voices portrayed in the programs designed for preschool use is 39.9 percent. The mean percentage of female characters and voices portrayed in the programs designed for high school use is 12.5 percent (see Figure 1). The software programs that contain no characters or only non-gendered characters were not included in the calculations.

The orderliness of the means can be misleading.[1] If the entire data set is taken into account, the trends of increasing violence and competition and decreasing representation of female characters and voices are more unclear.

The systematic trends in the means of each element across grade level and educational level pale in comparison to the wide spread of percentages for each variable within each grade level and educational level. For each variable, the within grade variability and within educational level variability are quite high. Within each grade level, with the exception of preschool, there is a wide range of violence, competition, and female representation levels from which to choose. Students have access to programs containing no violence, no competition, and no female characters and voices. However, they also have access to programs containing considerable violence, competition, and female characters and voices.

In fact, each software program services multiple grade levels. To some extent, the elementary school students have access to the same programs as high-schoolers. With the
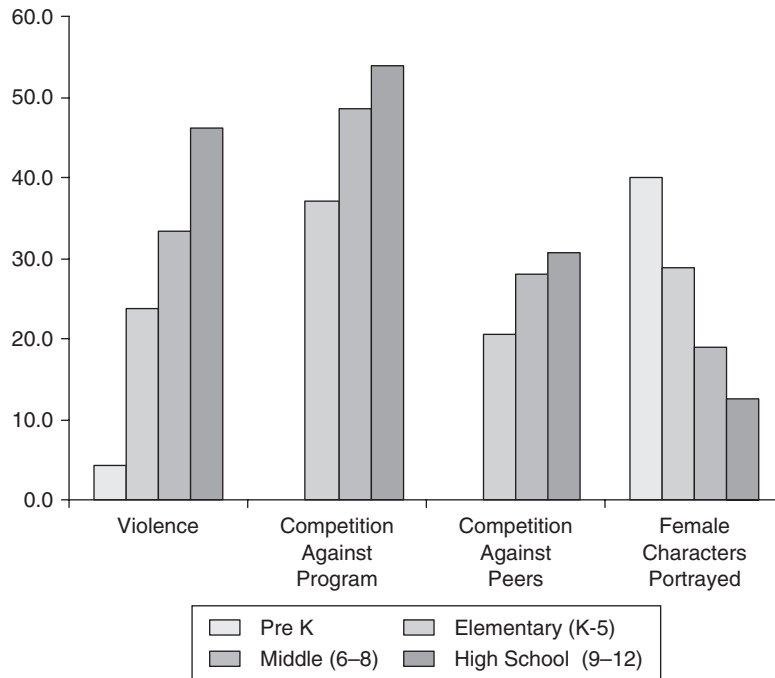
Figure 1   Educational Level Mean Percentages

exception of preschoolers, younger kids are not being spared violence and competition and the older kids are not being fed only violence and competition.

DISCUSSION

Do violence, competition, and the under-representation of female characters considered to prevail in 1980's educational software pervade these more recent educational software programs? In regards to these top-selling programs, the answer is yes. However, the results do not indicate that all of these top-selling programs are characterized by violence, competition, and an under-representation of female characters and voices. Given any one of these three elements, sellers exist which are completely void of the element and top-sellers exist which are loaded with the element.

The software programs analyzed in this study were not randomly selected from the general pool of existing software programs.

Therefore, the results that emerged from this content analysis cannot and should not be generalized to other software programs. The study should be replicated, analyzing different educational software programs.

We can garner several important trends as they exist among these 17 best-selling programs. First, the top-selling programs designed for preschools contain considerably less violence and competition than the top-selling programs designed for use in high schools. Second, a gender imbalance, favoring males, pervades the majority of these seventeen software programs. However, the software programs designed for preschool use contain higher percentages of female characters and voices than the programs designed for high school use.

As the literature underscores, preschool children's attitudes toward computers are more similar than different. Unfortunately, by high school, females tend to have developed more negative attitudes toward computers than males. At this point, it would be far too

simplistic to conclude that it is the increase in violence and competition and the decrease in female representation that cause girls' attitudes and interest to plummet. Instead, it seems that these variables' relationships to girls' attitudes toward computers warrant further investigation.

Violence, competition, and the under-representation of female characters certainly continue to prevail in current software. The trends across grade level found in respect to these variables warrant further exploration. Educators need to identify the exact elements of computer software that are discouraging (or encouraging) to girls. Only then can we design more effective and relevant instructional software programs that engage a broader range of students.

NOTE

1.   A number of different analyses were considered. Since each software program services multiple grade levels, the independence assumption required for analyses (such as linear regression) was violated. Reporting the means seems to be the most straightforward way to present the data.

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5.11

A CONTENT ANALYSIS OF MUSIC VIDEOS

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The music video, as shown on Music Television (MTV), is a contemporary hybrid of rock music and film imagery. This study analyzed a sample of 62 MTV music videos in 23 content categories. Of the content categories studied, frequent occurrences were found in visual abstraction, sex, dance, violence, and crime. MTV sexual and violent content is characterized by innuendo and suggestiveness, perhaps reflecting MTV's adolescent audience appeal.

De Fleur and Ball-Rokeach (1982) have argued that exposure to mass media content indirectly affects behavior by shaping cultural norms. Research studies, often centered on the sexual and violent content of television, have investigated the relationship between mass media content and cultural norms. For example, the cultural indicators group (Gerbner & Gross, 1976; Gerbner, Gross, Morgan, & Signorielli, 1980)[**] has found that televised violence may cultivate perceptions of

mistrust, apprehension, danger, and a "mean world." In addition, analyses of the sexual content of television (Fernandez-Collado, Greenberg, Korzenny, & Atkin, 1978; Franzblau, Sprafkin, & Rubinstein, 1977) have revealed that physical intimacy appeared most often in less sensuous forms. Kissing, embracing, and nonaggressive touching dominated the screen, while sexual behaviors such as rape and intercourse were almost never seen but often suggested. Others have studied television as a form. Wright and Huston (1983:841) proposed that the visual and auditory representation possible with television was a potent means of communication and "could induce active cognitive processing," especially for the young.

Little attention, though, has been given to the form and content of Music Television (MTV), which began in 1981. MTV airs video clips of recording artists performing their current popular music hits. The staple of MTV

content is the music video, which consumes 80% of programming time (Foti, 1981). MTV does not represent the only programming service, which airs music videos. Music videos also appear on USA Cable's *Nightflight,* and on HBO's *Jukebox,* among other services. However, MTV often obtains the exclusive right to show a particular video first.

Critics have charged that MTV stresses sex and violence and makes rock music impersonal by removing the individual "pictures in our minds" generated by the music (Levy, 1983). In exploring both the format and the content of MTV music videos, Gehr (1983:39) proposed that MTV might alter the relationship between the audience and the musicians in live performances and might change how audiences hear records and radio. Gehr believed the music video separates music from visual content, resulting in " . . . discontinuity and disjunction. Gestures, actions, and intentions are nearly always divorced from systematic content."

The content of music videos may be significant from another standpoint. Larson and Kubey (1983) found that both watching television and listening to music (as separate activities) could deeply involve adolescents. Even greater emotional involvement was reported when listening to music. The music video combines elements of both music and television in a nontraditional format. Considering that 85% of the MTV audience is estimated to be between the ages of 14 and 34 (Zimmerman, 1984), the music video has potential for contributing to the cultural norms of a relatively impressionable audience.

Given the lack of systematic content analysis of music videos, the research questions focused on how specific areas of content can be quantified. The following questions guided the research effort: (a) What are the major categories of content that emerge from the observation of music videos and can these categories be analyzed systematically? (b) Do specific content categories, such as those centered on sex and violence, appear with great frequency in music videos? (c) Do music

videos focus on bizarre, unconventional representations? Is androgyny present in portrayals of video characters? (d) Do symbols dealing with government, politics, and American culture and lifestyles appear with discernible frequency?*

METHOD

Although previous analyses of television content are available, their coding instruments used could not be applied readily to music videos. Thus, there was a need to develop a coding form for collecting the data. The development of the coding instrument was guided by the desire to gain an exhaustive overview of music video content and not to focus on one or two areas of possible content, such as sex or violence.

A search of the literature revealed anecdotal data relating to the content of rock music and music videos. For instance, Peatman (1954) and Horton (1957) found lyrics dealt primarily with love, sex, and romance. Gehr (1983) suggested that MTV content centered on themes such as liberty, growing up, death, and fear of the loss of freedom. These suggested themes were grouped into content categories. To examine the relationship of these derived categories to actual music video content, a purposive sample of primetime MTV programming was examined, comparing content suggested by the literature with actual music video content. As a result, the content categories were expanded and each category (with two exceptions) was defined by a short descriptor and by a listing of possible actions or behaviors, which could occur in that category. Defining categories by major properties was suggested by Krippendorff (1980) as a means of assuring exhaustiveness.

This preliminary coding instrument was pre-tested, resulting in the addition and refinement of categories. The final coding form included an "other" choice for each category so that coders could add observed elements

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*Research questions are answered by the nature of the data, here: What is the content of MTV in a chosen set of categories? How bizarre are they (relative to everyday life)? Which symbols of democracy, politics . . . are presented? What is their frequency distribution? The author's questions mix research questions with those concerning an analyst's competence: Can I analyze these categories reliably? Are frequencies discernible?

that the researchers had overlooked. Twenty-three content categories were identified.

A random sample of 62 videos was drawn from the music videos aired on MTV during the week of April 28–May 4, 1984. One hour from each of the seven days was recorded. The hour for each day was determined by using a table of random numbers; military time equivalents were used for the hour designates. Videos in the sample were coded only once.

The unit of analysis was the individual music video of approximately 3 minutes in duration. The length and complexity of the coding instrument influenced the researchers' decision to instruct the coders not to indicate multiple references of content in the same music video. The researchers were interested in the number of videos containing at least one reference to a content category and not in the number of times the same element appeared in a particular video.

Coders were undergraduate students trained in the use of the coding form. Each coder viewed each video twice. During the first viewing, the video was stopped every 30 seconds to allow coding of all content categories to that point. For the second viewing, the video was played nonstop and coders were allowed to make any appropriate changes on the coding form. The videos were viewed by the coders without sound, because the researchers were interested in the visual, rather than audio, content elements of the videos.

To test inter-coder reliability, 21 coders recoded randomly selected videos, which had already been analyzed by original coders. Coder and re-coder results were analyzed using Scott's pi for nominal scale coding (Scott, 1955).* A .82 reliability coefficient was obtained.

RESULTS

A total of 62 videos were analyzed for occurrences in 23 content categories. Table 1 contains frequencies of the leading seven content categories with descriptive behaviors and/or actions for each category included. The researchers' decision not to code multiple occurrences of actions or behaviors in the

content categories must be considered in interpreting these results.

DISCUSSION

The physical structure of the music videos studied reveals that producers rely heavily on special camera techniques, film imagery, and special effects in creating music videos. The intent may be to dazzle the eye and thus hold the attention of the largely adolescent audience. Music videos also allow the performer to dominate the action and showcasing the artist may be a prime concern.

Against the backdrop of visual structure, what other content categories appear in music videos? Consistent with Levy's (1983) observation, MTV videos stressed sexual content. However, like other studies of televised sexual content, music video sexual content was understated, relying on innuendo through clothing, suggestiveness, and light physical contact rather than more overt behaviors.

Thus, music video sexual content may have a decidedly adolescent orientation, suited to its audience; fantasy exceeds experience and sexual expression centers primarily on attracting the opposite sex. Sexual behavior, as portrayed in music videos, may reflect actual or desired adolescent courtship behavior, or the expression of attraction impulses. This issue is beyond the scope of this study. The study's results indicate, however, that sexually oriented, suggestive behavior is portrayed frequently in music videos. Questions regarding the impact of this portrayal on adolescent socialization, peer relationships, and modeling are raised.

The frequency of instances of violence and crime content also merits further attention. Frequent content elements in the violence and crime category also exhibited understated characteristics. The most frequently coded content elements were physical aggression, not the use of weapons, murder, or sexual violence. Violent action in music videos often stopped short of the fruition of the violent act.

Besides the question of *what* is on MTV, there is the question of *who* is on MTV. White, adult males, appearing in 96% of the

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*See reading 6.1, this volume.

Table 1   Frequencies of Actions/Behaviors in Seven Leading Music Videos Content Categories

Category	Action/Behavior	Percentages
Visual Abstraction	Unusual camera techniques, i.e., use of convex lens, unconventional camera angles, rapid film cuts between scenes or video segments	48
	Special lighting—varying colors and techniques	48
	Fog	32
	Superimposition imagery—filming technique which inserts persons, objects or places onto the ongoing action of the music video although the superimposed subjects are not physically part of the action	27
	Costuming—use of clothing to portray characterizations beyond those associated with contemporary garb, cavemen, 18th-century aristocrats	19
	Use of fire and flames	18
	Distortions	16
Sex	Provocative clothing	31
	Embrace or other physical contact	31
	Dance movements of sexually suggestive nature	27
	Non-dance movements of sexually suggestive nature	21
	Date or courtship (male-female)	15
	Kissing	11
	Male chasing female or vice versa	11
	Use of musical instrument in sexually suggestive manner	8
	Sadomasochism	5
	Date or courtship (homosexual or lesbian)	2
	Sexual bondage	2
Dance	Group dancing—spontaneous or natural	36
	Group dancing—choreographed	16
	Couple dancing	13
	Individual or group doing jazz	10
	Individual or group doing ballet	3
	Individual or group doing tap	3
	Individual or group doing break-dancing	2
Violence and Crime	Physical aggression against people	26
	Physical aggression against objects	16
	Dance movements imitating violence	15
	Destructiveness	15
	Use of weapons (chains, guns, knives, axes, hammers, etc.)	11
	Physical aggression against self	8
	Chase	7
	Murder	3
	Victimless crime	2
Celebration	Activities which stimulate a happy or joyful reaction in participants	21
	Audience at rock concert	16
	Social gatherings or party scene with light, happy setting	18
Friendship	Togetherness of nonsexual variety (male-female)	24
	Camaraderie—pals, girlfriends, clubs, or social groups	24
	Companionship in settings such as home, school, work, etc., where one person provides company for another	13
Isolation	Physical separation from others in indoor setting	32
	Physical separation from others in outdoor setting	12
	Desertion by loved one	5

NOTE: $n = 62$. Frequency is the percentage of videos in the sample that contained at least one occurrence of an action or behavior from that content category.

videos studied, were most represented on these MTV videos. This may reflect the dominance of this group in the rock music industry. The race most depicted in this study was Caucasian (by a 2 to 1 ratio), but other races including Black, Oriental, Hispanic, and Native American were present.

At this time, most persons, from the uninitiated to the MTV fan, have little knowledge about the possible impact of music videos. Studies like the one reported here may do much to replace myth and anecdotal observation and form the basis for future empirical analysis.

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