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THE WILLINGNESS-TO-PAY FOR WORK/ FAMILY POLICIES: A STUDY OF TEACHERS

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Recent evidence suggests that employers and employees may benefit from work/family policies and that even non-beneficiaries may support such policies. The authors posit that these policies generate not only “use” values (values for those who rely on them), but also, based on a particular norm of social justice, “need” values (values received by all individuals, regardless of expectations of direct benefit). Combining the median voter model with the contingent valuation method, which was designed to measure the willingness-to-pay for environmental goods such as national parks, the authors capture the willingness-to-pay for seven distinct work/family policies within a sample of 343 public, elementary school teachers. The results suggest that referenda to initiate work/family policies in exchange for payroll deductions from teachers would pass, depending on the specific deduction. Even respondents with no expectation of direct benefit may place a positive value on the policies, consistent with the notion of “need” values.

In discussions of work and family issues, it is typically presumed that employers or the government should pay for related policy initiatives (Bailyn and Rayman 1998; Bond, Galinsky, and Swanberg 1998; Waldfogel 1998). Given evidence that work/family policies can benefit employers through enhanced economic performance (for example, Bond, Galinsky, and

Swanberg 1998), such arguments are not unreasonable. Nonetheless, given that such policy initiatives directly benefit employees, it is surprising that previous research has not sought to discover whether employees are willing to pay, even partially, for such policies. The analysis presented here provides the first scientific evidence in this regard.

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sor of Economics at North Carolina A&T State University. Russell Kashian, Ph.D., teaches economics at Marquette University. The authors thank the Alfred P. Sloan Foundation for funding the study, the Institute for Policy and Survey Research at UW-Milwaukee for administering the survey, and Taggart J. Brooks, Patricia Champ, and Douglas Hyatt for helpful advice.

Copies of the data in ascii format and programs in Limdep 7.0 are available from Robert Drago at LSIR, 113 Willard, Penn State University, University Park, PA 16803.

The analysis uses a contingent valuation methodology to provide estimates of the monetary value of such policies for a sample of public, elementary school teachers in the United States. Contingent valuation is a survey research method used to measure the value of goods that are not traded in markets or that may be undervalued by the market. The methodology has been refined over the past half-century by economists concerned with the environment (Ciriacy-Wantrup 1994; Freeman 1993). To the best of our knowledge, it has not been applied previously to workplace benefits issues.

One obvious reason employees might balk at paying for work/family policies is that the benefits of such policies are not shared equally among them. It is hard to imagine a case in which all employees in an establishment (unless a very small one) would use employer-provided services like on-site childcare or referrals for elder care services. Employees who have no expectation of direct benefit from a work/family policy may not wish to pay for it, and might even resent an employer for providing the benefit at no direct cost to employees.

Two recent studies suggest, however, that this obstacle is not insurmountable. Grover and Crooker (1995) found that employees who were not parents approved of work/family policies. Relatedly, Bond, Galinsky, and Swanberg reported that 60% of employees in a national sample said they would not resent their employers for providing work/family benefits that were not personally beneficial (1998:157).

These findings suggest that work/family policies exhibit some of the characteristics economists attribute to environmental goods with positive externalities. In much the same way that individuals who never expect to visit the Grand Canyon are nonetheless willing to help pay for its continued existence and maintenance, employees who do not expect to use work/family policies may nonetheless be willing to help subsidize their existence. The contingent valuation method is designed to elicit informa-

tion on willingness-to-pay in precisely these types of situations, commending its use in the present study.

Given that employers can benefit from work/family policies in terms of employee commitment, retention, and productivity (Grover and Crooker 1995; Joesch 1997; Bailyn and Rayman 1998; Bond, Galinsky, and Swanberg 1998), we are not suggesting that employees bear the entire burden of financing work/family policies. We view the implementation of such policies as resting on a triangle of relevant factors: the policies' financial *cost*; their benefits to *employers*, and employers' resulting willingness to pay for them; and their benefits to *employees*, and employees' resulting willingness-to-pay. This paper focuses on the employee willingness-to-pay side of the triangle.

Theories of the Value of Work/Family Policies

We draw on three strands of literature to construct a theoretical understanding of the value of work/family policies. First is the work/family literature, wherein work/family policies are viewed as a *practice* that can improve the quality of work and life, as well as the relationships between the employee and his or her family. Second is the industrial relations literature, wherein work/family policies are viewed as employee *benefits*. Third are contingent valuation studies, which suggest that work/family policies be viewed as similar to *environmental goods*. Although these characterizations are simple, they serve to focus the following discussion.

The work/family literature views related policies as *practices*. This literature incorporates the notion of "spillover," whereby conditions and activities in one of the spheres of work and family affect the other sphere (MacDermid and Williams 1997). Spillover can be objective, as in the direct trade-off between working hours and family hours, or subjective, as when the pressures of work lead to poor performance of duties at home. Spillover can also be negative, as with the examples above, or posi-

tive, as might occur when a supportive and flexible work environment facilitates the creation of a supportive and flexible home environment.

In this context, work/family policies are viewed as a practice creating positive spillover from work to home by easing the ability of employees to meet family demands. An enhanced ability to meet family demands, in turn, reduces negative spillover from family to work, thereby improving work performance (Crouter 1984).

Related research on work/family policies has sought to flesh out these linkages. For some examples, Grover and Crooker (1995) showed that the practices of maternity leave, flexible scheduling, and childcare referral services can reduce the probability of turnover or increase commitment to the organization, even among employees with no expectation of using the service. Joesch (1997) found that fairly short periods of maternity leave actually reduce the time away from work associated with childbirth, and Warren and Johnson (1995) found that work-family role strain is reduced for employed mothers who use work/family policies and whose supervisors are flexible.

The literature just discussed establishes that work/family policies can generate benefits for employees, their families, and their employers. Quite differently, the industrial relations literature views work/family policies as an employee *benefit* provided by employers (Gittleman, Horrigan, and Joyce 1998). The prototypical example of an employee benefit is the employer-sponsored pension plan. Such plans will be offered by employers as a way to provide deferred compensation to employees, and there are substantial tax advantages for both parties in shifting dollars from current wages to pension funds (Reynolds, Masters, and Moser 1998:400-401). In this view, theory predicts that employees will foot the entire bill by taking a one-for-one wage reduction to fund pensions. However, empirical findings suggest that employees often give up less in wages than is gained in pension ben-

efits (Gunderson, Hyatt, and Pesando 1992).¹

Considered together, these first two strands of literature predict that employees will pay part of the cost involved in the provision of work/family benefits. Employees would not be expected to bear the entire cost if the employer experiences enhanced productivity and performance due to work/family policies, as the work/family literature suggests. On the other hand, to the extent that work/family policies offer immediate benefits to employees, as suggested by the industrial relations literature, some payment or trade-off against wages would be expected. This partial payment view is in marked contrast to the literature presuming that employers either do or should bear the full cost of the policies (Bailyn and Rayman 1998; Bond, Galinsky, and Swanberg 1998; Waldfogel 1998).

As noted above, a problem with expecting employees to cover some or all of the cost of work/family policies is that these policies do not benefit all employees equally. This problem brings us to the issue of contingent valuation. The contingent valuation literature was developed to address the question of payments and particularly taxes for environmental goods that provide positive externalities, or benefits that the market undervalues. For example, some people may never visit the Grand Canyon, yet might still be willing to pay to help maintain the landmark. If the Canyon

¹It is theoretically possible for employees to bear the entire cost of work/family policies, particularly where an employer has high bargaining power or where financial constraints on the organization make such policies otherwise infeasible. We cannot, however, analyze this possibility with the data at hand. Note also that, like the pension literature (for example, Ghilarducci and Terry 1999), the industrial relations literature on work/family policies typically analyzes the incidence of such policies (Simpson 1997), or how the presence of such policies alters the incidence of other practices such as high-performance work systems (Osterman 1994), employee involvement (Gittleman et al. 1998), or training systems (Frazis, Herz, and Horrigan 1995).

were maintained by fencing it in and charging admission, it would be undervalued, since the value to non-visitors is not captured by the market. Similarly, if the existence of work/family policies is valued even by those who do not plan to use them, the market also undervalues such goods. In these circumstances, Hanemann (1994) argues that market failure should lead us to think in terms of public choice rather than private markets. Once we are inside the realm of public choice, the issue of voting emerges. A contingent valuation study is then a pseudo-voting process to establish the value of a good that would otherwise be undervalued.

Bond, Galinsky, and Swanberg (1998) found that people with no expectation of direct benefit from work/family policies may nonetheless support employer efforts to provide the policies. This finding implies that work/family policies may be undervalued in the market, akin to environmental goods. Using contingent valuation terminology, this finding implies that work/family policies create both “use values,” for those who rely on them, and “non-use values,” received by all individuals, regardless of expectations of direct benefit (Hanemann 1994).

We label the non-use values in the case of organizational work/family policies “need values.” This characterization follows from the literature on social justice, which includes three norms of fairness corresponding to considerations of equity, equality, and need. Grandey (2001) argues that the norm of need is required to explain the implementation of work/family policies. The norm of equity involves a matching of contributions and rewards, so equity would dictate that only superior performers receive work/family benefits, or that employees individually contract for the benefits through wage deductions. The norm of equality dictates equal outcomes, so would require that all individuals benefit uniformly from work/family policies, a situation that is difficult to imagine. Grandey therefore concludes that broad support for work/family policies among an organization’s employees can only be explained

by a need-based norm of fairness. Given such a norm, employees may believe that it is fair for those who have dependent children or other family commitments to receive benefits that ease the burden of family responsibilities.

Grandey does not consider an alternative explanation suggested by Rogers (2001). Rogers analyzes a case of “time transfer,” defined as the systematic movement of working time from one group of employees to another. In the specific case, a school district responded to a substitute teacher shortage by moving work from substitutes to permanent, full-time teachers. By extension, the absence of work/family policies may often involve the informal practice of time transfer between those with and without family commitments.² Indeed, at least some organizational policies require that parental leave time be generated by shifting working time to other employees.³ Somewhat differently, policies that make it easier to meet family commitments without reducing time on the job—such as after-school care, or subsidized childcare—may function to reduce the need for informal time-transfer arrangements. It is therefore possible that employees will perceive the option of paying for work/family policies as a method to reduce or avoid informal practices of time transfer to help others meet their family commitments. That is, there may be a direct economic benefit from work/family policies for employees who do not use them.

However, even if support for work/family policies stems most immediately from a desire to reduce time shifting, it seems likely that informal time-shifting practices are themselves a product of a need-based norm of fairness. We therefore proceed on the assumption that need values provide

²We intend to test for the existence of this phenomenon in the present data set in future research.

³For example, at the time of this writing, the Pennsylvania State University had a parental leave policy for faculty involving the shifting of work to other faculty within a Department.

the fundamental explanation for the support of work/family policies by employees who do not expect to use them.

Under these assumptions regarding use values and need values, two hypotheses follow: employees who expect to benefit directly from a work/family policy will place the highest monetary value on the policy, and employees who do not expect any direct benefit will place a lesser but still positive value on the policy.

To project the determinants of employee support for work/family policies, we distinguish between policies directed toward elder care issues, those addressing childcare needs, and those concerning any family member. In a random sample of U.S. employees, those who are more likely to provide some level of elder care tend to be female, older, and without simultaneous childcare and elder care responsibilities (Bond, Galinsky, and Swanberg 1998:151–52). Therefore, women, older workers, and individuals who are not parents can expect to receive both use value and need value from work/family policies addressing elder care. Individuals with these characteristics should place a higher value on elder care policies than others do.

Similarly, it is known that most childcare responsibilities fall on parents, and particularly mothers (Bond, Galinsky, and Swanberg 1998:37–42). Accordingly, respondents with these characteristics should place a higher value than other respondents on work/family policies addressing childcare.

Concerning policies pertaining to any family member, we predict that employees with families (for example, parents, partners, or elders) will be more likely than others to value such policies. A more specific factor likely to be correlated with the value placed on these policies is frequency of absence from work to meet family responsibilities. Family demands can lead to unplanned work absences (Bond, Galinsky, and Swanberg 1998:51–52, 153), and work/family policies can either ease restrictions on such absences (for example, through family leave policies) or reduce the need for them by helping employees to better

meet family demands. Both arguments imply that employees who take more family-related absences would receive higher use values from work/family policies and therefore place a higher monetary value on the policies.

Finally, we turn to the question of managerial effects on the value of work/family policies. In general, studies show that negative spillover from work to family is reduced where supervisors are supportive of employees (Bowen 1998), and particularly where supervisors provide flexibility to employees (Warren and Johnson 1995). Specific to work/family policies, research suggests that supervisory support for the work/family needs of employees is required for the success of work/family programs (Friedman 1987; Galinsky, Friedman, and Hernandez 1991). We predict that supervisor support for the work/family needs of employees will be positively correlated with the value of such policies to employees. Absent such support, employees could end up paying for policies that are not accessible.

Sample

Sample data for the Time, Work, and Family (TWF) project were collected during the 1997–98 school year. The sample was constructed to provide information at three levels: district, school, and individual teacher/family. We selected four urban school districts with high within-district variance in working time from a list of the 30 largest cities in the United States.⁴ High within-district variance was desired because the data were being collected as part of a larger study of the impact on time use of work/family policy and practices. The

⁴The National Center for Education Statistics provided estimated within-district workweek variance figures for selected school districts with data from 1993–94. Using this information as a guide resulted in a sample of districts with a reasonable amount of variation in working time. The standard deviation of daily working time using the standard diary measure (described below), by district, ranges from a minimum of 1.58 hours to a maximum of 2.21 hours.

methodology resulted in a sample with two cities on the Eastern seaboard and two in the Midwest. The smallest city had a population of just under one-half million, while the largest ranked in the top five of all U.S. cities.

The second level of sampling was the elementary school level. Within each district, we again sought to maximize variance in working pressures on teachers, this time across schools. An indicator that is standardized across districts and collected regularly at the school level is the percentage of students qualifying for free or reduced-price lunch programs due to low family income levels. The measure is set by the National School Lunch Program such that children from families with incomes at or below 185% of the poverty level are eligible for free or reduced-price meals. All elementary schools within each district were ranked according to the relevant statistics for 1995. The middle 20% of schools in each district were eliminated from consideration; six schools in each district were then selected randomly from the high poverty end of the distribution, and another six from the low poverty end.⁵

Principals from the resulting list of 48 schools were invited to participate in the study by responding to a survey and providing access to teachers in the school for voluntary recruitment. Random resampling (within the relevant district/group) due to principals' refusals resulted in a total of 57 schools being contacted and 46 schools participating in the study, for a school-level response rate of 80.7%. Attempts to achieve the projected sample of 48 schools fell short by two due to time constraints.

The third level of sampling was at the teacher level. To prevent a small number of schools with large numbers of teachers from dominating the data set, a maximum of 17 teachers were asked to participate at each school. Criteria for inclusion in the sample included full-time teaching status, and teaching a "regular" class of students in a grade from kindergarten through fifth. Teachers with at least one-half of their students defined as "special needs" students were excluded from the study. Our supposition was that the number of special needs teachers that would naturally emerge without the restriction would be too small for statistical analysis. Given the small percentage of male teachers in such schools, to maximize variance on gender, all teachers who were identified as male from the school faculty roster were included in the study. Female teachers were then randomly selected from rosters to achieve a maximum list of 17 eligible teachers per school. Telephone surveys with 343 of the 627 eligible teachers contacted were completed and codable, for a response rate of 54.7%.

Demographic information for the TWF sample of teachers, and for a larger sample of teachers from urban, elementary, public schools in the United States produced by the National Center for Education Statistics (NCES) for the 1993–94 school year, is provided in Table 1. Most of the matches were reasonably close, although a z-test for differences of proportions (Ott and Mendenhall 1995:409) revealed some statistically significant divergence. Despite an attempt to oversample men in the TWF, the proportion of women in that study exceeded the female proportion in the national sample at a statistically significant level. The national sample, however, includes specialty teachers, such as those in physical education, which this study excludes. The TWF sample also includes a statistically significantly lower proportion of single respondents, a result we attribute to our treating as non-single those individuals who had been living in a committed relationship for at least six months prior to the study. Treating those individuals as single makes the difference between the samples statistically

⁵To test the impact of this sampling strategy, we created a dummy variable for whether or not the teacher was employed at a high poverty school. This variable is strongly correlated with student disrespect for and verbal abuse of teachers, violence among students, a lack of parental involvement, poor student health and nutrition, and student drug use (in all cases, the Pearson correlation is positive, statistically significant, and above .3). Thus, our selection of poverty as a stratifying variable seems justified.

Table 1. Teacher Demographic Characteristics.

Characteristic	TWF	NCES
	Telephone Survey (N = 343)	(N = 4,210)
Age	42.0	43.0
Female	86.6%**	82.2%
Marital Status:		
Married	72.2%	68.1%
Single	11.7**	16.4
Living with a Partner	4.5	
Separated, Divorced, or Widowed	12.2	15.5
Highest Education Level:		
Bachelor's	62.4%**	55.8%
Master's	35.3	39.6
Education Specialist	1.7***	5.1
Doctorate	0.6	0.8
Parent of Dependent Child	47.8%***	56.7%

Notes: Some numbers may not add to 100% due to rounding. The detailed marital status information for TWF is based on 266 observations. The mean age for the NCES data is interpolated from categorical data, so tests for age differences cannot be performed.

Difference significant at the .05 level in a test for difference of proportions; *at the .01 level.

insignificant. The sample in addition includes a statistically significantly lower proportion of teachers with education specialist degrees, which is probably due to the exclusion of special education teachers from our study.

Note also that the percentage of parents in the TWF data is nine percentage points below the national average, a statistically significant difference. We suspect this low figure is due to response bias, with relatively fewer parents willing to add to their already demanding schedules by agreeing to participate in the project.⁶ The TWF

⁶This possibility was first suggested by Arlie Hochschild (1989:279). Note that the TWF parenting figure reported here is above that for a subsample of respondents who completed time diaries (see Drago et al. 1999), although the difference of 3 percentage points is not statistically significant at conventional levels.

project involved a written survey, an extended telephone interview, and a time diary, while the NCES, which achieved a response rate of 88.2%, administered only a short written survey to teachers (NCES 1996:197-98). We do not weight the data below, because the under-representation of parents should tend, if anything, to understate evidence supporting our hypotheses. The data for the present study are from a telephone interview with teachers.

Estimation Methodology

This study is motivated by our interest in whether a referendum asking employees to share the costs of implementing work/family policies would pass. It is reasonable to assume that if the share were set low enough, the referendum would pass, leading us to inquire more specifically about the level of costs that would garner the support of a majority of employees in a referendum. The estimation methodology is designed to answer the latter question.

An intuitively appealing approach here would involve asking the survey question, "How much are you willing to pay for policy Y?" This strategy has two problems. First, individuals are likely to make false claims in terms of very high and very low values, either overstating or understating the willingness-to-pay (WTP) in hopes of influencing the outcome of the survey (Hanemann 1994). An individual willing to pay a small amount might believe the policy would actually cost far more and respond with a zero willingness-to-pay in hopes of defeating the measure. An individual willing to pay a larger amount might indicate an inflated willingness-to-pay because doing so might improve the probability of policy implementation at no actual cost to the respondent. The second problem with asking an open-ended "how much?" question is that the wording is far from that found in any actual referendum and is therefore unrealistic.

To make the survey question realistic requires asking about a specific dollar value, as would occur in an actual referendum (Mitchell and Carson 1989:101-3). We

Table 2. Willingness-to-Pay for Work/Family Policies: Responses.
(N = 343)

Interview lead-in: "I'll list benefits that are sometimes available to teachers. Suppose these benefits were not currently provided and teachers voted on whether the school district will provide the benefit in exchange for a weekly deduction from every teacher's pay (similar to deductions for retirement or medical insurance). Would you vote for the benefit if it were:"

<i>Question</i>	<i>Threshold Value, \$ per Week</i>	<i>Proportion Willing</i>	<i>Number Asked Threshold</i>
A referral service to help teachers find childcare, with a universal deduction of:	\$.25	.555	128
	\$.50	.464	97
	\$1	.501	118
Provision of free childcare at or near your school for teachers' children, with a universal deduction of:	\$1	.685	111
	\$5	.546	143
	\$10	.382	89
Free school-provided after-school care for teachers' children, with a universal deduction of:	\$.50	.644	135
	\$1	.676	105
	\$5	.485	103
A referral service to help teachers find care for older or disabled family members, with a universal deduction of:	\$.50	.651	109
	\$1	.577	130
	\$5	.375	104
Professional counseling either on- or off-site for teachers and families on personal issues such as alcohol abuse or family stresses, with a universal deduction of:	\$.25	.746	130
	\$.50	.636	110
	\$1	.621	103
Family care leave of up to one week per year, where teachers receive paid time off to care for a sick child or family member, with a universal deduction of:	\$1	.868	121
	\$2	.793	111
	\$5	.631	111
Six weeks off with full pay for childbirth, with a universal deduction of:	\$.50	.829	111
	\$1	.758	124
	\$5	.574	108

followed this approach and asked people to vote "yes" or "no" on a pseudo-referendum concerning work/family policies with a specific payroll deduction attached. For example, an individual might be asked whether she or he would vote for a district-wide \$5 per week payroll deduction to provide "free childcare at or near your school for teachers' children" (see Table 2).

While realistic, asking about a single and specific dollar amount means that we can only estimate whether a vote on that particular amount would pass. As Freeman and Medoff (1984) suggested, what we are really interested in is the behavior of the median voter, the individual who could swing the referendum up or down (White 1982). For an example in our WTP context, suppose there are five individuals voting on the provision of childcare. Each has a distinct WTP, and these are \$1, \$2, \$3, \$4,

and \$5. The median voter is the individual willing to pay \$3 for childcare. If the referendum were to ask for a higher deduction, it would fail to win a majority of votes, while it would pass if \$3 or less were the amount requested. It is therefore the median voter's WTP that we wish to estimate.

Cameron and James (1987) provided an estimation technique allowing us to calculate the median willingness-to-pay from survey questions asking about specific dollar values. There are two keys to the method. The first is that different individuals are randomly asked different dollar amounts, called "threshold values." The threshold value is the amount a particular individual is asked to consider. The second key is that the data are run through a probit regression equation whereby we estimate the probability of a yes vote based on information regarding the threshold values along with

whether the individual would vote yes or no.

Cameron and James's method takes advantage of the fact that a probit regression does not estimate whether an individual will say yes or no to a question, but instead the probabilities of saying yes or no. By including the threshold values—measured in dollars—as an independent variable, we thereby associate the probabilities with dollar values. We then find the median WTP by finding at what dollar value half of the probabilities are lower and half higher.⁷ Specifically, the median WTP is calculated as the inverse of the constant divided by the coefficient on the threshold values.⁸ Given the method, to demonstrate that the median WTP is significantly different from zero requires that both the constant and the threshold value coefficient in the probit be significantly different from zero. By adding other independent variables, such as parental status, we can detect the effects of those variables on the WTP. By splitting the sample and rerunning the probit on, for example, subsamples with and without parental responsibilities, we can use a Chi-squared test (equivalent to a Chow test) to ascertain whether the WTP is significantly different in the subsamples.

⁷The median is also the mean in this case because the distribution of errors is assumed to be symmetric.

⁸Calling WTP_i individual i 's willingness-to-pay for a particular work/family policy, we wish to estimate the following parameters:

$$(1) WTP_i = B + u_i,$$

where B is the median WTP for the sample, and u_i is a random and normally distributed error term with mean zero and standard deviation σ . Because the errors are assumed to be normally distributed, B is both the median and the mean WTP. We actually estimate the equation

$$(2) z_i = g + t_i h + u_i,$$

where $x = 1$ if $z > 0$, and $x = 0$ if $z \leq 0$,

with t_i being the threshold value, x being the yes (1) or no (0) vote variable, and z_i being the probability of a yes or no vote. Cameron and James demonstrated that the respective coefficients in equation (2) are $g = -1/\sigma$ and $h = B/\sigma$. B can then be derived by calculating $B = -g/h$. Note that the probit permits individuals to place negative values on the policies.

Four other aspects of the contingent valuation approach warrant discussion: sub-additivity effects, sequence effects, scope effects, and the realism of the survey instrument. Our contingent valuation survey asked respondents to consider seven policies. Multiple contingent valuation items have the advantage of generating relevant information on multiple policy options. However, as Hanemann noted (1994:34), multiple items can also lead to "sub-additivity" effects such that respondents add up the costs of separate policies as they go through the items, rather than treating each as an independent expenditure. As a result, respondents will tend to provide more conservative answers to multiple items than they would if only one of two policy options were provided.

Hanemann also discussed ordering or sequencing effects (1994:26) such that items early on a list tend to receive more positive responses. Respondents may perceive that they are running out of money as they get to items further down in the survey. Following Hanemann's recommendation, we therefore randomized the order of items to control for such effects.⁹

The issue of "scope" concerns the range of monetary values applied to each item. If we ask, for example, whether individuals are willing to pay \$1,000 per week for childcare referral services, we are likely to encounter uniformly negative responses. Further, the monetary value may vary across the policies, requiring different scales for each (Hanemann 1994:34). To obtain reasonable values for each policy, we therefore undertook two pilot studies (see Appendix for further description). If the scope issue is handled properly, we should see neither consistently positive nor consistently negative responses associated with any given threshold value. Relatedly, since the probit estimation technique is based on a continuum of probabilities, the median WTP

⁹By implication, our study involves double randomization, both over the values of t_i and for the order of the items. We thank Linda Hawkins, of ISPR, for programming the CATI software for this purpose.

could lie above the highest threshold value if there are many positive responses, or below the lowest threshold value if there are many negative responses. Indeed, the method admits the possibility of negative WTP values.

As is recommended in the literature, we also strove to make the contingent valuation items realistic and unambiguous (Hanemann 1994:22). The instrument included the statement that these benefits “are not currently provided,” repeated in the introduction that the survey concerns a “vote,” and repeated within each question the phrase “with a universal deduction” to remind respondents that all teachers, including the respondent, would pay for the good if the vote were positive. We also clarified two cases—childcare and after-school care—where respondents might assume that an individual fee for use would exist in addition to the payroll deduction. For example, the after-school care item was phrased as “free school-provided after-school care for teachers’ children, with a universal deduction...” to ensure that respondents understood there would be a standardized payroll deduction affecting all teachers with no separate fee for utilization.

Relatedly, each of the policies is described in sufficient detail to make its expected benefits relatively clear. For example, professional counseling services are specified as covering teachers and their families, and issues such as alcohol abuse and family stresses; family care leave is detailed as paid time off of up to one week per year; and the provision of free childcare is specified as “at or near your school.” The one notable exception was a question concerning after-school care for teachers’ children, which did not specify whether the care would occur at the school, near the school, or elsewhere, making the meaning of responses to that particular item difficult to interpret.

Willingness-to-Pay Results

The survey instrument and raw figures for the WTP survey responses are reported

in Table 2. Starting at the left, we see that for the first question, on childcare referral, some people were assigned a \$.25 deduction as the threshold value, others were given a potential \$.50 deduction, and still others were assigned a possible \$1.00 per week deduction for the service. The right-hand column shows the number of people assigned to each threshold value. For example, 128 people were asked about a \$.25 deduction for childcare referral, and 97 were asked about a \$.50 deduction. The differences in how many people were asked each value resulted from continuously randomizing the threshold values as survey administration proceeded.

The middle column provides the proportion of respondents who told us they would vote yes on the referendum. For example, around 55% of those asked about a \$.25 deduction said yes (71 of the 128 respondents assigned that threshold value).

In general, the results are sensible. The above discussion of scope effects suggests that appropriate threshold values will yield neither zero nor unity as the proportion willing to pay for the policy. An examination of the proportion willing to pay for each policy option and each threshold value shows that all proportions indeed fall between zero and unity.

We also expect that as the threshold value rises, the proportion responding favorably to the proposition will tend to fall. This projected ordering is akin to the law of demand, whereby individuals will wish to purchase less of a good as the price rises. Each question has three threshold values, so we can make three comparisons for each question (for example, from \$.25 to \$.50, from \$.50 to \$1.00, and from \$.25 to \$1.00 for childcare referral). Of 21 possible comparisons, there are 19 cases in which the proportion of respondents supporting the proposal falls as the threshold value increases, again an expected result.¹⁰

¹⁰Note that exceptions to the rule are expected because we are sampling. We would anticipate fewer exceptions as the sample size increases.

Table 3. Projected Median Teacher Willingness-to-Pay, Dollars per Week. (N = 343)

<i>Work/Family Policy</i>	<i>Median Dollar Value</i>
Childcare Referral Service	\$.87
Free Childcare	\$6.44***
After-School Care for Children	\$4.72***
Elder Care Referral	\$2.76***
Counseling	\$1.62
Family Care Leave	\$6.73***
Paid Childbirth Leave	\$6.18***

***Both coefficients in the probit statistically significant at the .01 level.

Median willingness-to-pay figures are provided in Table 3. Recall that these figures are derived from probit regressions, so we can attach statistical significance to the likelihood that the median WTP is greater than zero if both coefficients in the probit themselves significantly differ from zero. In two cases—childcare referral and counseling for substance abuse and family issues—the coefficients are not statistically significant at conventional levels, and the resulting figures of \$.87 per week and \$1.62 per week are not reliable. The other five regressions all yield significance of both coefficients at the .01 level.

One approach to considering how robust these figures are lies in using the more traditional logit estimation method, which assumes non-normal errors (Hanemann 1984). Those estimates (not shown) all lie within 2% of the median figures provided in Table 3, suggesting the results are indeed robust.

Determinants of the Willingness-to-Pay

Our theoretical discussion of the value of work/family policies suggested that the WTP may be influenced by respondent characteristics that alter the expectation of experiencing “use values” from the policies, while all respondents should positively value the policies due to “need values.” To test these predictions, we initially added relevant independent variables to the probit regressions used to project median willing-

ness-to-pay. The additional variables are described in Table 4.

Our major specific predictions are that women, younger respondents, those with young children, those with many children, and those expecting children will use and hence value child-related policies and family leave policies more than others. Women, older respondents, and those with elder care responsibilities should place a greater value on elder care referral services. Single respondents may place a lesser value on the relevant policies, excepting elder care (controlling for parenthood). Individuals who experienced a recent absence due to family demands are expected to support any of the leave policies offered (for example, paid family or child-birth leave). Individuals with more family members (children or partner or elder care) are expected to place a greater value on counseling services. Supervisory support for individuals with family demands is predicted to positively influence the perceived value of all the work/family policies. It may also be important to control for district-level effects, since the organization of school districts may diverge with respect to relevant policies and practices, the composition of the teacher work force may vary across districts, or geographic effects, such as the cost-of-living or unemployment rate, may alter willingness-to-pay. Therefore, three dummy control variables were included for the four school districts.

The results of adding these variables to the probits are reported in Table 5.¹¹ Excepting the counseling variable, all of the probits exhibited overall statistical significance at the .05 level or better. In all cases except for childcare, referral services, and counseling, there was a statistically significant and negative relationship between the threshold value provided to the respondent and the willingness-to-pay. Most of

¹¹The following discussion is based on the significance levels of the individual asymptotic t-statistics from the probit. Given the method employed here, the coefficients themselves are not susceptible to direct quantitative interpretation.

Table 4. Independent Variables for Analysis.
(N = 343)

<i>Variable Name</i>	<i>Description</i>	<i>Mean (s.d.)</i>
Gender	Dummy where 1 = female, male = 0	.866 (.341)
Age	Age of respondent in years	42.04 (9.60)
Young Child	Dependent child in home under age five = 1, otherwise = 0	.155 (.362)
Number of Children	Total number of dependent children, under age 18, living with respondent at least $\frac{1}{2}$ time	.875 (1.11)
Expecting Children	Intent to have or adopt (more) children during next two years = 1, otherwise = 0	.175 (.381)
Have Partner/Spouse	Living with a partner in a committed relationship for at least six months = 1, otherwise = 0	.700 (.459)
Elder Care Responsibilities	Responsibilities for an elder who lives with or near respondent = 1, otherwise = 0	.166 (.373)
Family Absence	Days of unscheduled absence during previous four weeks to meet the needs of a family member(s)	.353 (.849)
Principal Supports Work/Family	Sum of responses to three items (0–4) concerning principal support for teachers dealing with work/family conflicts ^a (alpha = .89)	6.53 (2.46)
District 1	One of the four school districts in the sample = 1, otherwise = 0	.213 (.410)
District 2	The second of the four school districts in the sample = 1, otherwise = 0	.204 (.404)
District 3	The third of the four school districts in the sample = 1, otherwise = 0	.195 (.397)

^a“To what extent is your principal understanding if a teacher is occasionally late due to dependent care problems?” “To what extent is your principal supportive when a teacher occasionally misses work because a family member is sick?” “To what extent is your principal understanding if a teacher occasionally needs to leave early to take care of a family problem?”

the individual coefficients, however, lack statistical significance, leading us to reject many of the subsidiary hypotheses for these data, including those concerning gender, the presence of a young child in the household, the presence of elder care responsibilities, absence for family reasons, and the presence of a partner or spouse at home. The result for parents of young children might, however, reflect collinearity with other dependent variables (for example, the young child variable has a Pearson correlation of $-.28$ with age, and of $.43$ with the total number of children).

Some results are more in line with expectations. Older respondents placed a significantly lower value on free childcare and

paid childbirth leave, while respondents with more dependent children were more supportive of after-school care. Respondents who expected to have more children placed a significantly higher value on childcare referral services and free childcare.

Statistically significant district-level effects are found for five of the seven work/family policies. This result confirms the importance of controlling for such effects. However, it also suggests that the success of an actual referendum on work/family policies within a school district would hinge not only on the factors discussed here, but also on social and economic conditions specific to a given school district.

Table 5. Determinants of Teacher Willingness-to-Pay.

Independent Var.	Benefit/Policy Option						
	Childcare Referral Service	Free Childcare	After-School Care	Elder Care Referral	Counseling	Family Care Leave	Paid Childbirth Leave
Constant	-.049 (.097)	1.06 (2.05)**	.839 (1.64)	.328 (.656)	.108 (.204)	1.49 (2.56)***	1.80 (3.09)***
Threshold Value	-.061 (.279)	-.101 (4.72)***	-.108 (3.00)***	-.142 (3.91)***	-.396 (1.70)	-.202 (4.43)***	-.162 (4.22)***
Gender	-.014 (.068)	.080 (.368)	.081 (.385)	.210 (.977)	.104 (.484)	.320 (1.40)	.267 (1.125)
Age	-.005 (.536)	-.025 (2.79)***	-.013 (1.51)	-.004 (.394)	.004 (.426)	-.014 (1.37)	-.043 (4.07)***
Young Child	-.076 (.343)	.113 (.481)	.116 (.499)	-.064 (.288)	-.148 (.648)	-.055 (.222)	-.141 (.547)
Number of Children	.042 (.585)	.136 (1.76)	.149 (1.97)**	.003 (.048)	.032 (.425)	-.128 (1.69)	-.001 (.020)
Expecting Children	.616 (2.75)***	.491 (2.04)**	.392 (1.68)	-.169 (.753)	.071 (.313)	-.035 (.140)	.048 (.179)
Have Partner/Spouse	.025 (.156)	.041 (.245)	-.080 (.477)	.009 (.052)	.210 (1.24)	.141 (.771)	.138 (.765)
Elder Care Responsibilities	.117 (.604)	.060 (.299)	-.149 (.766)	.298 (1.48)	-.195 (.980)	.102 (.459)	.382 (1.74)
Family Absence	.122 (1.35)	.134 (1.40)	.020 (.223)	.171 (1.82)	.194 (1.87)	.232 (1.87)	.118 (1.12)
Principal Supports Work/Family	-.010 (.322)	-.025 (.834)	-.007 (.234)	-.044 (1.47)	.022 (.702)	.002 (.071)	.082 (2.56)***
District 1	.421 (2.18)**	.066 (.331)	-.056 (.288)	.495 (2.53)**	.206 (1.04)	.290 (1.28)	.116 (.540)
District 2	.316 (1.61)	.100 (.493)	-.013 (.069)	.262 (1.32)	.464 (2.22)**	.034 (.157)	.102 (.468)
District 3	.147 (.726)	.411 (1.94)	.425 (1.98)**	.417 (2.04)**	.335 (1.60)	-.082 (.360)	.258 (1.15)
χ^2 Statistic	22.99**	56.02***	32.95***	37.28***	15.89	31.18***	51.48***

Statistically significant at the .05 level; *at the .01 level.

The hypothesized positive effects of supervisor support on the willingness-to-pay are found for only one policy—paid childbirth leave. The lack of strong associations here is surprising given earlier research suggesting that supervisor support is required for the success of work/family programs. However, the very nature of the present exercise involves recasting work/family policies as something more than an employer-sponsored program. In the referendum context, it is possible that employees view any resulting policies as involving rights that are not subject to the whims

of a supervisor. Indeed, recent research suggests that when work/family policies are written into collective bargaining agreements, employees may tend to view them as involving rights (Gerstel and Clawson 2000). Only further research could ascertain whether this possibility is true.

Use vs. Need Values

We next explore the relationship between respondents' expected personal use of a WTP policy and their support for it. Those who do not expect to benefit from a

Table 6. Median Willingness-to-Pay by Expectation of Use.

<i>Proposed Service</i>	<i>Personal Benefit Expected</i>		χ^2 <i>Statistic for Difference</i>
	<i>YES</i>	<i>NO</i>	
Childcare Referral Service	\$5.74	\$.01	4.44
Free Childcare	\$10.11***	\$2.78	23.74***
After-School Care for Children	\$7.08**	\$2.86**	11.04***
Paid Childbirth Leave	\$5.99***	\$6.48**	9.74**
N	147	196	343

Notes: "Personal Benefit Expected" is assumed to apply if the respondent has a dependent child at or below age five at home, expects to be responsible for a new dependent child in the next two years, or is below age 40. The χ^2 statistic is twice the difference between the unrestricted log-likelihood for the entire sample less the sum of the unrestricted log-likelihood statistics for the split regressions; the statistic has two degrees of freedom.

Statistically significant at the .05 level; *at the .01 level.

policy may support payment for it due to the presence of need values. Those who might benefit directly from the policy would experience both need and use values. In the cases of elder care referral, EAP, and family care leave, it is not easy to sort out individuals who would or would not expect to benefit from the policies. With regard to child-related policies, sorting may be possible. After considering various indicators of parenthood and expected parenthood, we decided to run comparisons by splitting the sample by age and parental status. Younger teachers may already or in the near future have child-related responsibilities, while older teachers face either diminishing child-related duties or none at all. The sample was split into one group of teachers possessing at least one of three characteristics—age 40 years or younger, responsible for young children, or expecting childbirth or adoption in the next two years (see Table 4 for a description of these variables)—and a second group with none of these characteristics. This procedure resulted in subsamples of 147 and 196 respondents, respectively.¹² For the first subsample, 36% were responsible for chil-

dren under the age of five, and 41% expected children in the near future. By construction, 0% of the other subsample exhibited these characteristics.

Running simple probit regressions and calculating the median WTP yields results as shown in Table 6. For each subsample, we can use the same type of test reported earlier to ascertain whether the median WTP is significantly different from zero (that is, by asking whether both coefficients used to calculate the median WTP are themselves significantly different from zero). As the first two numeric columns of Table 6 reveal, the median WTP for childcare referral is not significantly different from zero for either subsample, free childcare generates a positive and statistically significant value for those who expect to benefit (\$10.11), and both after-school care and paid childbirth leave yield a positive and statistically significant median WTP for both subsamples.

Using the Chi-squared equivalent of a Chow test, we can compare the subsample results to those for the combined sample. The results of the comparisons are reported in the right-hand column of Table 6. These statistics reveal that splitting the sample generates a significant improvement in explanatory power in all cases except that for childcare referral, which was not statistically significant in the regressions reported earlier. Further, the magnitude of the differences is substantial. The projected me-

¹²Selecting on parental status alone yields a subsample of those expecting to use the policy of well under 100. Results for that split are similar to those reported, although statistical significance declines, presumably due to small sample size.

dian WTP for free childcare falls by over two-thirds as we move from the group that expects to benefit to the group that does not. Assuming that the latter subsample exhibits need values only, we could subtract that figure (\$2.78) from the total willingness-to-pay of the prior subsample to arrive at a projected use value of \$7.33. However, we cannot rely on the estimated need value of \$2.78, since the median WTP in that subsample is not significantly different from zero.

We can rely on the estimated median WTP figures for after-school care and for paid childbirth leave, since these estimates are significantly different from zero in both subsamples. For after-school care, those who expect to benefit exhibit a median WTP over twice as high as that of others in the sample. Again assuming that those who would not benefit are providing information on need values, the projected need value of after-school care is \$2.86 per week per teacher, while the projected use value is \$4.22. These figures suggest that teachers are indeed willing to pay to help create a fairer environment for individuals confronting elevated family demands. For paid childbirth leave, the willingness-to-pay is, surprisingly, higher for respondents who do not expect to benefit from the policy, with a difference of around \$.50. This result runs counter to our theoretical model, since it implies negative use values in conjunction with very high need values. An alternative explanation is suggested by information asymmetries. Individuals, particularly mothers, who have gone through childbirth without such leave policies in place may better understand the value of such policies. Respondents who have yet to experience a new child, on the other hand, may underestimate the demands of a newborn. Regardless of the reason, it is intriguing that paid childbirth leave exhibits such broad support among respondents.

Discussion

We have presented results from the first contingent valuation study of the willingness-to-pay for work/family policies, using

a sample of 343 elementary school teachers. Earlier research focused mainly on the indirect benefits to employers from work/family policies, but recent findings suggest that employees may value the policies, including employees with no expectation of using them. If non-beneficiaries positively value the initiatives, then work/family policies may generate positive externalities or the non-use values typically associated with environmental goods. Environmental economists have long used the contingent valuation method to establish the use and non-use value of items such as national parks, using the logic that some individuals may value an environmental resource even if they have no expectation of using it. Translating this line of thinking to our context, we posited that work/family policies may yield both use and need values, with the latter stemming from norms of social justice that support extra benefits for employees who have greater demands from home and family.

Using closed-ended, randomized survey items to measure willingness-to-pay, we created a pseudo-referendum to predict the level of financial support for work/family policies that a majority of teachers would actually vote to provide through payroll deductions. The results suggest that the median teacher would be willing to provide, per week, under \$1 for childcare referral services, around \$1.50 for counseling or EAP services, over \$2.50 for elder care referral services, over \$4.50 for after-school childcare, and \$6–7 toward either paid childbirth leave, one week per year of paid family care leave, or free childcare. Tests suggest that these results are reasonably reliable except for those regarding childcare referral services.

An analysis of the determinants of willingness-to-pay generally yielded weak results. A further analysis of child-related work/family policies suggests there are indeed distinct use and need values driving the willingness-to-pay. Teachers more likely to use after-school care for their children exhibited a willingness-to-pay at over twice the level of those less likely to use the benefit. However, even the teachers with

low or no probability of using such policies exhibited a positive willingness-to-pay for after-school care and paid childbirth leave, a result that is consistent with the hypothesized presence of need values. A surprising finding is that the willingness-to-pay for six weeks of paid childbirth leave is significantly higher, by over \$.50 per week, for respondents with a low probability of using the benefit. We suggest, but cannot confirm without further research, that past experience with childbirth may lead respondents to place a higher value on such policies.

Hanemann's overview (1994:21–26) of contingent valuation studies suggests that our results should be reasonably reliable. However, there are at least four reasons why our pseudo-referendum may not predict the results of an actual referendum. First, teachers were provided no information on the likely costs of the relevant policies. Knowledge of such costs might influence the willingness-to-pay (Diamond and Hausman 1994:47–48). Second, respondents were each asked to evaluate the full menu of seven policy options. In an actual referendum, voters would likely be confronted with a much shorter menu, and the willingness-to-pay might be higher as a result. Third, as highlighted by the distinct use and need values found for various child-related policies, the demographic composition of any given school district—and particularly the age and parental status of teachers—may exert a significant influence over who ends up being the median voter and hence the probability of success for any actual referendum on work/family policies. Fourth, as would likely be the case with an actual referendum, we framed the costs of work/family policies in terms of a weekly deduction. In debates around such a referendum, it is likely that opponents would cast the proposition in terms of annual rather than weekly costs. Such costs could appear substantially higher, and discussions of annual costs could conceivably influence the outcome.

Regardless of caveats, the results presented here are arguably stronger than we have painted them. We began this paper by questioning the assumption that employers should pay for work/family policies, and based much of our analysis on the assumption that employees directly benefit from the policies, so should be willing to help pay for them. However, the median teacher in the sample was 43 years of age, past the traditional child-bearing years. That same median teacher exhibited a positive and statistically significant willingness to pay for work/family policies, implying that our results concerning childcare and childbirth leave, if not other policies, mainly emerge from powerful needs-based norms of social justice.

Only further research can determine whether employees in other occupations and industries would exhibit such strong support for the work/family needs of others. Further research would also be required to see if the results generalize to teachers outside of elementary schools in urban, public school districts. Nonetheless, the research here suggests that such values should be considered in future policy discussions. Employees may be willing to help fund such initiatives, thereby providing a new policy lever to expand the implementation of work/family policies across the economy.

Finally, the contingent valuation method could provide valuable information for other purposes. For example, unions often survey their members regarding priorities for bargaining, and the contingent valuation method could improve the accuracy of such surveys. Quite differently, as unions in the United States expand their organizing efforts into sectors with non-traditional jobs, such as part-time or contingent work, the contingent valuation method could be used in surveys of potential members to identify realistic dues structures and the issues of greatest interest to prospective members.

**Appendix
Pilot Studies**

The first pilot study included seven Likert-scaled items, which were administered by telephone to 39 public, elementary school teachers in one of the districts ultimately included in the overall study. Complete survey items and results (presented as a percentage of responses) are as follows. The order of item presentation was randomized across respondents. N = 39, except as noted.

**Table A1
Results of First Pilot Study**

Interview lead-in: "I'd like to ask you about work/family options which are sometimes available to people from their employer. Please tell me how much you would be willing to pay from your weekly salary for teachers in your district to have these options."

<i>Option</i>	<i>\$ per Week</i>	<i>Proportion of Responses</i>
Six weeks off with full pay for childbirth	nothing	(25.6%)
	\$1-\$2	(17.9%)
	\$3-\$6	(28.2%)
	\$7-\$20	(17.9%)
	\$21-\$50	(2.6%)
	more than \$50	(7.7%)
A service to help teachers find childcare	nothing	(35.9%)
	\$1-\$2	(30.8%)
	\$3-\$6	(23.1%)
	\$7-\$20	(7.7%)
	\$21-\$50	(0%)
	more than \$50	(2.6%)
Provision of free childcare at or near work for teachers' children (N = 38)	nothing	(42.1%)
	\$1-\$2	(26.3%)
	\$3-\$6	(21.1%)
	\$7-\$20	(15.8%)
	\$21-\$50	(0%)
	more than \$50	(2.6%)
Free school-provided after-school care for teachers' children	nothing	48.7%
	\$1-\$2	(15.4%)
	\$3-\$6	(23.1%)
	\$7-\$20	(12.8%)
Provision of a \$20 stipend for teachers taking care of older or disabled family members in their home	nothing	(35.9%)
	\$1-\$2	(15.4%)
	\$3-\$6	(30.8%)
	\$7-\$20	(15.4%)
	\$21-\$50	(0%)
	more than \$50	(2.6%)
Professional counseling either on- or off-site to teachers and their families on personal issues such as alcohol abuse or family stresses	nothing	(35.9%)
	\$1-\$2	(17.9%)
	\$3-\$6	(33.3%)
	\$7-\$20	(7.7%)
	\$21-\$50	(0%)
	more than \$50	(5.1%)
Paid family care leave of up to one week per year, where teachers receive time off to care for a sick child or family member (N = 38)	nothing	(28.9%)
	\$1-\$2	(18.4%)
	\$3-\$6	(28.9%)
	\$7-\$20	(18.4%)
	\$21-\$50	(5.3%)
	more than \$50	(0%)

Most teachers responding to the first pilot study placed a positive value on the relevant work/family policies, but the format also induced some strategic behavior (for example, one respondent claimed that he or she was willing to pay over \$50 per week for each policy, including referral services), dollar values

were too discontinuous to provide accurate willingness-to-pay figures, and the wording of some of the items was ambiguous.

The second pilot study was administered in written form to teachers at a private, elementary and middle school in one of the cities included in the final study. It used an open-ended format, with responses given in dollars and cents (that is, \$__._).

Table A2
Results of Second Pilot Study

Survey lead-in: "Below is a list of benefits that are sometimes available to teachers. Suppose teachers were voting on whether the school should provide the benefit in exchange for a weekly deduction from pay (similar to deductions for retirement or medical insurance). What is the **largest** weekly deduction you would accept and still vote in favor of the benefit?"

<i>Service</i>	<i>Mean</i>	<i>(Standard Deviation)</i>
1) A referral service to help teachers find childcare	\$.167	(.58)
2) Provision of free childcare at or near your school for your children	\$1.25	(3.11)
3) Free school-provided after-school care for teachers' children	\$1.25	(2.26)
4) A referral service to help teachers find care for older or disabled family members	\$.83	(1.95)
5) Professional counseling either on- or off-site for teachers and their families on personal issues such as alcohol abuse and family stresses	\$.75	(1.77)
6) Paid family care leave of up to one week per year, where teachers receive time off to care for a sick child or family member	\$2.13	(2.54)
7) Six weeks off with full pay for childbirth	\$1.29	(3.09)

Notes: The order of presentation of the items was randomized across respondents. N = 12.

The results of the second pilot study were reasonable. Policies that we expected would be of greater value to teachers, such as family care leave or "free" childcare, were valued more highly than other policies, such as childcare referral. With one exception, we used the mean dollar values from the second pilot to construct the three specific threshold values to be asked of teachers in the main study such that the mean from the second pilot lay between two of the three values. In general, we placed the mean between the lower two values because the income of teachers in the second pilot was far lower than that for public school teachers (that is, we expected a higher willingness-to-pay among public school teachers than among private school teachers).¹³ The exception was for childcare referral, where we placed the lowest monetary value at \$.25, while the mean value was \$.17. The strategy of selecting higher, rather than lower, monetary values turned out to be appropriate, as all but one of the resulting median willingness-to-pay figures for the main sample lie between the threshold values selected. The one exception, for professional counseling services, is a case in which the projected median lies above the dollar figures provided for the threshold values. This result confirms our suspicion that the higher-income public school teachers have a greater willingness-to-pay than the lower-income private school teachers.

¹³As Hanemann noted (1994:33), willingness-to-pay typically rises with income in contingent valuation studies.

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