Research Note

Predicting Support for the Women's Movement: a Diffusion Model

Helga Maria Hernes, University of Bergen

The modern women's movement as it has developed over the past decade is not unified either by any one definite ideology or theory, nor by any one organization or program of activities. The differences among the various groupings within the movement are quite considerable, yet they all have the general aim of improving women's options and opportunities, and of helping women make some of the hard choices which result precisely from those increased options and opportunities. One could perhaps go so far as to state that women have come to a point in history where they know what they no longer want, but that the exact goals are not yet known or even knowable. The most important claim that can perhaps be made on behalf of the movement is that the increase in the number of choices and options will lead to the discovery of more interesting goals, and that the pleasure of the process is its most telling justification. Viewed thus, choice is not only the consequence of a well-defined purpose, but the mere opportunity for choice might lead to the creation of more interesting goals. Equality of the right to choose is an important aspect of equality of opportunity in general.

People involved in social movements often share a general agreement on negative goals, i.e. on those things that no longer seem acceptable or on those things they no longer want. There is little agreement on possible alternative futures. The negative goals might be reasonably specific, while the positive goals are highly diffuse, general, even non-controversial. This absence of clearly defined goals has been a principle of some revolutionary movements: avoid the trap of planning, avoid being deflected from your aim by being forced to accept the responsibility for the negative consequence of your actions. What unites the followers of such movements will thus rather be a shared sense of injustice than of justice. Negation becomes an important principle of action and the maintenance of spontaneity the most important goal of the revolutionary process. During such periods of creative search, inconsistency might thus possibly also be 'a consciously sustained reserve of uncertainty, a permanent feeling of possible personal error, or if not that, then the possibility that one's antagonist is right'. Reserving the right to error while making important choices is not an openly stated goal of any known revolutionary or social movement, nor is it in any way acceptable within the canons of rational choice. Yet, the model presented here should be read in that spirit of experimentation and search.

The women's movement is based on a complex ideology which proposes deep-going social changes in the lives of men and women alike. The support for the various strands and tenets of feminist ideology among women is predicted here on the basis of a diffusion model.[1] Since this support has not been universal, we will suggest four hypothetical representations of the rate and pattern of diffusion of feminist ideology, and predict the differences in support for the movement among various groups of women on their basis.

Diffusion is the process by which innovations spread throughout a system. The nature of that process is partly determined by the object of diffusion – in our case messages concerning women – and partly by the potential adopters – in our case individual women. For the purposes of the model it suffices to say that the *message* contained in feminist ideology is a complex set of changing information about the condition of women, of demands for changes in the attitudes, legal provisions and policies concerning women. This message can diffuse *in toto* or in parts through different groups within the total female population.

The diffusion models presented make the following assumptions:

1. Women are exposed to feminist ideology through various contacts with its exponents. The probability for contact varies among groups of women.

2. Women who have accepted feminist ideology transmit it in some form to those who do not yet know about it. Transmission occurs either through personal contacts, through organizations or through the media.

3. Groups of women differ as to the likelihood of accepting the message once they are exposed to it. Their susceptibility varies.

The differences in exposure and transmission can be represented in two different diffusion models. The first has been described as a contagion or chain-reaction process within a limited population, the second as a broadcasting process. In the first, the source of information comes from other individuals who carry the message and with whom potential carriers interact, and such that change at a given time is proportional to the potential number of interactions. For example, if there are five carriers and fifteen non-carriers there will be seventy-five potential interactions. Or if there are ten carriers and ten potential carriers there will be one-hundred potential interactions.

In the second instance we are dealing with a single source of the message. The diffusion effect at a given time is proportional to the potential carriers that remain, i.e. the number of non-carriers or have-nots. If we once again assume that there are twenty people, of whom five are carriers, then the spread effect at that point in time is proportional to fifteen, i.e. that is the number left. If there are ten carriers and ten have-nots, then the spread effect is proportional to ten.

The difference between the two models is that the rate of spread in the broadcast model will be fast in the beginning and then taper off, while in the contagion model it will be slow in the beginning and fastest at that point in time when there is an equal number of people in each group.

To express formally the contagious diffusion process we state the rate of changes in the number of adopters as follows:

$$\begin{bmatrix} \text{rate of change} \\ \text{in number of} \\ \text{adopters} \end{bmatrix} = k \cdot \begin{bmatrix} \text{potential number} \\ \text{of interactions} \end{bmatrix} \qquad (1)$$

that is, the rate of change at any given moment in time is proportional to the potential number of interactions. But then we need to determine what the potential number of interactions are. Let us assume that the population consists of N persons, and that at a given time n of them have adopted the item. Each of the adopters can potentially interact with $(N-n)$ non-adopters, and since there are n adopters, the potential number of interactions then is $[n(N-n)]$. The contagion model states that the rate of change is proportional to this number. Hence

$$\frac{n}{t} = an\,(N-n) \qquad (2)$$

The symbol $\Delta n/\Delta t$ expresses the rate of change in the number of adopters. A small change in the number of adopters is written Δn, a small time interval is written Δt. Hence the fraction $\Delta n/\Delta t$ gives the change in adoption in a given time interval, i.e. the rate of change. One way to think of a is as giving the *fraction* of the potential interactions which result in an adoption. If a is 1/100 then on the average one in a hundred of the potential interactions results in have-nots adopting the item at any given moment. Clearly therefore the smaller the a the slower the diffusion process, since the fewer interactions result in a change of have-nots to haves at any given moment – the rate of change is smaller. What determines the speed of diffusion is the value taken by a and N. If the changes given by (2) are plotted cumulatively, it will give rise to an S-shaped curve. The larger the a, the faster will be the process and the steeper will be the S-shaped curve. The smaller the a, the slower the process and the flatter the S-shaped curve. If we can assume that an item spreads by contagion in different groups, a theoretical task becomes to identify the factors that make the 'diffusion constant' a differ between the groups. To this point we return below, in our discussion of different groups of women.

In the broadcast model, the item is not assumed to spread by contact between adopters and non-adopters, i.e. by interactions. Instead, the rate of change is assumed to depend on the number of potential adopters only. In other words, in this case we have

$$\begin{bmatrix} \text{rate of change} \\ \text{in the number} \\ \text{of adopters} \end{bmatrix} = b \cdot \quad [\text{potential adopters}] \qquad (3)$$

where b is a proportionality constant. If there are N persons initially, n of which have already adopted the item, then there are $(N-n)$ left, i.e. $(N-n)$ potential adopters. Hence we can rewrite the equation above as

$$\frac{\Delta n}{\Delta t} = b\,(N-n) \qquad (4)$$

267

Obviously, as more and more adopt, there are fewer and fewer potential adopters left. Hence in general the rate of change in the number of adopters will be slower and slower as the process goes on. So the shape of the curve looks like an inverted J. But also in this case, groups may differ in the steepness of the J. Here we can think of b as the fraction of the potential adopters that adopt in a given time interval. Hence the larger the b, the faster the process and the steeper the inverted J. So if we can assume that the item spreads in this fashion, the theoretical task becomes to identify the factors that make the constant b different between groups.
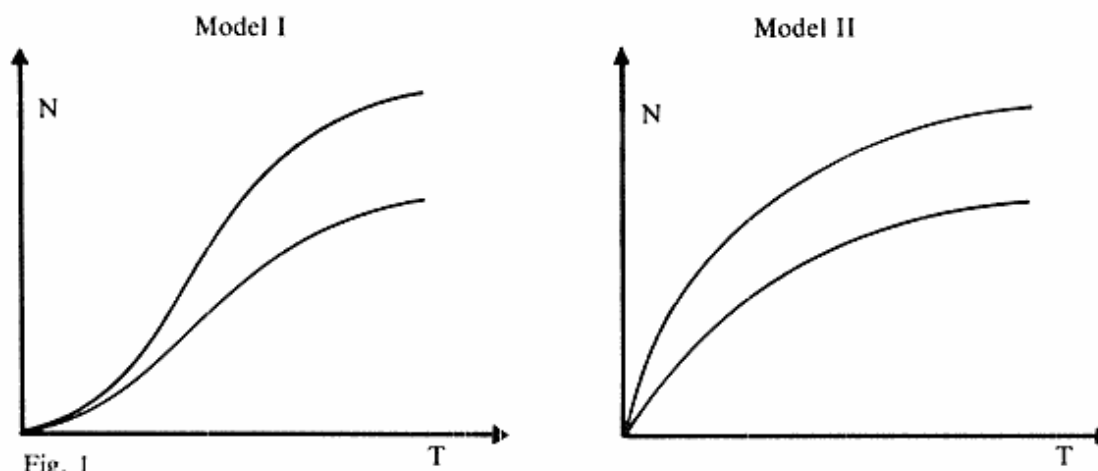

Fig. 1

The term 'contagious' diffusion invokes the image of people interacting; the term 'broadcast' model invokes the image of people independently listening to their radios and picking up the news – hence the number of those who become aware of it in any given time is proportional to those left to hear it.

The shapes of the curves are illustrated in Figure 1. Note that we have two S-shaped and to inverted J-shaped curves. The fact that we have two of each illustrates the task that confronts us in identifying factors making for *different speeds* in the diffusion, irrespective of the *nature* of the diffusion process. That we have both S-shaped and inverted J-shaped curves illustrates that the other theoretical task that confronts us is to identify *different groups* and hence the shape of the curve to which they give rise. It is to these two theoretical tasks we now turn.

We expect differences in the speed and pattern of diffusion of feminist ideology among different groups of women to vary according to social status and to participation in the labor market. Instead of presenting the flow of influence through the whole population, we can divide the total female population into four different categories of women, and thus differentiate between the factors which account for varying support of the movement. The four groups are:
1. Working professional and semi-professional women.
2. Working non-professional women.
3. Middle-class housewives.
4. Working-class housewives.
The factors which influence each group's receptivity (diffusion constants a and b) are circumscribed by the group's *exposure* to the movement, the way in which the

268

message is *transmitted*, and its willingness to *accept* the message. The pattern and the speed of diffusion will depend on the type of contact each group has with the movement, on the specific content of the message they receive, the characteristics of the individuals, the distance (both physical and social) to the source of information, and the frequency of exposure.

1. *Exposure*. The first question to be considered is the manner in which women in each of the four groups are exposed to the movement's message. Our assumption is that personal communication is more likely among working than among non-working women, and that amongst working women professional and semi-professional women will have a greater chance of interaction than non-professional women. The reason for this is that the degree of integration and the opportunity for personal contact is greatest among professionals who tend to have autonomy at work, and who usually participate in some form of organizational life. There is thus opportunity for personal contacts among women with similar backgrounds and interests. Non-professional women such as factory workers and sales clerks also have social contacts and are integrated through their work. However, they do not have as much opportunity for informal verbal interaction at their place of work. They are subject to much more supervision and control than professional and semi-professional women whose behavior is not nearly as regulated. They are also less likely to be members of organizations, e.g. trade unions, than professional women and have less control over these organizations.

Women who work inside the home rather than outside are assumed to be more isolated and to have less opportunity for interaction with other women. They are thus more likely to receive the message through magazines, books, radio, or television than through personal contacts. We assume that among housewives, upper-and middleclass women are more likely to be exposed than working-class women, since the former have both more time and more education than the latter. Housewives work in isolation and have few organizational ties which give them the opportunity for regular personal contacts. Their work is basically of a private nature.

The nature of the diffusion process is thus different for the two groups. Working women are more likely to communicate through personal contacts; housewives are more likely to receive the message on an individual basis through the media. These two different processes are reflected in the two basic diffusion models in Figure 1. The *speed* of the diffusion process will differ within each model according to the differences in social status, as well as across models, according to participation in the labor market. These predictions are further elaborated below.

2. *Transmission*. The transmission of the message is in part related to the type of communication network, yet we must assume that the content of the message itself will differ according to the medium. Both the type of information transmitted and the type of demand or issue raised will be more personal if it passes among individuals than if it comes from a source which purports to have more general appeal. This is the case partly because adherents of feminism will attempt to persuade other women by relating the movement's goals to the personal condition of the woman addressed, and partly because we assume that women with similar interests and backgrounds will communicate with each other. In other words, communication among individuals often takes on aspects of legitimation and

exertion of influence, depending on the status of the carrier, while the mass media will play a more informative and thus neutral and less directly persuasive role. However, a content analysis of the media's portrayal of the movement and of feminist literature might reveal that these two will overemphasize issues which appeal to working women rather than housewives. Even these sources may thus be reduced in relevance for the diffusion of feminism to housewives, especially those of working-class background, while reinforcing the message for working women. It is quite possible that those aspects of feminism which receive most attention in the media are connected to those areas of activities where women challenge men and enter into competition with them.

Some housewives might come to regard the movement as a threat to their husbands' job security or opportunity in the labor market; this fear would further increase the social distance between housewives and working women. Less educated women will be more 'message sensitive' since they receive fewer messages whose content thus becomes extremely important. If demands for equality in the labor market dominate the media, without focusing on the changes this means for the organization of the family, both groups of housewives will feel left out and that their work is evaluated negatively by the movement. Any message which exhorts women to change the organization of their life completely is less likely to be accepted than one which demands only incremental changes. Messages which address themselves to problems in the community would be much more relevant to housewives than those that are limited to demands for improving conditions at work.

3. *Acceptance*. The rate of diffusion is thirdly related to the acceptance of the message among the four categories of women. We assume that the probability of acceptance varies among the four groups and is related to the characteristics of the women within each of the groups. Our first assumption had been that the structure of the diffusion process would be different for working women and for housewives. Our second assumption was that the characteristics of the four groups will affect their receptivity or susceptibility, and thus their acceptance of the movement.

Professional women are assumed to be most receptive since they most often work and compete side by side with men in hierarchical organizations with differentiated rates of advancement. Women usually advance much slower than men and do not reach the highest positions in the hierarchy. This leads them to experience relative deprivation more strongly than women who work in the less-prestigious semi-professions which are dominated by women. Immediate personal gain from the successes of the movement are most obvious to professional women who can identify most quickly with its demands for equality of opportunity. Compared with other women, they have the largest resources and differ from men mainly in regard to their gender. They are the most independent and thus least likely to define their social status in terms of the men they are related to, i.e. fathers and husbands. We expect diffusion to be most rapid and successful in those professions which already have a sizeable number of women (e.g. teachers rather than female lawyers). It would also be more rapid in metropolitan rather than rural areas, since there is a greater number of women and more opportunity for personal interaction. Certain occasions such as professional meetings and other gatherings will result in an acceleration of the rate of diffusion within any given profession at a given point in time. Conversely, we expect women who constitute a very small

270

minority in their profession to show a slow rate of acceptance, since their chance for exposure would be smaller. Women in professions which have a very large percentage of women, such as nursing, would have a lower initial rate as well, since they are not so likely to feel relative deprivation as women who compete more directly with men.

However, most women in the labor force are non-professionals and it is this group which is most discriminated against. Women in this group have potentially most to gain from the movement in terms of equal opportunities, equal pay, and day care facilities for their children. On the other hand, their exposure is lower, as was stated earlier. In addition, it must be pointed out that as a group they are probably the most overworked and fatigued of women. They cannot buy as many services as women who earn more, and studies have shown that lower middle class and working class families maintain a much stricter division of labor along traditional lines inside the home, regardless of women's participation in the labor force. Husbands and fathers are much more likely to be hostile to the movement. Women in this category basically have two fulltime jobs.

Since they usually work in industries which are dominated by women, class action would be necessary to improve the status of the industry or job category as a whole. This means that a relatively high amount of social reorganization would be required to improve the conditions of these women, thus slowing down the diffusion process. Joining the movement would imply a great deal of effort on the part of each individual women. They have fewer organizational and educational resources than professional and semi-professional women, and less time than non-working housewives. Nevertheless, diffusion might be rapid if effective leadership were available (e.g. female trade union leaders). We would expect diffusion among that group to be highly dependent on the activities and qualifications of the initial carriers among them.

Upper middle and middle-class housewives will receive the message from constant sources and adopt it on an individualistic basis. They have considerable resources in terms of time – a function of modern household appliances and even paid help – and in terms of education which would affect positively their receptivity of even very complex messages. However, the occupation of homemaker is for these women often a matter of conscious choice rather than a matter of necessity. Their dependence on their husbands or fathers for support and status will thus not be felt negatively.

Women in this class are also very active in organizations which could potentially expose them to personal influences (i.e. Model I). However, these organizations often concentrate on social volunteer work which is frowned upon by adherents of the women's movement. They are thus unlikely to be exposed in these settings. In addition, it must be pointed out that for both of our categories of housewives, feminism, if adopted, would not be directed at the 'system' or any one organization as is the case for working women. Rather, feminism inside the home would be concentrated on changes in the home, and take on the characteristics of a more personal confrontation, thus making adoption less likely.

In order for these women to support the movement, the message would have to be directed at issues related to matters of interest to their life situations, e.g. career opportunities for older women, high quality day care, community programs, or even to large political issues such as national expenditure on armaments vs.

improvement of the quality of life. In addition, there are in this group many women who would participate either in public life or in the labor market if they were not discriminated against either in terms of opportunity or of pay. Highly educated housewives are not given rewards commensurate with their experience or their abilities. They are an untapped resource of talents, often members of a 'leisure class' only by default, who would choose differently if the reward structure was different. The issues raised by the women's movement are thus very complex and require for their solution wholesale rather than incremental changes, a fact which affects diffusion negatively. We expect thus both the complexity of the message as well as the fact that it promises long term rather than immediate rewards to affect acceptance negatively.

Working class women are more isolated and less educated than middle class housewives. They have more children and fewer appliances, therefore less leisure. Their occupation as housewife is in all probability more interesting and varied than many of the paid jobs open to them. For these women, not holding a job is thus often a prestige factor. They often contribute more to the standard of living of the family by being efficient housewives than by working outside the home and paying for services such as childcare. It was pointed out above that their limited access to many media and the constricted nature of their daily lives makes the content of the initial message crucial, since it will determine their openness to future messages. The absence of organizations, of leadership and of messages through the media specifically relevant to the lives of working class housewives makes identification with and acceptance of the women's movement highly unlikely. Their concerns center around the family and the immediate community. Their self-confidence in being able to affect the course of events is generally very low. Only messages which specifically address these women's problems are likely to be accepted, and even a cursory glance at the presentation of the movement in those media to which they are most likely to be exposed will show that the problems of working class women are hardly touched upon at all. Exposure is thus likely to be counter-productive.

Up to now our models predict declining support for the movement as we move from professional women to non-professional working women, to middle class housewives and working class housewives. A final assumption of diffusion models is often that once a message has been accepted, an individual is not likely to lose or give it up. If we follow this assumption, we must conclude that the message or ideology of the movement will come to be more and more dominated by those who are most likely to join, i.e. professionals, and that they, since they are most likely to accept the most extreme, and most complex messages, may drive out the arguments which might appeal to the other women. This would be especially true if women were to receive an equal share of positions in the media, and thus begin to broadcast their own version of the women's movement through these channels to housewives. In other words, if professional women become the only carriers of the feminist ideology propagated by the media – i.e. they monopolize the information channeled through the broadcast model – the rate of acceptance might decline, or loss of membership might result among middle- and working class housewives.

We have limited communication somewhat artificially within each of the four groups, except insofar as we have discussed control of the media by one specific group of women. If we relax the model, we can assume personal contacts along

class lines, for instance in social contacts after work (and thus across processes), and exposure to the media and other constant sources among all women. To describe the process by which movement support spreads throughout the total population of women, we allow for communication among both segments by personal communication and broadcast.

The following equations apply:

$$\frac{\Delta n}{\Delta t} = an(N\text{-}n) + a(N\text{-}n) + bm(N\text{-}h) \quad \text{(assumption: messages would differ according to the sender.)}$$

$$\frac{\Delta m}{\Delta t} = bm(M\text{-}m) + b(M\text{-}m) + an(M\text{-}m)$$

This still assumes a positive coefficient. However, as we have pointed out, the message can be transmitted in such a way as to stop diffusion altogether, or even as to result in loss of membership.

The assumptions of our model are then the following: working women will be exposed to the messages of the women's movement at their place of work, i.e. through the contagion process. The message will contain issues of emancipation, equality of opportunity, and equal pay. The organization of work will affect the opportunity for contact at the workplace. Working class women will have least opportunity since they are the most heavily controlled of all workers. Housewives will be exposed through the media, i.e. the broadcasting model applies. The message they receive will contain appeals to solidarity and for improved social services. Professional women are most likely to adopt and accept the message and will accept the most extreme and complex messages. If professional women come to dominate the movement and the media, housewives will tend to reject the message.

NOTES
1 For an introduction to diffusion models and their use in various fields, see: J. S. Coleman, Introduction to Mathematical Sociology (New York: Free Press, 1964), ch. 17; and J. S. Coleman, E. Katz & H. Menzel, Medical Innovation: A Diffusion Study (Indianopolis: Bobbs Merril, 1966); E. Rogers & F. Shoemaker, Communication of Innovation: A Cross-Cultural Approach (New York: Free Press, 1972). A comparative analysis of various aspects of innovation research is found in the excellent article by K. E. Warner, 'The Need for some Innovative Concepts of Innovation: An Examination of Research on the Diffusion of Innovations', Policy Sciences 5 (1974), pp. 433–451. There is, to my knowledge, no literature on the systematic spread of 'movement messages', although these models could be a good point of departure for such studies.