The Climate-Change Dilemma: Examining the Association Between Parental Status and Political Party Support[1]

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Determining when, and for whom, positive attitudes toward climate-change actions translate into actual behavior is critically important in promoting pro-environmental behavior. An important way climate change can be tackled is through changes to social policy at the governmental level, which, in turn, depends on individual voting behavior in democratic nations. The present study examined this issue with regard to political party support in New Zealand, and demonstrated—using a large general population sample of voters—that support for climate-change actions predict differential support for center-left and center-right political parties only for people who have children. Parental status moderated the link between support for climate-change actions and voting intentions. Practical and theoretical implications of the findings are discussed.

Climate change is becoming increasingly topical in political discourse and debate. In recent studies, both national leaders and ordinary citizens have demonstrated concerns about this issue (e.g., Brouwer, Akter, Brander, & Haque, 2007; Leiserowitz, 2007; Milfont, 2010). There is now compelling evidence that carbon dioxide and other human-produced greenhouse gases contribute substantially to the problem (Intergovernmental Panel on Climate Change [IPCC], 2007), and it seems clear that governments will need to introduce policies to regulate their emissions if we are to avoid extreme changes to weather patterns and the world's ecosystems (Harré & Atkinson, 2007).

In democratic countries, citizens play a critical role in the policy process by voting for (or against) political parties that have a commitment to the regulation of greenhouse gases. Indeed, political commentators have argued that environmental organizations should be focusing on changing

governmental policies, rather than on changing individuals (Pettifor, 2008). Although concern for future generations and biodiversity may nudge people toward supporting parties with good environmental credentials, fears of reductions in one's standard of living as a result of regulations to protect the environment may inhibit this support.

An important question for psychology is what leads people to tip toward or away from parties that take pro-environmental stands. In the present research, we assess one central aspect of this issue; that of determining the conditions under which support for climate-change actions translates into support for political parties that differ in their stand on climate change. In particular, we examine the role of parental status to investigate if having a clear stake in the welfare of future generations is a factor that influences this link.

Environmental Attitudes and Political Ideology: The Case of Climate Change and Voting Intention

Research findings have indicated that pro-environmental attitudes are positively related to liberal political ideology (Diekmann & Preisendörfer, 1998; Fransson & Gärling, 1999; Mayton, 1986; Olofsson & Öhman, 2006; Theodori & Luloff, 2002; Van Liere & Dunlap, 1980) and egalitarianism (Lima & Castro, 2005), but negatively related to authoritarianism (Iwata, 1977; Milfont & Duckitt, 2010; Peterson, Doty, & Winter, 1993; Ray, 1980; Schultz & Stone, 1994; Zelezny & Pollitt, 1996) and social conservatism (Feygina, Jost, & Goldsmith, 2010; Hodgkinson & Innes, 2000). Environmental attitudes are also related to political party preferences. For example, research in the United States has indicated that Democrats tend to score higher than Republicans on measures of environmentally oriented attitudes (Dunlap, 1975; Kellstedt, Zahran, & Vedlitz, 2008).

Given the association between environmental attitudes and both political ideology and party preference, one may expect that similar associations also exist in relation to climate change. That is, it is likely that those with more liberal, egalitarian attitudes and less conservative, authoritarian leanings will also be more inclined to feel strongly that climate change is an issue that requires urgent response. This indeed seems to be the case. Recent findings in the U.S. have indicated that liberals and Democrats are more likely to be concerned about climate change than are conservatives and Republicans (Kellstedt et al., 2008; Malka, Krosnick, & Langer, 2009; Zahran, Brody, Grover, & Vedlitz, 2006) and similar findings have also been observed in New Zealand (Milfont, 2012).

New Zealand Political System

In New Zealand, there are two major parties in national politics, the Labour Party (a center-left party) and the National Party (center-right). Research has indicated that support for the National versus the Labour Party differs among middle-income voters (the majority of the New Zealand population) because of perceived ideological differences. For example, two studies have shown that the belief that people have the ability to determine their economic situation (i.e., endorsement of meritocracy as a political ideal and the basis of equality) was associated with increased support for National versus Labour (Allen & Ng, 2000; Sibley & Wilson, 2007).

In the 2005 New Zealand general election, these two parties achieved a remarkably similar endorsement from the nation, with Labour receiving 41.1% of the nationwide vote, and National coming in a close second with 39.1% (Henry, 2005). The Labour Party is aligned to the trade union movement, and it was also a Labour government that declared New Zealand a nuclear-free nation in 1984 (Lange, 1990). The data for the current study were gathered in 2007 when New Zealand had a Labour government. The then-Prime Minister and Labour leader Helen Clark spoke publicly on many occasions about the desirability of New Zealand leading the world on environmental sustainability (Harré & Atkinson, 2007). The Labour-led government had put in place carbon-neutrality targets for several ministries, and introduced a carbon emissions trading scheme. On the other hand, the National Party (which won the 2008 election and was re-elected in 2011), while also acknowledging the importance of climate change and New Zealand's Kyoto Protocol commitments, has been much less adventurous with its policies, and its leader John Key frequently refer to the need for balance between economic and environmental interests. The National Party emphasizes individual choice, most obviously through tax cuts.[3]

Of the minor parties, the Green Party is the one most clearly aligned with progressive environmental policies, and it has consistently challenged Labour and National to move forward faster and further on greenhouse gas regulation. The Greens received 5.7% of the vote in 2005 (Henry, 2005), and it is currently the third main party in New Zealand. Given what the Greens represent, the difference between Labour and National's environmental profiles and the international research on politics and pro-environmental attitudes cited earlier, we expect that support for climate-change actions will predict political party support, such that positive attitudes will be predictive

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[3]Incidentally, since achieving power, the National Party has weakened the emissions trading scheme and cut back on spending to various other pro-environment schemes.

of increased support for the Labour Party and the Green Party, and decreased support for the National Party.

Climate Change and Voting Intention: Moderating Factors

The relationship between pro-environmental attitudes (including support for climate-change actions) and political party preferences is nevertheless complex. A major reason for this is the well-known gap between environmental attitudes and behaviors (e.g., Kaiser, Oerke, & Bogner, 2007; Milfont & Duckitt, 2004) that parallels the attitude–behavior gap found in many other fields (Eagly, 1992). This raises the possibility that there may be factors that moderate the link between pro-environmental attitudes and their translation into practical acts, including, we suggest, support for political parties that vary in the emphasis placed on policies relating to greenhouse gas emissions and climate change.

Part of the complexity in relation to political party support is that parties have policies on numerous issues, the environment being just one (Guber, 2003). Added to this, some parties offer promises of immediate advantage to certain voters, such as tax cuts. In choosing which party to support, therefore, individuals are weighing numerous factors, some of which are immediate and personal, and others of which are long-term and collective. Along these lines, Hardin (1968) argued that environmental issues (e.g., climate change) pose a social dilemma because they represent a conflict between the collective interests of society and the individual interests of its members (also see Van Vugt, 2001; Van Vugt & Samuelson, 1999). To take action, the individual must not only be concerned, but also put that concern over and above their immediate personal interests. What is it that prompts people to care enough?

One factor is related to people's value orientations and their consideration of others. Prosocial individuals (i.e., those who hold altruistic values and express high consideration for others) tend to care and act more to address environmental challenges than proself individuals (i.e., those who hold self-enhancement values and express little or no consideration for others; Coelho, Gouveia, & Milfont, 2006; Milfont, Sibley, & Duckitt, 2010; Schultz et al., 2005; Schultz & Zelezny, 1999; Van Vugt & Samuelson, 1999; Van Vugt, Van Lange, & Meertens, 1996). Another factor is related to people's capacity and interest in thinking long term. Future-oriented individuals (i.e., those who are aware of and concerned about the future consequences of their actions) tend to care and to act more to address environmental challenges than do present-oriented individuals (Corral-Verdugo, Fraijo-Sing, & Pinheiro, 2006; Joireman, Lasane, Bennett, Richards, & Solaimani, 2001; Joireman, Van

Lange, & Van Vugt, 2004; Milfont & Gouveia, 2006; Milfont, Wilson, & Diniz, in press; Strathman, Gleicher, Boninger, & Edwards, 1994).

One group that has a good reason to consider others and to be future-oriented is parents. Through their children, parents have an obvious motivation to care about the future of the planet, and they put themselves out to try to protect it. Previous research provides some support for this premise (Dupont, 2004; Hamilton, 1985a, 1985b; Lutzenhiser, 2002). For example, Hamilton (1985a) found that people with children were more concerned about contamination from toxic waste than were those without children. In another study, Hamilton (1985b) found that women with children were more concerned about water pollution than were women without children. Similarly, Lutzenhiser (2002) found couples with children to show higher preferences for certain electricity conservation behaviors than couples without children, and Dupont (2004) found that a measure of willingness to pay for the environment was related to parental status (but see Teal & Loomis, 2000).

To our knowledge, only one study has investigated the association between parental status and attitudes toward climate change (Sundblad, Biel, & Gärling, 2007). Sundblad et al. conducted a survey with Swedish residents to assess the extent to which demographic factors (i.e., age, education, gender, parental status, residence) and knowledge (i.e., state, causes, and consequences of climate change) determine risk judgments related to climate change. They found that only gender (women being more worried than men) and knowledge predicted risk judgments. They did not find support for the prediction that parents (as compared to nonparents) would be more worried about climate change as a result of risks to their children's future.

However, it is possible that parental status does not always function in the direct manner examined by Sundblad et al. (2007) and, indeed, in other studies on environmental issues and parental status (Dupont, 2004; Hamilton, 1985a, 1985b; Lutzenhiser, 2002; Teal & Loomis, 2000). That is, parents may not always see the future in a more negative light, but if concerned may be more willing to act than nonparents because, as previously argued, they have a direct connection to the future through their children. This willingness to act may include supporting political parties with strong environmental platforms.

We suggest here that parental status may well be an important factor in understanding when concerns related to climate change translate into voting intentions. As shown in Figure 1, we propose that parental status will moderate the relationship between climate-change attitudes and political party support. Specifically, we argue that the influence of climate-related concerns on support for environmentally oriented and center-left political parties (e.g., Green Party, Labour Party) versus center-right political parties (e.g., National Party) will be magnified for people who have children.
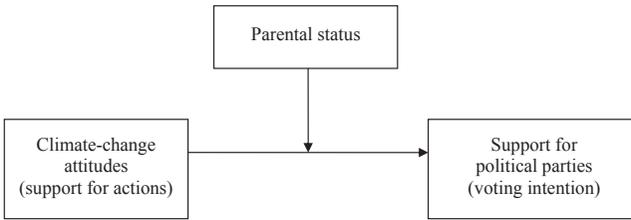
Figure 1. Model depicting the proposed conditional effect of climate-change attitudes on support for political parties in New Zealand moderated by parental status.

It is all very well, we argue, to express general concerns about climate change. It is considerably more challenging to translate those concerns into actions that may compromise one's immediate well-being. For many people, voting may be a place in which these dilemmas are particularly acute, as stark choices must be made between immediate and personal gains and long-term gains that apply to the entire social group. As shown in Figure 1, we propose that having children is a factor that tips people to consider translating their concerns into action, or in the specific case of the current study, to translate their support for climate-change actions into support for more environmentally oriented parties through voting intention.

The Present Study

The present study reports results from a large community sample examining the relationship between support for climate-change actions, support for the three political parties discussed earlier, and parental status. To summarize, we hypothesize the following:

> *Hypothesis 1.* Support for climate-change actions will predict political party support, such that positive attitudes will predict increased support for the Green Party and the Labour Party, and decreased support for the National Party.

However, consistent with the model proposed in Figure 1, we expect that these bivariate associations will be qualified by the interaction between parental status and climate-change attitudes. Specifically, we propose the following:

> *Hypothesis 2.* Support for climate-change actions will be more strongly positively associated with support for the Labour and Green Parties for parents versus nonparents, whereas these

attitudes will be more strongly negatively associated with support for the National Party for parents versus nonparents.

Finally, in order to strengthen our conclusions, we controlled for a range of other individual-difference factors also known to predict voting intentions and to relate to environmental attitudes. These factors—including gender, income, self-rated liberalism/conservatism, and attitudes toward equality as meritocracy (Fransson & Gärling, 1999; Milfont & Duckitt, 2010; Sibley & Wilson, 2007)—could provide an alternative explanation for our predicted findings. Given that parental status should covary with age (with older people being more likely to be parents), we also deemed it important to control for age in all analyses to rule it out as an alternative explanation of the hypothesized moderating effect of parental status.

Method

Participants and Procedure

Study participants were 269 New Zealand citizens (156 female, 113 male) who were sampled from the greater Auckland region (Auckland is the largest city in New Zealand, with a population of about 1.1 million). Participants ranged in age from 16 to 83 years ($M = 28.4$ years, $SD = 14.5$) and had a median yearly household income of $70,000–$80,000 NZ (before taxes). Of the participants, 65 (24.2%) had one or more children. The remaining 204 (75.8%) did not have children.

All of the participants were New Zealand citizens, who were thus eligible to vote in the upcoming New Zealand general election. Of the sample, 120 (44.6%) self-identified as New Zealand European, 33 (12.3%) identified as Maori, 43 (16.0%) identified as Pacific Nations, 48 (17.8%) identified as Asian, 15 (5.6%) identified as Indian, and 10 (3.7%) identified with the category "other" or did not report their ethnicity. These percentages correspond roughly with 2006 estimates derived from census data on ethnic diversity in the Auckland region (estimates from census data: 49% New Zealand European, 10% Maori, 14% Pacific Nations, 19% Asian, 8% "other").

The sample was also fairly comparable in terms of the proportion of men and women. Census figures indicate that 51% of the Auckland population is female, with our sample comprising a slightly higher proportion of women (58.0%). Finally, the mean age observed in our sample was slightly lower than the median age of 33.9 years for the Auckland region reported in the 2006 census. Taken together, these statistics indicate that the sample may be considered fairly representative of residents of the wider Auckland region in

terms of ethnic diversity, although our sample comprised a slightly higher proportion of women—and was also slightly younger in mean age—than would be expected from a truly random sample of the Auckland regional population.

The participants were approached in public places within the greater Auckland region and were invited to complete a questionnaire. A large number of public places from a variety of different regions around Auckland were sampled. Thus, the sample should be fairly representative of people who spend time in public places (e.g., malls, parks, bus stops, trains, libraries, beaches, and other outdoor seated areas) within this region. Participants were offered a $5 NZ grocery voucher for completing the survey (corresponding to roughly $4 US at the time the research was conducted). All ethnicities were sampled; however, only individuals with New Zealand citizenship were included in the analyses reported here. These data were drawn from a larger sample of 858 people surveyed in the Auckland region that was conducted between January and March 2007 by the third and fourth authors. The questionnaire also included other measures unrelated to the current research, and the pertinent measure of support for climate-change actions was assessed in only a portion of this larger sample because of space constraints.

Measures

Climate-change attitudes. Support for climate-change actions was assessed using the following two items: "The government should introduce legislation to reduce greenhouse gases," and "Everyone has a responsibility to improve their environmental footprint." While the second of these items did not directly refer to climate change, it was assumed that participants would be sufficiently primed by the first item to be considering their individual responsibility toward greenhouse gas emissions in their responses. These items were rated on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The two items were strongly positively correlated, $r(267) = .52$, $p < .01$, and had a Cronbach's alpha of .67, which indicates adequate internal reliability, given the limited number of items (Cortina, 1993).

Voting intention. Participants rated their support for the two primary political parties in New Zealand: the Labour Party (the major center-left party in New Zealand politics) and the National Party (the major center-right party in New Zealand politics). Participants also rated their level of support for the Green Party. Support for these three parties was assessed on 7-point scales ranging from 1 (*strongly oppose*) to 7 (*strongly support*), which were

administered using the following instructions: "Please indicate how strongly you support/oppose each of the following political parties in the upcoming New Zealand election."

Covariates. We also measured—and, therefore, controlled for—measures of political ideology (liberalism–conservatism, equality positioning) and demographic characteristics. These measures were entered as covariates in all analyses to rule out the alternative explanation that our hypothesized effects may have occurred as a result of these other factors.

Demographic information included gender, age, and parental status. Study participants were also asked to indicate which income bracket (in units of $10,000 NZ) best describes their household income before taxes for the year 2007.

Consistent with Jost (2006), we included a single-item measure of participants' self-reported political liberalism–conservatism, which was assessed on a 7-point scale ranging from 1 (*extremely liberal*) to 4 (*moderate*) to 7 (*extremely conservative*). This item was administered with the following instructions:

> Please rate your general level of political liberalism versus conservatism using the following scale. For example, if you generally consider yourself a very liberal person when it comes to most political issues, then you would probably rate a number close to 1. If you generally consider yourself to be quite conservative with regard to most political issues, you would probably rate a number close to 7.

Finally, equality positioning was assessed using the following four items selected from the scale developed by Sibley and Wilson (2007): "We are all one nation and we should all be treated the same; no one should be entitled to anything more than the rest of us simply because they belong to one particular ethnic group"; "It is wrong for any one minority to be provided with additional resources because of their ethnicity; equality means treating all people equally, regardless of whether they identify as Maori, New Zealand European, Asian, or any other ethnic group currently living in New Zealand"; "We should provide additional resources and opportunities to ethnic minorities with a history of disadvantage in order to promote genuine equality in the future" (reverse-scored); and "True equality can only be achieved once we recognize that some ethnic groups are currently more disadvantaged than others and require additional assistance from the government" (reverse-scored). Items were rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale demonstrated acceptable internal reliability ($\alpha = .78$). Higher scores indicate increased endorsement of

ideologies positioning equality and fairness as being based on individual (rather than group) merit. These items were developed using content analysis of political discourse in New Zealand and, therefore, provide a culturally appropriate measure of the ideological positioning of equality in New Zealand politics (see Sibley & Wilson, 2007). Descriptive statistics for all measures are shown in Table 1.

Results

Descriptive Statistics and Correlations Between Measures

As shown in Table 1, support for climate-change actions was not significantly related to gender, age, household income, or parental status. Support for climate-change actions was weakly negatively associated with political conservatism and equality positioning ($rs = -.15$). Consistent with Hypothesis 1, support for climate-change actions displayed weak to moderate bivariate correlations with political party support, being moderately positively correlated with support for the Labour Party ($r = .24$) and the Green Party ($r = .26$), and weakly negatively correlated with support for the National Party ($r = -.16$).

Also as shown in Table 1, political party support was associated with a range of other variables. Not surprisingly, people with a higher household income were more likely to support the National Party ($r = .23$). People with lower household incomes were not significantly more likely to support the Labour Party, although this negative correlation did approach statistical significance, $r(267) = -.11$, $p = .07$. The negative association between income and support for the Green Party was significant, however ($r = -.14$). Gender did not significantly predict support for any of the three political parties, although older people were slightly less likely to support the National Party ($r = -.13$).[4]

Parental status was not significantly correlated with support for either the Labour or the National Parties, although interestingly, people with children were slightly less likely to support the Green Party ($r = -.17$). Consistent with Sibley and Wilson (2007), political conservatism and equality positioning also differentially predicted support for more liberal versus conservative New Zealand political parties. People who positioned equality as meritocracy were more supportive of the National Party ($r = .44$), and less supportive of the

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[4]A tentative explanation for this finding is that elderly people in New Zealand are more likely to vote for the NZ First Party (another center-right party) than for the National Party. NZ First has attracted elderly voters by supporting policies relating to pensions and retirement. This means that young participants can also be inclined to support the National Party.

Table 1

Descriptive Statistics and Bivariate Correlations Between Demographics, Ideological Attitudes, Support for Climate-Change Actions, and Political Party Support

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Gender	—	—	—								
2. Age	28.4	14.5	-.07	—							
3. Household income (in $10,000 units)	70,000	39,000	-.09	.02	—						
4. Parental status	—	—	-.08	.76*	.07	—					
5. Political conservatism	3.80	1.32	-.01	-.01	-.17*	.09	—				
6. Equality positioning	4.43	1.27	-.03	-.06	.04	-.03	.10	—			
7. Support for climate-change actions	5.71	1.13	-.07	.00	-.03	-.03	-.15*	-.15*	—		
8. Support for Labour Party	4.46	1.77	-.03	-.02	-.11	.00	-.21*	-.33*	.24*	—	
9. Support for National Party	4.00	1.68	-.02	-.13*	.23*	-.10	.24*	.44*	-.16*	-.58*	—
10. Support for Green Party	3.77	1.59	-.08	-.07	-.14*	-.17*	-.21*	-.19*	.26*	.36*	-.33*

Note. Gender: 0 = female, 1 = male. Parental status: 0 = no children, 1 = children.
*$p < .05$.

Labour Party ($r = -.33$) and the Green Party ($r = -.19$). People who saw themselves as more conservative displayed the same trend, being more supportive of the National Party ($r = .24$), and less supportive of the Labour and the Green Parties (rs $= -.21$).

Testing Moderating Factors

To reiterate, Hypothesis 2 stated that the relationship between support for climate-change actions and support for the three political parties would be moderated by parental status. To test this, we conducted multiple regression analyses predicting support for each of the three political parties in turn.

In each analysis, we also entered—and, therefore, controlled for—a number of other individual differences that might plausibly explain the hypothesized interactive effect of parental status and support for climate-change actions on political party support. In addition to parental status (dummy-coded as $0 =$ no children, $1 =$ children), all analyses included the following demographic factors: gender (dummy-coded as $0 =$ female, $1 =$ male), age, and household income (measured in unit brackets of $10,000). With regard to attitude measures, in addition to self-reported support for climate-change actions, we also included self-rated liberalism–conservatism and equality positioning. Thus, observation of the significant hypothesized effects would indicate that these effects were not attributable to these other demographic or attitudinal factors.

To test for the interactive or moderated effect of parental status and support for climate-change actions, we used moderated multiple regression, as outlined by Baron and Kenny (1986; also see Aiken & West, 1991). We first centered support for climate-change actions and then created the product term by multiplying centered scores on this measure by dummy-coded parental status scores ($0 =$ no children, $1 =$ children). We included this product term as an additional predictor in the regression equation, while also controlling for the main effects of these two variables. If the product term significantly predicts additional variation in the outcome not explained by the sum of the separate effects, then this indicates moderation. Note that we also created and included separate interaction terms between parental status and all other independent variables included in the regression equation in order to control for their effects when examining the Parental Status $\times$ Support for Climate-Change Actions interaction.

We first tested whether parental status moderated the effect of climate-change attitudes on support for the Labour, National, and Green Parties without any statistical controls; that is, in regression models that included only support for climate-change actions, parental status, and their interaction

as predictor variables. The interaction term significantly predicted variation in support for both the Labour Party ($\beta = .16$, $t = 2.35$, $p < .05$) and the National Party ($\beta = -.22$, $t = -3.15$, $p < .05$), but not the Green Party ($\beta = -.07$, $t = -0.99$, $p = .32$). We next evaluated whether these results held when controlling for a variety of alternative explanatory variables. The results from regression equations predicting support for the Labour, National, and Green Parties are presented in Tables 2, 3, and 4, respectively.

As shown in Table 2, gender, age, household income, and parental status did not predict significant unique variation in support for the Labour Party.

Table 2

Regression Model Predicting Support for Labour Party

	B	*SE*	β	*t*
Constant	4.35	.15		
Demographics				
Gender	−.22	.23	−.06	−0.98
Age	−.01	.02	−.11	−0.86
Household income (in $10,000 units)	−.04	.03	−.09	−1.32
Parental status	.57	.39	.14	1.46
Attitudes				
Political conservatism	−.25	.09	−.19	−2.80*
Equality positioning	−.37	.10	−.26	−3.84*
Support for climate-change actions	.14	.10	.09	1.38
Interaction (product) terms				
Parental Status × Support for Climate-Change Actions	.41	.21	.13	1.99*
Parental Status × Gender	.13	.50	.02	0.27
Parental Status × Age	−.01	.02	−.03	−0.25
Parental Status × Political Conservatism	−.08	.06	−.09	−1.32
Parental Status × Income	−.06	.19	−.02	−0.30
Parental Status × Equality Positioning	−.08	.17	−.03	−0.46

Note. The Labour Party is the primary center-left political party in New Zealand. Gender: 0 = female, 1 = male. Parental status: 0 = no children, 1 = children. In order to control for all other predictors, their interaction terms with parental status were also included in the model.
*$p < .05$.

Table 3

Regression Model Predicting Support for National Party

	B	SE	β	t
Constant	4.03	.13		
Demographics				
Gender	.23	.20	.07	1.18
Age	−.01	.01	−.06	−0.50
Household income (in $10,000 units)	.10	.03	.23	3.83*
Parental status	−.58	.33	−.15	−1.73
Attitudes				
Political conservatism	.27	.08	.21	3.60*
Equality positioning	.52	.08	.39	6.28*
Support for climate-change actions	.06	.09	.04	0.63
Interaction (product) term				
Parental Status × Support for Climate-Change Actions	−.53	.18	−.18	−3.03*
Parental Status × Gender	−.97	.42	−.14	−2.28*
Parental Status × Age	.01	.02	.05	0.42
Parental Status × Political Conservatism	.02	.05	.02	0.40
Parental Status × Income	.18	.16	.07	1.10
Parental Status × Equality Positioning	−.01	.15	−.01	−0.08

Note. The National Party is the primary center-right political party in New Zealand. Gender: 0 = female, 1 = male. Parental status: 0 = no children, 1 = children. In order to control for all other predictors, their interaction terms with parental status were also included in the model.
*$p < .05$.

The main effect of support for climate-change actions was also nonsignificant, although, consistent with Sibley and Wilson (2007), both self-rated conservatism ($\beta = -.19$, $t = -2.80$, $p < .01$) and the positioning of equality as meritocracy ($\beta = -.26$, $t = -3.84$, $p < .01$) predicted decreased support for the Labour Party. Importantly, as hypothesized, the Parental Status × Support for Climate-Change Actions interaction was also statistically significant ($\beta = .13$, $t = 1.99$, $p < .05$), which indicates that the effect of support for climate-change actions on support for the Labour Party depended on parental status when controlling for all other predictors.

Table 4

Regression Model Predicting Support for Green Party

	B	SE	β	t
Constant	3.98	.13		
Demographics				
Gender	−.21	.21	−.07	−1.01
Age	.01	.01	.11	0.89
Household income (in $10,000 units)	−.05	.03	−.12	−1.79
Parental status	−.69	.35	−.19	−1.94
Attitudes				
Political conservatism	−.18	.08	−.15	−2.20*
Equality positioning	−.26	.09	−.21	−2.99*
Support for climate-change actions	.32	.09	.23	3.46*
Interaction (product) term				
Parental Status × Support for Climate-Change Actions	−.18	.19	−.07	−0.98
Parental Status × Gender	−.53	.45	−.08	−1.17
Parental Status × Age	−.01	.02	−.07	−0.51
Parental Status × Political Conservatism	−.06	.06	−.07	−1.06
Parental Status × Income	−.08	.17	−.03	−0.44
Parental Status × Equality Positioning	.27	.16	.12	1.72

Note. The Green Party is a small, environmentally oriented political party in New Zealand. Gender: 0 = female, 1 = male. Parental status: 0 = no children, 1 = children. In order to control for all other predictors, their interaction terms with parental status were also included in the model.
*$p < .05$.

In looking at Table 3, we see that gender, age, and parental status did not predict significant unique variation in support for the National Party. However, there was a main effect for household income, indicating that, controlling for all other predictors in the model, people with a higher household income expressed increased support for the National Party ($\beta = .23$, $t = 3.83$, $p < .05$). Consistent with Sibley and Wilson (2007), the effects of both political conservatism and equality positioning were also significant. In contrast to the model predicting support for the Labour Party, self-rated conservatism ($\beta = .21$, $t = 3.60$, $p < .01$) and the positioning of equality as meritocracy ($\beta = .39$, $t = 6.28$, $p < .01$) both predicted increased support for

the National Party. As with support for the Labour Party, support for climate-change actions did not predict unique variation in support for the National Party.

However, as hypothesized, the Parental Status × Support for Climate-Change Actions interaction was statistically significant ($\beta = -.18$, $t = -3.03$, $p < .01$), again suggesting that the effect of support for climate-change actions on support for the National Party varied as a function of parental status. The interaction of parental status with all other predictors was non-significant, with the exception of the Parental Status × Gender interaction, which occurred because men with children tended to be less supportive of the National Party than did men who did not have children. Nevertheless, the predicted interaction between parental status and climate-change attitudes remained significant, controlling for this effect.

We then graphed the Parental Status × Support for Climate-Change Actions interactions. This was achieved by rearranging the regression equation and calculating the slope and intercept of the predictor variable (support for climate-change actions) at different values of the moderator (for technical details regarding this procedure, see Aiken & West, 1991). As shown in Figure 2, when predicting support for the Labour Party, this interaction occurred because support for climate-change actions predicted increased support for Labour, but only for people with children (simple slope = .55,
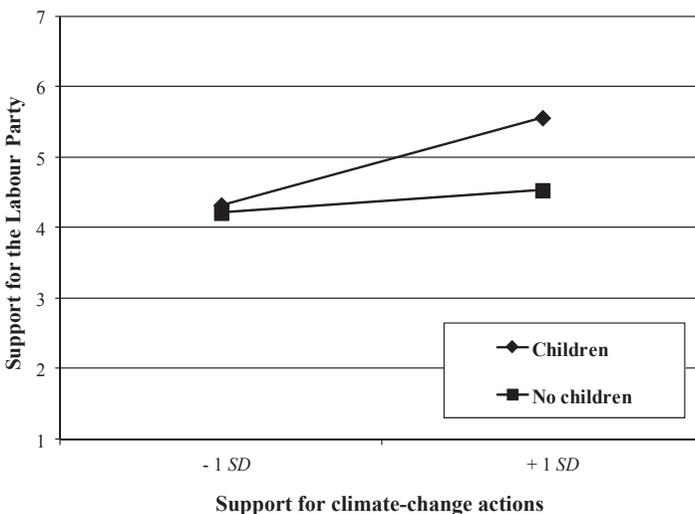

Figure 2. Interactive effect of parental status and climate-change attitudes on support for the Labour Party (the major center-left political party in New Zealand).
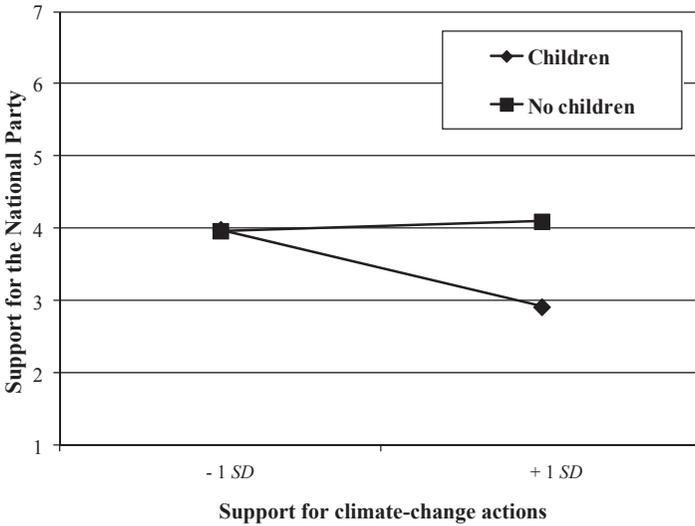
Figure 3. Interactive effect of parental status and climate-change attitudes on support for the National Party (the major center-right political party in New Zealand).

$SE = .17$, $t = 3.12$, $p < .01$). The slope for people without children, in contrast, was nonsignificant (simple slope = .14, $SE = .10$, $t = 1.35$, $p = .17$).

As shown in Figure 3, when predicting support for the National Party, the interaction occurred for a similar reason. However, in this case, support for climate-change actions predicted increased opposition toward the National Party, but again only for people with children (simple slope = −.48, $SE = .15$, $t = −3.14$, $p < .01$). The slope for people without children was nonsignificant (simple slope = .06, $SE = .09$, $t = 0.63$, $p = .53$). These results provide good support for Hypothesis 2 that support for climate-change actions differentiate support for mainstream center-left and center-right political parties in the New Zealand context, but only for people with children.

Finally, as shown in Table 4, the Parental Status × Support for Climate-Change Actions interaction did not significantly predict support for the Green Party. Contrary to Hypothesis 2, support for this party was instead predicted by the main effect of support for climate-change actions ($\beta = .23$, $t = 3.46$, $p < .01$), and this occurred irrespective of parental status. As with support for the Labour Party, support for the Green Party was also predicted by low levels of political conservatism ($\beta = −.15$, $t = −2.20$, $p < .05$) and low levels of equality positioning ($\beta = −.21$, $t = −2.99$, $p < .01$).

Discussion

The current study demonstrated that support for climate-change actions predicted increased support for the Labour Party (center-left) and decreased support for the National Party (center-right) only for people with children. For people without children, in contrast, support for climate-change actions did not predict support for either of these political parties. We argue that this difference may occur because, in New Zealand, the Labour Party is perceived as being somewhat more pro-environmentally oriented than the National Party and may, therefore, be more likely to attract the votes of people who are concerned about climate change when they have a vested interest in preserving the environment for future generations, particularly one's children. Impressively, these findings held when controlling for a range of other key factors that have been shown to predict environmental attitudes and voting intentions, including gender, age, household income, self-placed liberalism–conservatism, and attitudes toward equality and entitlement (e.g., Allen & Ng, 2000; Cottrell, 2003; Fransson & Gärling, 1999; Milfont & Duckitt, 2010; Sibley & Wilson, 2007).

Notably, the relationship between climate-change attitudes and support for the Green Party was not altered by parental status. This provides important information on the boundary conditions of the moderating effect of parental status, and indicates that it only has moderating effects when predicting support for mainstream political parties for whom environmental issues are only one of the many portfolios emphasized.

What does this mean? As indicated earlier, environmental issues such as climate change pose a social dilemma (Hardin, 1968) because they represent a conflict between the collective interests of society and the individual interests of its members (e.g., Van Vugt, 2001; Van Vugt & Samuelson, 1999). They also require a commitment to long-term thinking (e.g., Joireman et al., 2004; Milfont & Gouveia, 2006). A theoretical concept that may help explain why some people are prepared to act on collective, long-term issues is generativity. *Generativity* was put forward by Erikson (1950) as the challenge underlying the seventh stage of human development, and is manifest as a desire to leave a social legacy and provide positive guidance for others.

The generativity versus stagnation conflict is often a developmental phase of late life, but Erikson (1950) also posited that generativity is not only related to age (or being middle-aged), but is also related to parenthood. Indeed, he argued that generativity relies on intergenerational continuity, and that people express generativity through the parenting of their children. While all people have the capacity for generativity, empirical studies have supported this view by showing that parents score higher in generativity measures than do nonparents (de St. Aubin & McAdams, 1995). More recent

theoretical accounts have also linked generativity to the willingness of parents to look after their children (Slater, 2003). Generativity, therefore, is related to parental status.

Research has also linked generativity to political concerns, showing that generativity is related to the importance of social and political issues on both the left and right, suggesting that people who are more generative feel more strongly that their views are significant, whatever those views are (Peterson, Smirles, & Wentworth, 1997). Our study suggests that parents (as compared to nonparents) might feel more inclined to preserve the environment for their children. This suggests that for some people, parenting may help prompt an environmental generativity.

It is possible, however, that parental status operates in other ways. Perhaps parents are more exposed to information about the need to take action on greenhouse gas emissions through their children, which, in turn, compels them to translate any concerns they have into voting intentions. This seems unlikely, however, because the revised New Zealand school curriculum that emphasizes sustainability as a key value (New Zealand Ministry of Education, 2007) was not in place at the time of this study. Alternatively, it is possible that parents feel guilty simply because they have children, who, according to much current environmental rhetoric, are "bad for the planet," and so translate these feelings into voting intentions that place consideration on environmental issues. Nevertheless, even if this were the case, it would not negate their generativity; in fact, it would fuel it.

It is of note that having children did not directly predict more support for climate-change actions. This is consistent with a previous Swedish study by Sundblad et al. (2007). It is possible that parents undergo a complex process of rationalization—and potentially denial—in response to information about climate change and environmental destruction (cf. Opotow & Weiss, 2000; Stoll-Kleemann, O'Riordan, & Jaeger, 2001). On the one hand, they would have reason to be especially alert to future dangers; on the other hand, the threat involved may seem overwhelming, these issues balancing each other out in their attitudes when compared with nonparents. Nevertheless, once their attitude is formed, they have a special stake in acting on it.

We do not mean to suggest that environmental generativity is experienced solely by parents. Our study showed a direct link between climate-change attitudes and the Green Party, suggesting that a strong and clear commitment to environmental issues provides the boundary to this relationship. Instead, it seems as if parental status plays a role in the fuzzy middle ground where the social dilemma posed by environmental action may be experienced more strongly. This is not because voting Labour represents a greater willingness to sacrifice immediate, personal gain than does voting Green (it clearly does not); but rather because when voting Labour, one is arguably

more likely to also be weighing one's personal, short-term interests. The Green voter, on the other hand, has probably decided that long-term collective interests must take priority.

A primary suggestion for future studies is to measure environmental generativity directly, and use it to predict political party support and other key pro-environmental behaviors. Longitudinal deigns are another obvious direction for future research in this area. Although our findings are based on a general population sample (which is an advance over student samples), this was nevertheless a convenience sample. Future studies could overcome this limitation by using a probability sampling strategy.

Do people increase in their environmental generativity after having children? Based on our results, we expect so. Another possibility in future studies is to use experimental designs for priming overall generativity. For example, an experimental manipulation could be developed using scenarios or generativity measures (e.g., Loyola Generativity Scale; McAdams & de St. Aubin, 1992) to prime generativity concerns for the experimental group. Our model would predict that this generativity manipulation would enhance participants' environmental concerns.

Another possibility would be to use mortality salience experimental manipulation to assess increased generativity and environmental concerns (cf. Vess & Arndt, 2008). Mortality salience is expected to increase people's concerns about the welfare of their children, and this increased generativity concern is then expected to increase people's environmental concerns. Making mortality salient, therefore, should increase generativity and environmental concern among parents. Another possibility is to assess whether our findings hold when actual voting behavior is measured. Although one can expect a strong association between voting intention and actual voting behavior, our data do not provide information on how people actually voted.

Notwithstanding these suggestions for future research, it seems clear that one important way in which climate change can be affected is through changes to social policy at the governmental level (cf. Curtin & Lacey, 2007; Pettifor, 2008). This requires voters to consider the environmental platforms of political parties at elections. In a time when there is recognition that changes in social structures and political activism are needed in order to tackle environmental issues, it is important to understand how parents, who tend to be more concerned about the future, express their political preferences. Our findings indicate that, for parents, climate-change attitudes (a) predicted decreased support for the primary center-right party (the National Party); (b) predicted increased support for the primary center-left party (the Labour Party); and (c) did not have impact on support for a strongly environmentally oriented party (the Green Party). We suggest that these effects occurred because while both parents and nonparents may be concerned

about environmental issues, for the majority of people, becoming a parent may strengthen the link between concern about environmental issues and actually voting in a way that is more aligned with such concerns. Parental status, in other words, is a factor that should strengthen the link between environmental concern and a willingness to act in ways that address this concern for people who are moderately or reasonably concerned, but not at either extreme. Theoretical models that point to how the attitudes of this middle majority may be aligned with pro-environmental behavior are surely critical for creating and maintaining sustainable societies.

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