

**The Nexus of Representation:  
An Integrated Model of Women's Representation**

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**The Nexus of Representation:  
Testing an Integrated Model of Women's Representation**

**ABSTRACT**

The concept of representation, as developed in Hanna Pitkin's seminal work, is a complex structure, whose multiple dimensions are hypothesized to be closely interconnected. Most empirical work, however, ignores the integrated character of representation and examines its several dimensions in isolation. The picture of representation that results is not so much incorrect as incomplete. This research tests an integrated model of representation linking formal, descriptive, substantive and symbolic representation. Data on the representation of women in 31 democracies confirms the interconnections among the several dimensions of representation. The structure of electoral systems exerts powerful influences on both women's descriptive representation and symbolic representation. Descriptive representation, in turn, increases legislatures' responsiveness to women's policy concerns and enhances perceptions of legitimacy. The effects of substantive representation, however, are much less than theory anticipates.

The concept of representation is a rich brocade whose complex weave is not fully appreciated. Hanna Pitkin's (1967) seminal treatment identifies four distinct, but interconnected meanings or dimensions of representation including: *formal representation*, referring to the institutional rules and procedures through which representatives are chosen; *descriptive representation*, referring to the compositional similarity between representatives and the represented; *substantive representation or responsiveness*, referring to the congruence between representatives' actions and the interests of the represented; and *symbolic representation*, referring to the represented's feelings of being fairly and effectively represented. While there are important differences among the four dimensions, Pitkin (1967: 10-11) maintains that they are properly conceived as integral parts of a coherent whole. Unfortunately, according to Pitkin, political theorists have tended to overlook this conceptual unity, erroneously treating the different dimensions of representation as separate concepts. As Pitkin explains the problem, representation is

... a rather complicated, convoluted three-dimensional structure in the middle of a dark enclosure. Political theorists give us, as it were, flash-bulb photographs of the structure taken from different angles. But each tends to treat his (sic) partial view as the complete structure. It is no wonder, then, that these photographs do not coincide, that the theorists' extrapolations from these pictures are in conflict. (10)

Despite the frequency and approval with which Pitkin's work is cited, most empirical work on representation ignores her integrated conception. Scholars, typically, choose one or two aspects of representation while ignoring others that are not of interest or for which data are lacking. This not only contributes to a 'blind man's understanding of the elephant' – the empirical equivalent of Pitkin's theoretical 'snapshots in the dark' – but also fails to provide an adequate empirical test of a fundamental aspect of Pitkin's conception: namely, its integrated structure.

This research redresses this neglect by developing and testing an integrated model of Pitkin's four dimensions of representation using cross-national data on the representation of women. Women provide an ideal focus for testing Pitkin's integrated theory for three principal reasons. First, women are a large and easily identifiable group whose members possess many and varied political interests but also are

widely perceived as sharing some common, identifiable ‘women’s interests’ (Diamond and Hartsock, 1981; Sapiro, 1981).<sup>1</sup> Second, although women’s representation has improved markedly in recent years, women remain under-represented according to many definitions and measures in most countries. Third, while a variety of minority groups also have identifiable interests and are widely under represented, it is much more difficult to compare them systematically because these groups are so varied; a group that is a minority in one country can be a majority in another and absent altogether in a third. Women, however, constitute approximately 50 percent of the population virtually everywhere.

We begin this analysis by elaborating Pitkin’s concept of representation and developing an integrated model of its several dimensions and their interrelationships. We proceed to operationalize the model using data on the representation of women across a broad cross-section of democratic systems. Structural equation methods are used to test the validity of the multidimensional conception of representation and to refine its structure. Finally, we use the results to discuss both the structure of representation, generally, and the dynamics of women’s representation in particular.

### **The Multidimensional Concept of Representation**

The fundamentals of Pitkin’s concept of representation are well known. Pitkin conceives of representation as having four primary dimensions. **Formal Representation** focuses on the rules and procedures regulating the selection and removal of representatives. Variants include *accountability theory*, which refers to rules and procedures allowing the represented to sanction representatives, *ex post*, who fail to act as the represented desire, and *authorization theory*, which refers to the ability of the represented, *ex ante*, to provide mandates to representatives. While the existence of free and fair elections are not a necessary condition for formal representation, in practice elections are considered critical and underlie most attempts to operationalize this dimension (see Powell, 2000).

**Descriptive Representation**, or ‘representativeness,’ refers to the extent to which representatives “stand for” the represented. Typically, this means that the composition of representative institutions should mirror the composition of the represented in important respects. Varieties include *functional representation*, which focuses on the occupational correspondence between representatives and represented, *social representation*, which concerns social characteristics such as gender, race, ethnicity,

and class (Norris and Franklin, 1997). Descriptive representation arguably is the most studied of Pitkin's four dimensions partly because the composition of the legislature is easily visible and partly because data on the make up of representatives and the represented are relatively easy to obtain.

**Substantive Representation** is defined as "acting in the interests of the represented in a manner responsive to them" (Pitkin 1967: 209). Although Eulau and Karps (1977) identify a variety of ways that representatives may act on behalf of the represented, the most common interpretation is that substantive representation refers to *policy responsiveness* or the extent to which representatives enact laws and implement policies that are responsive to the needs or demands of citizens.<sup>2</sup> While Pitkin considers substantive representation to be the most important dimension of representation and the heart of the representational nexus, others question its priority. For example, Wahlke (1971) argues that policy responsiveness receives too much emphasis given evidence that citizens possess few coherent policy beliefs and that legislators are poorly informed about the policy preferences of citizens except in exceptional cases. Nevertheless, policy responsiveness continues to be considered the central aspect of representation by numerous scholars, a variety of whom have attempted to measure policy responsiveness both to overall public interests (for example, Miller and Stokes, 1963; Stimson, Mackuen, and Erikson, 1995; Thomassen and Schmitt, 1997; Miller et al., 1999) and to race- and gender-based interests (for example, Bullock, 1995; Hero and Tolbert, 1995; O'Regan, 2000; Reingold, 2000).

Finally, **Symbolic Representation** refers to the extent that representatives "stand for" the represented with an emphasis on symbols or symbolization. Pitkin provides the example of a flag as a symbol representing a nation. What matters, is not the symbol itself, but "the symbol's power to evoke feelings or attitudes" (Pitkin 1967: 97). Symbolic representation is concerned not with who the representatives are or what they do, but how they are perceived and evaluated by those they represent. Wahlke (1971), embraces symbolic representation as the most realistic standard given the constraints he perceives on policy responsiveness (see also Hibbing and Theiss-Morris, 1999; Anderson and Guillory, 1997; Mishler and Rose, 1997 and 2001).

While Pitkin's multifaceted conception is well known and widely cited, the connections among its dimensions are frequently ignored in practice. Many empirical studies treat different dimensions of

representation as alternative and equally valid conceptions among which scholars may pick and choose. Even research acknowledging the multidimensional nature of representation and focusing on more than one dimension typically treats those dimensions as separate and distinct (see, for example, Marsh and Norris, 1997; Mishler and Mughan, 1978).

Pitkin argues against treating the components of representation separately on two grounds. First, she challenges the representative quality of institutions that manifest one or more dimensions of representation but are substantially lacking the others. She argues that we should not consider a benevolent dictatorship to be representative simply because the dictator adopts policies that provide for citizens' basic needs (1967: 230-35). Neither should we consider a legislature to be representative because it 'looks like' the public nor because citizens express approval for it. To be representative, an institution must achieve some minimum on all dimensions of representation. Second, Pitkin argues that strong causal connections exist among the components of representation. Advocates of formal representation emphasize that free, fair and open elections are important not only because they are necessary for democracy (Schumpeter, 1947; Powell, 2000) but also because they facilitate descriptive representation, encourage policy responsiveness, and enhance the public's support for representative institutions. Similarly, descriptive representation is considered important for promoting symbolic representation and policy responsiveness, while policy responsiveness is believed to be a principal contributor to symbolic representation (Mishler and Rose 1994). It is for both of these reasons that the concept of representation is considered integrated.

### **An Integrated Model of Representation**

Figure 1 diagrams an integrated model showing the hypothesized linkages among the four principal dimensions of representation. According to this framework, the structure of the electoral system (formal representation) is exogenous and directly influences descriptive representation (link A in the model), substantive representation (link B) and symbolic representation (link C).<sup>3</sup> The theory is that political systems with more open and competitive elections will elect representatives whose backgrounds more closely resemble those of the represented. Such political systems also will produce more responsive policies which will increase citizens' confidence in representative institutions. Formal representation has

indirect effects on policy responsiveness through the mediating effect of descriptive representation (compound link A-D) and on symbolic representation via multiple paths (links A-E, B-F, and A-D-F).

[Figure 1 about here]

Figure 1 further hypothesizes that descriptive representation contributes directly to substantive representation by producing policies more responsive to societal interests (link D). Descriptive representation enhances public confidence in representative institutions (symbolic representation) both directly (link E) and through the mediating influence of more responsive policies (link D-F). Finally, policy responsiveness is hypothesized to have direct effects on symbolic representation (link F) consistent with theories holding that public trust in representative institutions varies in relation to the production of public policies that are congruent with public interests.

There is relatively little empirical research that examines the representational nexus as a whole, but there are several literatures, some quite extensive, that examine individual strands. For example, a substantial literature testifies to the impact of electoral rules and procedures on descriptive representation (Rae, 1967; Taagepera and Shugart, 1989; Powell, 2000 among many others). Among the most critical features in this regard is the number of legislative seats in electoral districts (Duverger, 1954; Taagepera and Shugart, 1989; Lijphart, 1994). District magnitude is important, in part, because it is a principal determinant of the effective number of parties in a political system.<sup>4</sup> This influences both the extent of electoral competition and the strength of minority parties, who are more likely to nominate women and minority candidates (Rule, 1987; Taagepera and Shugart, 1989; Jones, 1993; Mainwaring and Shugart, 1997). District magnitude also facilitates diversity in legislatures, since political parties are more likely to ‘risk’ the nomination of non-traditional candidates (i.e., women and minorities) for the nth seat in multimember districts rather than for the only seat in single member districts (Rule, 1987; Matland and Brown, 1992). Empirically, extensive research confirms that electoral systems with greater proportionality and higher district magnitudes elect larger percentages of women to legislatures when other factors are controlled (Duverger, 1955; Norris, 1985; Rule, 1987; Darcy, Welch, and Clark, 1994; Rule, 1994; Matland and Studlar, 1996; see, however, Welch and Studlar, 1990).

The hypothesis that formal electoral rules influence policy responsiveness also is widely supported (see, for example, Miller et. al., 1999 and Stokes, 2001). Powell (2000) demonstrates, for example, that more proportional systems generally experience higher levels of policy congruence between voters and governments than do more majoritarian electoral systems, and Wessels (1999) concurs. Although both types of systems have characteristic strengths and weaknesses, Powell (2000: 221) concludes that, “the simplifications and distortions necessary to create decisive elections frequently exact a heavy cost in distance between the citizen median and the position of the government.”

There is less research connecting electoral rules to the substantive representation specifically of women. Still, given that the median citizen in most democracies is female and that the interests of women traditionally have been under-represented, it is reasonable to expect that women’s interests should benefit as electoral rules and procedures push government policy in the direction of the median citizen.

The impact of electoral rules and procedures on symbolic representation also has been neglected. Nevertheless, the available evidence sustains the hypothesis that support for representative institutions varies with the extent of political competition and choice provided by the electoral system (Anderson and Guillory, 1997). Norris (1999) reports, for example, that public support for legislatures is significantly higher in multiparty and parliamentary systems, and Anderson and Guillory (1997) demonstrate that support for democratic institutions is higher in proportional as compared to majoritarian political systems.

Regarding formal representation’s effects on symbolic representation, the usual hypothesis is that women should manifest lower trust than men given that legislatures traditionally have been male bastions. Hibbing and Theiss-Morse (1995) report, however, that American women express greater trust in Congress than do men, and Norris (1985) obtains similar results cross-nationally. This raises questions about the utility of egocentric models of political behavior and recalls the continuing debate about the utility of egocentric versus sociotropic models of voting (see, e.g., Kinder and Kiewiet, 1979; Lewis-Beck, 1988). While egocentric models reflect the traditional belief that individuals operate ‘selfishly’ and are motivated largely by individual self-interest, sociotropic models assume a more “enlightened” self-interest in which individuals recognize that their personal fortunes depend on the fortunes of the group. From a sociotropic perspective, individual interests are more likely to be evaluated in positive-sum terms.

Thus, electoral rules increasing the representation of women in the legislature may be embraced by women egocentrically because of the expected impact of those rules on the descriptive representation of women. However, they also may be valued sociotropically by men and women because those rules are conducive to more equal representation of all groups in the political system, including but not limited to women.

Separating the potential egocentric and sociotropic effects of formal representation on symbolic representation in this model, involves distinguishing direct from indirect effects. To the extent that formal representation is important egocentrically, then its effects on symbolic representation should vanish or at least be significantly attenuated when descriptive representation and policy responsiveness to women's issues are controlled. Conversely, the sociotropic effect of formal representation can be measured simply as the direct effect of formal on symbolic representation that persists when descriptive and policy representation are controlled. The difference between the egocentric and sociotropic effects of formal representation on legislative legitimacy also should be manifest in gender differences. If women's confidence in the legislature is influenced by egocentric assessments of the representativeness or responsiveness of the system to women and their interests, then women's confidence in the system should be strongly and positively affected by variations in formal representation while men's confidence in the system should be either unaffected or negatively affected.<sup>5</sup>

One of the most widely studied hypotheses in the literature on representation holds that variations in descriptive representation have substantial effects on policy responsiveness. John Stuart Mill (1861, Ch. 3) argued more than a century ago that, "in the absence of its natural defenders, the interest of the omitted is always in danger of being overlooked; and when looked at, is seen with very different eyes from those of the persons whom it directly concerns." Pitkin (1967: 63) makes the same point reasoning that it is only logical "to expect the composition [of a legislature] to determine the activities." The literature on women's representation confirms the importance of descriptive representation for women's policy responsiveness, though the effects tend to be limited to women's issue areas and often are observable only within political parties (Swers, 2001, provides a good review). Several studies have

found strong links between increasing the percentage of female legislators and women's policy outputs (Thomas, 1991; Reingold, 2000; Bratton, 2002; Swers, 2002).

While much of the literature assumes a linear relationship between the proportion of female representatives and the production of women-oriented policies, Kanter (1977) hypothesizes a threshold effect. She argues that there is likely to be only a modest relationship between the number of women in the legislature and policy responsiveness until women's representation reaches a critical mass. Beyond that threshold, Kanter speculates, women's interests will begin to diffuse broadly among all members of the assembly resulting in accelerated responsiveness to women's policy concerns. A recent study supports this hypothesis with regard to the impact of women's descriptive representation on child care policy in Norway (Bratton and Ray, 2002). To date, however, little empirical work has been produced in support for the threshold hypothesis, perhaps because of the small number of legislatures where the proportion of female legislatures is large enough to constitute a critical mass.

Even where female legislators do not advocate a distinctly 'female agenda' or respond to women's policy concerns, a visible presence of women in the legislature may still enhance women's confidence in the legislative process. The hypothesis is that constituents are more likely to identify with the legislature and to defer to its decisions to the extent that they perceive a significant percentage of 'people like themselves' in the legislature (Phillips, 1995; Mansbridge, 1999). For women, this means that increases in the proportion of female legislators should increase the legitimacy of the legislature as perceived by female constituents. The evidence on this point is limited but generally supportive of the expectation (Norris and Franklin, 1997).

Again, different egocentric and sociotropic effects of descriptive representation should be manifest in gender differences in support for the legislature. To the extent that men and women assess the legitimacy of the legislature egocentrically, then there ought to be significant differences in the effects of descriptive representation on male and female confidence in the legislature. Conversely, to the extent that the effects of descriptive representation are sociotropic, we would expect higher percentages of women in the legislature to have similar effects on both male and female confidence in the legislature.

For Pitkin and many others, substantive representation or policy responsiveness is the vital core of what representation means and occupies the center of the representational nexus. Indeed, formal and descriptive representation are considered important in large part because of their hypothesized effects on policy responsiveness. Policy responsiveness also is widely considered to be the key to the legitimacy or symbolic representation of the legislature. This is consistent with both neo-institutional and rational actor theories which hold that citizen's support for political institutions depends largely on citizen evaluation of an institution's performance (Jackman and Miller, 1996; Powell, 2000, Mishler and Rose, 2001).

As this brief discussion indicates, there is substantial research on various aspects of the representational nexus illustrated in Figure 1. Unfortunately, given the numerous causal connections among the several dimensions of representation in this web, attempts to extract one linkage from the network and examine it in isolation raise serious, though usually unrecognized problems of model misspecification. For example, much of the work demonstrating a causal connection between descriptive and substantive representation is misspecified because it fails to control for the hypothesized, antecedent effects of formal representation on both descriptive and substantive representation. This means that the apparent effects of descriptive representation on substantive representation may be spurious, either wholly or in part. Similarly, studies showing that substantive representation contributes to symbolic representation are misspecified unless they control for both descriptive and formal representation. Proper estimation of these relationships requires a fully specified, integrated model.

### **Measures and Methods**

To test the integrated model we use aggregate data on the representation of women in the mid-1990s in 31 countries.<sup>6</sup> Countries were chosen according to two criteria, data availability and democratic status. The justification for the first is self-evident. While data on formal and descriptive representation are widely available, data on policy responsiveness and on public confidence in representative institutions are in short supply. Thus, we have constructed what is, in essence, an "opportunity sample" of countries for which we were able to assemble relatively complete data on all four dimensions of political representation. We also limit our analyses to countries that are considered "free" according to the Freedom House indices of civil and political freedoms.<sup>7</sup> While Pitkin (1967: 2-3) acknowledges that

democracy and representation are not synonymous, she argues that political representation and democracy are closely linked. Formal representative structures may exist in non-democracies, but they are usually subsumed by authoritarian leaders and do not operate as functioning representative institutions. Therefore, there is little reason to examine representation in non-democratic states.<sup>8</sup>

Data used in the analysis consist of three measures of formal representation including district magnitude, parliamentary versus presidential systems and single member district versus proportional representation systems (Appendix A provides descriptions, means, standard deviations, and sources for all variables). Descriptive representation is measured simply as the percentage of women in the lower house of the national legislature.

Measuring policy representation proved more challenging both because the available measures of this concept are highly subjective and because there is a checker-board pattern of missing data for the different measures. To compensate for the potential bias in any single measure, we employ four indicators measuring gender equality in political rights, gender equality in social rights, national maternity leave policy, and gender equality in marriage and divorce laws.<sup>9</sup> While these measures in no way exhaust the range of issues that might be considered women's issues, they do provide an indication of policy responsiveness on some key issues of particular importance to many women. To measure symbolic responsiveness, we use aggregated World Values Survey (1995-97) data from a question about citizen confidence in the legislature. Separate measures of women's and men's confidence in the legislature are calculated as the percentage of each group in each country responding that they had 'a great deal of confidence' or 'quite a lot of confidence' in that country's legislature.<sup>10</sup>

In addition to modeling the four dimensions of representation, it is important to control for exogenous factors that threaten the validity of observed linkages. Because of the small number of cases in our sample, however, we had to be economical in our choice of controls. Therefore, we experimented with several different candidates including the percentage of women in the workforce, per capita Gross Domestic Product, and a series of variables aggregated from the World Values Survey measuring public attitudes toward the roles of women in society.<sup>11</sup> The several controls were highly correlated, however, and the choice of controls had very little effect on the overall structure of the model. Thus, we rely on a

single, composite variable reflecting cultural attitudes toward the role of women in society (see Table 1 and Appendix A for details). We treated this *feminist attitudes* variable as exogenous to the model and hypothesize that it is causally prior to the other dimensions of representation including the percentage of women in parliament, policy responsiveness to women's concerns, and women's confidence in parliament. Inclusion of this control is important for insuring that any linkages observed among the components of representation are causal and not spurious artifacts of broader cultural attitudes and values.

### **Model Estimation**

Structural equation modeling (SEM) procedures are used to estimate the integrated model. These permit the simultaneous estimation of a complex causal model and of a series of measurement models for the principal concepts or 'latent variables'<sup>12</sup> (in this case, feminist attitudes, formal representation and policy responsiveness) that are measured with multiple indicators. The statistical package used for the analysis, AMOS (Arbuckle and Wothe, 1995), calculates Full Information Maximum Likelihood (FIML) estimates. Among other benefits, these provide a superior method for handling missing data than is typically available when Ordinary Least Squares estimators are employed (Kline, 1998).

The first concern in the analysis is the validity of the measurement models for the latent concepts. Consistent with expectations, the model for feminist attitudes in Table 1 suggests that the several measures load strongly on a single latent variable. Countries scoring high on one indicator of feminist attitudes score high on all of the others as well. All three indicators are statistically significant, and all are negatively signed so that positive scores indicate greater societal support for feminist values.<sup>13</sup>

[Table 1 about here]

The measurement model for women's policy responsiveness includes four variables all of which load substantially on a single dimension. All of the loadings are statistically significant and their standardized coefficients range from .48, for a variable measuring women's social equality, to .79 for the variable measuring the political equality of women. The mean loading for the four variables is .60, which is especially impressive given the small number of cases, the subjective nature of these indicators, and the missing data in several of these measures.

In contrast to feminist attitudes and women's policy concerns, the three measures of formal representation do not fit a single dimension. While the two indicators of electoral system proportionality (district magnitude and PR vs. SMD) are closely related, the standardized loading of the variable distinguishing presidential and parliamentary systems is very weak (only .23). Based on this, we revised the model to include two measures of formal representation: a latent variable measuring electoral proportionality and the observed variable distinguishing presidential vs. parliamentary systems.

Table 2 reports initial estimates of the fully specified, integrated model of the political representation of women across 31 democratic countries. The diagnostics at the bottom of the table demonstrate that the model fits the data fairly well.<sup>14</sup> The estimated model represents a significant improvement over the null model in which all variables are assumed to be unrelated, and it closely approximates the fit of a 'saturated model' in which all possible linkages are specified. More importantly, the model accounts for one quarter to one half of the variance in each of the three endogenous dimensions of representation.

[Table 2 about here]

Despite the model's overall 'goodness of fit,' a number of individual linkages are weak or insignificant. Feminist attitudes have strong and significant effects on the percentage of women serving in national legislatures, but they do not have significant effects either on women's policy responsiveness or on women's perceptions of legislative legitimacy when other variables in the model are controlled. Similarly, formal representation has important effects, consistent with theory, on the percentage of female legislators but not on substantive representation.<sup>15</sup> Given the large number of variables in the analysis and the small sample size, statistical degrees of freedom are precious; even small changes in the model can significantly alter model estimates. Therefore, it is important to correct the model specification based on the initial results and to re-estimate a properly specified, reduced form of the model using the extra degrees of freedom. The results, reported in Figure 2, confirm both that the overall fit of the model is improved and multicollinearity among the estimates is eliminated.

[Figure 2 about here]

Importantly, the structure of the revised model largely confirms our theoretical expectations regarding the integrated nature of political representation, albeit with several important exceptions to Pitkin's theory. Consistent with the hypothesis that formal representation contributes to descriptive representation, the revised model clearly demonstrates that PR electoral systems and those with higher district magnitudes elect significantly larger percentages of female legislators. The effect is strong (.56), positive and direct. This is the case, moreover, even after controlling for the strong, positive effects (.51) that feminist attitudes have on the election of female legislators.

Also consistent with the integrated model, the percentage of female legislators has a substantial and statistically significant effect (.42) on the responsiveness of legislatures on women's issues. This effect persists even when controls are introduced for public attitudes toward women (and, alternatively, for GDP per capita and the percentage women in the work force). Even in countries with comparable economies and similar attitudes about women, legislatures are more responsive to women's issues when there are more women in legislature.

The proportionality of the electoral system also has substantial, albeit indirect effects on women's policy responsiveness.<sup>16</sup> PR systems tend to elect more female legislators whose greater numbers facilitate the enactment of more women's legislation, other things being equal. Electoral proportionality, however, does not have independent effects on substantive representation; the effects of formal representation are fully mediated through descriptive representation. Although electoral proportionality encourages the election of a more diverse legislature, this diversity may impede the formation of a governing majority. Indeed, a substantial literature debates the characteristic strengths and weaknesses of the two types of systems in this regard (Lijphart, 1994; Powell, 2000). Consistent with this suggestion, the simple correlation between electoral proportionality and women's policy responsiveness is negative, although the correlation is weak and not significant.

Additional support for the integrated conception of representation is provided by the observation that formal representation has a statistically significant and substantial effect on women's confidence in the legislature (symbolic representation). Importantly, however, neither descriptive representation nor policy responsiveness has appreciable effects in this regard.<sup>17</sup> The failure of policy responsiveness to

influence symbolic representation is especially problematic given Pitkin's emphasis on policy responsiveness as the centerpiece of the integrated model.

The absence of direct links between descriptive and substantive representation on the one hand and symbolic representation on the other admits several possible explanations. First, it may result from the choice of policy areas included in the measure of women's policy responsiveness. The influence of policy responsiveness on women's confidence in the legislature may be greater for other women's issues such as abortion rights or domestic violence legislation. Second, while policy responsiveness may be the central aspect of representation from a normative perspective, it may be less important empirically. Given the low levels of political knowledge characteristic of citizens in most democratic polities, many citizens simply may not have the knowledge to accurately judge the policy responsiveness of the system. Third, even when citizens can assess the quality of policy responsiveness, it may be difficult for them to apportion responsibility for policy responsiveness among the executive, legislature, bureaucracy, and courts. Lacking data on most of these matters, we can only speculate about the lack of relationship between policy responsiveness and women's confidence in legislatures.

**Threshold Effects:**

The absence of a substantial relationship between descriptive representation and symbolic representation (-.03 in Figure 2) also may be a result of the model misspecification. As noted, the literature anticipates the possibility of a nonlinear relationship between the percentage of women in a legislature and policy responsiveness (Kanter, 1977). One possibility is that a critical mass of women must be elected to the legislature before the power of women reaches a threshold sufficient to affect legislation; another possibility is the existence of a multiplier effect whereby the power of women increases exponentially with women's increasing presence in the legislature. The logic of this argument might well be extended to symbolic representation as well. Women may be more likely to accept the legislature as legitimate only after the percentage of female legislators crosses some critical threshold.

To test these possibilities we estimated several alternative specifications of the relationship between the percentage of female legislators and both policy responsiveness and symbolic representation (Table 3). First, we estimated a very crude test of the threshold hypothesis using a dummy variable coded

‘1’ for those legislatures with more than the average (i.e., 15 %) percentage of women in the legislature<sup>18</sup> and ‘0’ for all others. A second specification tests the possibility that the impact of women follows a logarithmic function according to which the impact of the percentage of women accelerates to a threshold point and, then, decelerates (increases more slowly) above the threshold. A third specification uses the squared percentage of women in the legislature ( $Y = a + bx^2$ ); Similar to the logarithmic function, this assumes that the impact of women accelerates as their numbers grow but without a threshold or deceleration point. Given the small percentage of women in most legislatures, this allows for the possibility that women in most legislatures have not yet reached a critical mass or tipping point.

While neither of the first two alternative specifications (rows 2 and 3 of Table 3) provides significant improvement over a simple linear function (row 1), the third specification (row 4) works very well. It increases the impact of descriptive representation on policy responsiveness from .42 to .54, and it doubles the impact on symbolic representation from .13 to .28. While far from conclusive, this certainly provides a strong measure of support for Kanter’s argument that the impact of female legislators accelerates as their numbers in the legislature grow.

[Table 3 about here]

Indeed, descriptive representation, rather than substantive representation, emerges from this analysis as the keystone to the representative nexus for women. The percentage of women in the legislature is a principal determinant of women’s policy responsiveness and of women’s confidence in the legislative process. Descriptive representation also mediates virtually all of the impact of formal representation on both policy responsiveness and symbolic representation. This is not to suggest that descriptive representation is sufficient for insuring political representation Pitkin’s arguments for the importance of all four dimensions and for the normative primacy of substantive representation are compelling. The analysis does suggest, however, that descriptive representation is the glue that binds the several dimensions of representation together into something resembling a coherent whole.

### **Egocentric or Sociotropic Assessments of Representation:**

A final question concerns the extent to which perceptions of legislatures’ legitimacy hinge on egocentric versus sociotropic evaluations of representation. One way of assessing this is by comparing

survey responses of men and women. Specifically, if assessments of representation are made on basis of narrow self-interest, then men and women's confidence in the legislature should be affected differentially by variations in both descriptive representation and policy responsiveness. Specifically, women should be more strongly and positively affected than men by higher levels of women's representation.

Conversely, if assessments of representation are based more on enlightened self-interest, then both men and women should recognize that their interests are significantly intertwined and they should be relatively equally affected by women's descriptive representation and policy responsiveness.

To test this, we replicated the analysis in Figure 2 substituting men's for women's confidence in the legislature. The results in Table 4 are unambiguous. The effects of women's descriptive representation and policy responsiveness on men's confidence in the legislature are virtually identical to their effects on women. Men do not express more confidence in legislatures with fewer women or in contexts where women's policy interests are relatively neglected. To the contrary, men and women respond quite similarly to variations in the quantity and quality of women's representation. Men clearly respond sociotropically, interpreting what is good for the representation of women to be good, more generally, for society as a whole. While the absence of data on men's representation prevents a test of women's sociotropic evaluations, there is no reason to think that women are any more or less enlightened than men. The fact that women's absolute level of trust in the legislature is almost identical to men's<sup>19</sup> despite decades, if not centuries of gender inequality is strong, albeit circumstantial evidence in this regard.

[Table 4 about here]

### **Women's Representation as Universal Representation**

Pitkin conceives of representation as a complex structure whose multiple dimensions are closely integrated. Our analysis of women in 31 democratic countries confirms Pitkin's insights regarding the strong interconnections among the dimensions of representation. It also supports many of the specific hypotheses about these interconnections gleaned both from Pitkin and from diverse empirical work.

Although our findings are limited to representative democracies, the integrated model provides strong evidence, consistent with theory, that formal representative structures and processes exert powerful influences on the extent of women's descriptive representation, policy responsiveness and symbolic

representation. The integrated model corroborates previous research demonstrating that higher levels of descriptive representation increase legislatures' responsiveness to women's policy concerns and enhance perceptions of legitimacy. It also provides some of the strongest evidence, to date, supporting the idea that the effects of descriptive representation on policy responsiveness and symbolic representation are non-linear and accelerate as the percentage of women in the legislature approaches a critical mass. While even a few women in a legislature can generate important benefits for women, real gains in policy responsiveness and political legitimacy appear to depend upon the achievement of a critical mass.

Although the results of our analyses substantially validate both Pitkin's theory and previous empirical research, two principal anomalies emerge. The first is the unexpected finding that women's policy responsiveness has little or no influence on women's perceptions of the legitimacy of the legislature. This is troubling not only because it contradicts the centrality of policy responsiveness in Pitkin's theoretical framework but also because it appears antagonistic to rational actor theories of political behavior. While we advanced several alternative hypotheses to account for the unexpected empirical results, including limited information and problems of blame attribution, systematic assessments of these possibilities require data currently unavailable.

Nevertheless, while citizens' lack of direct concern with policy responsiveness contradicts theory, it may pose fewer problems than it seems. Both policy responsiveness and legislative legitimacy are otherwise closely integrated into the nexus of representation and securely tied into this causal web, especially through their connections to descriptive representation. This ensures that the two will be closely correlated even if they are not directly or causally connected. Pitkin's conception of representation may require elaboration and refinement in specific empirical contexts, but its fundamental structure is confirmed.

A second apparent anomaly in the results is the observation that men respond to the representation (or misrepresentation) of women almost identically as do women. Men's confidence in the legislature is just as sensitive to the proportionality of the electoral system and to the proportion of women holding seats in the legislature. Far from undermining the nexus of women's representation, this unexpected finding corroborates the feminist argument that the promotion of women's rights inevitably

advances the rights of men as well. In effect, women (and minorities, too, we presume) can be seen as the “miners’ canaries” of political representation. Political systems that nurture and protect the representation of less advantaged groups can be trusted by more advantaged groups to protect their members’ interests as well. The nexus of women’s representation, in this sense, is universal.

<b>Appendix A: Variable Definitions, Means, and Standard Deviations</b>			
		<b>Mean</b>	<b>Std</b>
<b>Presidential vs. Parliamentary System</b>	Coded “1” if presidential system and “0” if a parliamentary system.	.26	.44
<b>Electoral System</b> District Magnitude PR System	A country’s mean number of legislative seats per electoral district. Coded “1” if system employs some form of proportional representation and “0” otherwise. <sup>a</sup>	7.6 .71	8.3 .46
<b>Percent Women</b>	Percentage of legislators (lower house) who are women. <sup>b</sup>	15.0	10.4
<b>Women’s Policies</b> Maternity policy Political equality  Social equality  Marital equality	Length of national maternity leave in weeks. <sup>d</sup> Index of Gender Equity in Political Rights: 1 = substantial inequality; 2=some inequality; 3= substantial equality of rights. <sup>e</sup> Index of Gender Equity in Social Rights: 1 = substantial inequality; 2=some inequality; 3= substantial equality of rights. <sup>e</sup> Equity of the sexes in marriage and divorce proceedings: 1 = substantial inequality; 2=some inequality; 3= substantial equality of rights. <sup>e</sup>	21.6 2.0  1.9  2.6	16.7 .35  .33  .50
<b>Women’s Confidence</b>	“... could you tell me how much confidence you have in (Parliament): a great deal of confidence, quite a lot of confidence, not very much confidence, or none at all?” Percentage of women responding “a great deal” or “quite a lot.” <sup>f</sup>	.35	.13
<b>Feminist Attitudes</b> Need Child Pay Problem  Men Education	“do you think that a woman has to have children ... to be fulfilled...” 1 = yes; 0 = no. <sup>f</sup> “If a woman earns more money than a man, its almost certain to cause problems” 1 = Strongly Agree/Agree; 0 = Disagree/Strongly Disagree. <sup>f</sup> “A university education is more important for a boy than for a girl.” 1 = Strongly Agree/Agree; 0 = Disagree/Strongly Disagree. <sup>f</sup>	.50 .44  .20	.23 .09  .09
Sources:	a. Beck, Thorsen, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh. 2001. New Tools in Comparative Political Economy: The Database of Political Institutions. <i>World Bank Economic Review</i> 15 (1):165-176. b. IPU. 1995. <i>Women in Parliaments, 1945-1995: A World Statistical Survey, Reports and Documents, No. 23</i> . Geneva: IPU. c. UN Development Program. 1997. <i>The Human Development Report</i> . New York: United Nations. d. UN Statistics Division. 2000. <i>Table 5.C - Maternity leave benefits</i> . <a href="http://unstats.un.org/unsd/demographic/ww2000/table5c.htm">http://unstats.un.org/unsd/demographic/ww2000/table5c.htm</a> . e. Humana, Charles. 1992. <i>World Human Rights Guide</i> . 3rd ed. New York: Oxford University Press. f. World Values Survey, 1995-1997.		

## **ENDNOTES:**

<sup>1</sup> The idea that women share distinctive political interests is controversial. Women are a diverse group with diverse interests that vary along lines of race, ethnicity, class, etc. Certainly all women do not agree on exactly what women's interests are. Yet, in general terms, women are likely to have some interests that are distinguishable from those of men or those of other identity-based groups helping to make them suitable for this analysis.

<sup>2</sup> In addition to public policy, Eulau and Karps (1977) identify three other ways in which representatives can respond to constituents: *service responsiveness*, which refers to the provision of particularized benefits to individuals or groups; *allocation responsiveness*, which refers to the generation of pork barrel benefits for the constituency; and *symbolic responsiveness*, which refers to intangible gestures made in response to constituent interests.

<sup>3</sup> In the long run, the assumption that formal representation is exogenous to descriptive representation and policy responsiveness probably cannot be sustained. As the composition of the legislature changes over time it is entirely possible for representatives to enact legislation changing the electoral rules of the game. Indeed, the model as diagrammed is a static version of a more general, dynamic model in which virtually all of the hypothesized linkages could be conceived as reciprocal over time. Unfortunately, data limitations prevent the test of a dynamic model and necessitate the specification of those recursive linkages that are most plausible in the short run. Thus, in the short run, electoral rules effectively are fixed and influence both who is elected and the policies they produce. In the same way, the percentage of women in a legislature is more likely, in the short run, to affect the responsiveness of the legislature to women's issues, even though in the long run, the relationship may feed back.

<sup>4</sup> Lijphart (1994: 130-31) notes that the effect of district magnitude on the number of parties varies by type of electoral system. It encourages greater numbers of parties in PR systems but discourages them in plurality-majority districts. Because there are very few plurality-majority districts with a district magnitude greater than 1 (and none in our study), we can largely ignore this theoretical concern in practice and treat district magnitude as always having positive effects on the number of parties.

<sup>5</sup> While women's gains in representation do not necessarily come at the expense of men, there is at least a tension between the two. The legislature's composition, for example, is zero-sum; any increase in the number of women in the legislature necessarily reduces the number of men. Thus, from an egocentric perspective, women and men's perceptions of representational legitimacy may respond differently to increases in women's formal representation. From a sociotropic perspective, the value of representative institutions and procedures should appeal relatively equally to men and women and have comparable effects on their institutional trust.

<sup>6</sup> The countries include: Argentina, Australia, Austria, Belgium, Britain, Bulgaria, Canada, Chile, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, South Africa, South Korea, Slovenia, Spain, Sweden, Switzerland, Uruguay, and USA.

<sup>7</sup> Specifically, we limit the analysis to countries with average scores between 1 and 2.5 on the separate, seven-point Freedom House scales of civil liberties and political rights; where lower scores indicate greater freedom ([www.freedomhouse.org/ratings/index.htm](http://www.freedomhouse.org/ratings/index.htm)).

<sup>8</sup> We experimented with the inclusion of a nearly equal number of ‘unfree’ countries in preliminary tests of the model. Unlike the clear pattern reported below for democratic regimes, virtually no significant relationships were found to exist among the different dimensions of representation in undemocratic systems. Moreover, the inclusion of undemocratic regimes severely confounded the results and caused the model for democratic regimes effectively to collapse. The decision to focus only on democratic regimes is supported both by theory and evidence.

<sup>9</sup> Ideally a measure of policy responsiveness should assess congruence between legislative outputs and the interests (needs or demands) of the represented. Unfortunately, cross-national measures of public opinion in specific policy areas are largely unavailable, as are reliable measures of public needs. Lacking cross-national data on women’s policy needs or demands, we make the heroic assumption that women share a number of policy interests cross-nationally and that we can measure responsiveness by focusing solely on legislative outputs on issues we assume to be especially salient to women. To compensate for the lack of data on women’s policy demands, we include a control variable measuring public attitudes toward women’s roles in society as discussed in detail below.

<sup>10</sup> Because the legislature is not the only representative institution in some systems and is not the only policy-making institution in others, we experimented with other measures of symbolic representation including measures of public confidence in “the government” and average public confidence across a range of various institutions. In fact, public confidence in different institutions is highly correlated and the model results are the same regardless of the variable used to measure symbolic representation.

<sup>11</sup> The number of possible influences on women’s representation is virtually limitless. We would have liked, for example, to have measures of the strength of women’s movements in each country, women’s education levels, and women’s membership in higher level areas of the workforce. Unfortunately, such data are in very short supply and could not be found in consistent cross-national form.

<sup>12</sup> A latent variable is defined as two or more observed variables each of which are assumed to be generated partly by a common underlying attribute and partly by unique or variable-specific attributes including error. A measurement model analyzes the relationships among the observed indicators and estimates ('constructs') an empirical measure of the latent variable based on the commonality in the indicators.

<sup>13</sup> While we label this dimension, feminist values, we might also have labeled it modernism-traditionalism or something similar. Additional analyses, not shown, demonstrate that this variable is highly correlated with the percentage of women in the workforce, with GDP per capita and (negatively) with infant mortality. Indeed, all three of these additional variables have loadings greater than .40 on this latent variable when included together in the analysis. We include only the feminist value items here, however, because they have the strongest loadings on the latent variable. They also have the strongest causal connections to other variables in the model and thus provide the strongest controls on the representational linkages.

<sup>14</sup> The relative chi square statistic (cmin/df) is considerably less than 2.0, which, according to Carmines and McIver (1981, 80), demonstrates an "acceptable fit between the hypothetical model and the sample data." The RMSEA is .13, which is higher than the .05 level normally recommended but reasonably close given a small sample (Bollen, 1989). The Incremental Fit Index (IFI) and Comparative Fit Index (CFI) are .79 and .70 respectively, indicating that the model represents a 70 to 79 percent improvement over the null model.

<sup>15</sup> Another problem with the model is the multicollinearity ( $r=.91$ ) in the parameter estimates for linkages A and B (i.e., those connecting proportional electoral systems with the percent women in the legislature and women's policy responsiveness). The effect of this multicollinearity is to considerably inflate the two parameters, making both appear larger than either one does when entered separately. Given that the linkage between electoral proportionality and women's policy responsiveness is not significant at traditional levels ( $p \leq .10$  for a small sample) and remains non-significant when the linkage between percent women and policy responsiveness is removed, we have deleted the electoral → policy link from the revised model.

<sup>16</sup> The magnitude of the indirect effect is calculated by multiplying the standardized coefficients in the compound path. Thus, the indirect effect of the electoral system on policy responsiveness via descriptive representation is  $.57 \times .42 = .24$ .

<sup>17</sup> The parameter between substantive and symbolic representation also is highly correlated with the parameter between descriptive and symbolic representation such that the two cannot be included in the model simultaneously.

<sup>18</sup> There is no basis in theory or in previous research to predict what the specific percentage of women must be before a critical threshold is reached. Thus we arbitrarily divided the 31 legislatures at the mean. Several other, higher thresholds (the upper quartile and eighty-fifth percentile) were also tested with equally negligible results.

<sup>19</sup> Men on average are 2.5 percent more likely to trust their legislature than are women. The largest gap across these countries is in Australia where men are 11 percent more trusting of the legislature. Sweden is second with a 9 percent male edge. Women are more trusting of the legislature than men in nine countries; the largest gap is in Switzerland where women are 6 percent more likely to trust the legislature.

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**Table 1:**  
**Measurement Models of Feminist Attitudes, Formal Representation  
and Substantive Representation**

Latent Variables/ Measures	Loading	Standard Error	Standardized Loading
<b>Feminist Attitudes</b>			
University More Important for Men	-1.0		-.75
Women Need Children	-3.23*	.90	-.97
Women Earning More a Problem	-.77*	.31	-.58
<b>Formal Representation</b>			
District Magnitude	1.0		.67
PR vs. SMD	.04*	.01	.76
Presidential vs. Parliamentary	-.02	-.02	.23
<b>Substantive Representation</b>			
Weeks of Maternity Leave	1.0		.62
Women's Political Equality Index	.04*	.02	.79
Women's Social Equality Index	.03*	.01	.48
Marital Equality in Law	.04*	.02	.49

Notes:

Analyses are confirmatory factor analyses.

\*  $p \leq .05$

N = 31

See Appendix A for variable coding and sources.

**Table 2:****Structural Equations Estimates of an Integrated Model  
of the Political Representation of Women**

Variables	Coefficient	Standard Error	Standardized Coefficient
<b>Descriptive Representation R<sup>2</sup> = .52</b>			
Proportional Electoral Systems	.72*	.31	.48
Presidential vs. Parliamentary Systems	1.06	3.86	.05
Feminist Attitudes	-82.7*	29.7	-.54
<b>Substantive Representation R<sup>2</sup> = .83</b>			
Proportional Electoral Systems	-.82	.52	-.86
Presidential vs. Parliamentary Systems	-1.79	3.15	-.12
Percentage of Female Legislators	.56*	.28	.88
Feminist Attitudes	-.09	28.1	-.01
<b>Symbolic Representation R<sup>2</sup> = .27</b>			
Proportional Electoral Systems	.07*	.01	.38
Presidential vs. Parliamentary Systems	-.02	.07	-.07
Percentage Female Legislators	.002	.002	.16
Women's Policy Responsiveness	-.002	.02	-.09
Feminist Attitudes	-.36	.56	-.19

## Notes:

Estimates are Full Information Maximum Likelihood Estimates.

\*  $p \leq .05$ 

N = 31

See Appendix A for variable coding and sources.

**Table 3.**

**The Effects on Policy Responsiveness and Symbolic Representation  
(Standardized Maximum Likelihood Estimates)  
of Different Specifications of the Percentage of Female Legislators**

<b>Variable/ Specification</b>	<b>Women's Policy Responsiveness</b>	<b>Women's Confidence in Legislature</b>
Simple Linear Function of % Women in Legislature <sup>a</sup>	0.42	0.13
Threshold Effect of % Women (Legislatures with over 15% Women members)	0.17	0.05
Natural Log of % Women in Legislature <sup>b</sup>	0.31	0.02
Squared % Women in Legislature <sup>c</sup>	0.54	0.38
Notes: a: $Y = a + bx$ (linear effect) b: $Y = \text{Log}(x)$ (logarithmic effect) c: $Y = a + bx^2$ (quadratic effect)  See Appendix A for variables coding and sources.		

**Table 4.**

**Direct, Indirect and Total Effects (Standardized Maximum Likelihood Estimates) of  
Formal, Descriptive and Substantive Representation on  
Men's and Women's Symbolic Representation**

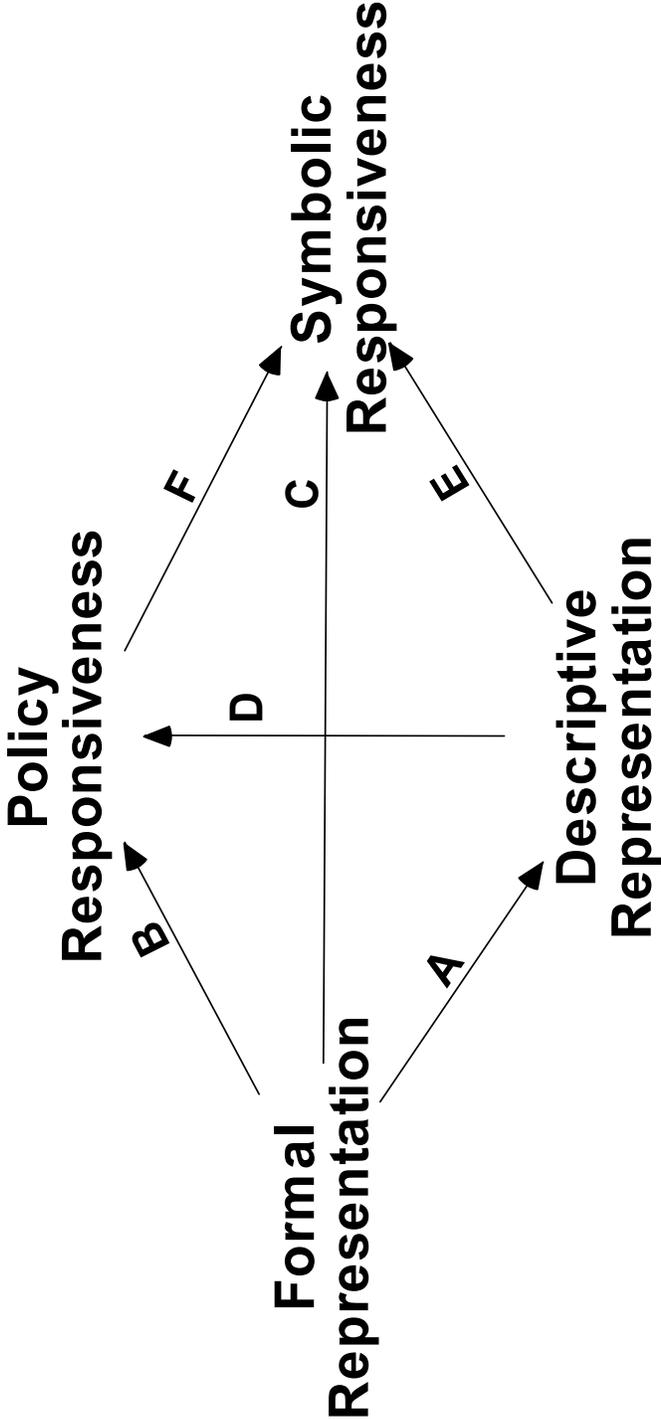
	<b>Women's Confidence in Legislature</b>			<b>Men's Confidence in Legislature</b>		
	Direct	Ind.	Total	Direct	Ind.	Total
Formal Representation	0.45	0.07	0.50	0.34	0.16	0.50
Descriptive Representation (linear)	0.13	0.00	0.13	0.28	0.00	0.28
Descriptive Representation (squared)	0.28	0.00	0.28	0.32	0.00	0.32
Policy Responsiveness	-0.10	0.00	-0.10	-0.02	0.00	-0.02

Notes:

Total = Direct + Indirect Effects

See Appendix A for variables coding and sources.

**Figure 1: An Integrated Model of Political Representation**



**Figure 2: Reduced Form Structural Equation Model of Women's Representation**

