Framing Healthy Communities: Strategic Communications and the
Social Determinants of Health

A FrameWorks Research Report

Prepared for the FrameWorks Institute

by

Tiffany Manuel with Franklin D. Gilliam, Jr.

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Introduction

In recent years, popular media outlets in the United States have been telling a well-worn and alarming story: for the first time in the nation's history, American children are expected to have shorter live spans than their parents and, in fact, a substantial proportion will not outlive their parents. The emotional appeal of "children in peril" certainly makes for good headlines but the larger story, that health outcomes are declining dramatically for Americans generally and that the environments that we live in are much to blame, is often a mere backdrop to the story. To be sure, these stories have captivated the public consciousness and may have even convinced some Americans to move from the couch to local walking trails, but most of these stories have missed the opportunity to spur public thinking about health as an outcome of environmental factors and a legitimate public policy concern.

While there are certainly reasons to see the media attention negatively or as just more of the media's steady diet of "doom and gloom" features, there are considerable opportunities presented by this attention. First, the saturation of media coverage on these health indicators has provided a powerful incentive for a much wider net of public health officials, advocacy organizations, community groups, foundations, other public and private institutions (many of whom had not had the opportunity to work together on common issues) to coalesce, prioritize public health as a policy priority, and devote serious resources to reversing these potentially disastrous health trends. Second, those interested in working on this issue have already surpassed one of the most challenging tasks in public policy advocacy: garnering the attention of the popular press. As a result, the opportunity presented by recent media coverage is the rare occasion to use the media to: (1) better communicate the causes behind these public health indicators; (2) deepen the public's understanding of public health issues by focusing on the social and physical environments that shape health behaviors and outcomes; and (3) explain practical and systemic solutions that could serve to mitigate declining health outcomes in the United States.

For almost a decade, the FrameWorks Institute has been active in efforts to lift the salience of public health issues (particularly as they relate to children) and has conducted an array of research on ways to raise related issues on the nation's public policy agenda. The purpose of this current FrameWorks research report is to detail the results of experiments conducted as part of a larger study of health communications research funded by The California Endowment and the W. K. Kellogg Foundation. In the broadest terms, this study aims to understand and produce better ways to engage the public in thinking about health outcomes as a result of social and environmental factors. In some of our research materials on this topic, we refer to this way of thinking as a new "community health" discourse. It is our belief, formed on the basis of our research in this area, that a well-framed community health discourse can succeed in engaging the public in thinking about (and supporting) systems-level policy reforms. The findings in this research report reconfirm this belief and should serve to deepen the understanding of the kinds of frame elements that best represent the community health discourse.

As is customary at the FrameWorks Institute, our study uses a multi-disciplinary, multi-method approach that includes a variety of innovative and rigorous qualitative and quantitative methodological approaches. The overall project scope included a full array of methods associated with the Strategic Frame Analysis™ approach: cognitive interviews, focus groups, media content analysis, cognitive media content analysis, Simplifying Models development and experimental survey. In this report, we present only the latter –

results of the experimental tests that document the extent to which attitudes on potential policy solutions are affected and disparately shaped by exposure to different ways of framing health issues. While this report constitutes the last in a series of sequential methods pursued to date, we do not wish to imply that it is the "final test" of the qualitative research; FrameWorks continues to believe that some qualitative methods are better designed to certain frame methods than are these experimental methods. We encourage readers to see this as one in a series of iterative reports.

Research Methodology

The overall research question under girding the experimental work is fairly straightforward. We want to know if exposing politically and civically engaged persons to alternative ways of thinking about public health challenges renders them more likely to support ecological solutions to address community health issues, from declining access to healthy foods and zoning changes that prohibit exercise to disparities in health services and increased environmental stress. Stated formally, we ask: *Does exposure to key frame elements on community health issues have a measurable impact on support for programs and policies meant to address public health issues as a larger ecological concern?* Within this broad concern, there are at least three discrete questions that will be directly addressed in our findings:

(1) *Do people exposed to key frame elements on community health issues report higher levels of support for public policies designed to address public health outcomes compared to people who received no exposure to those Frames?*

(2) *To the extent that various frame elements are successful in lifting support for these policies, which frame elements are most effective when compared to the other frame elements tested in the study?*

(3) *Are there any particular demographic or political factors which mitigate the success of various frame elements?(with particular emphasis here on California as a demographic variable of interest)*

As discussed at more length below, we test these propositions using web-based survey instruments in an interactive venue administered by the Political Communications Laboratory (under the direction of Shanto Iyengar) and Polimetrix at Stanford University (under the direction of Dr. Douglas Rivers). The samples are built on two million panelists and a two-stage sampling procedure creates a set of "matched" representative samples to which we administered our surveys.

Development of the Frame Elements Tested

As a preface to our experiments, researchers at FrameWorks met to review our prior research on existing media Frames in public health as well as Frames used repeatedly by health advocates. That staff conferral allowed our researchers to discuss and identify a series of alternative Frames to take into experimental testing so that we could determine the best combination of frame elements available to public health advocates. In examining the frame elements, we looked particularly at three specific aspects of the public health reframe: (1) Values, (2) Issue Domains, and (3) Simplifying Models.

Generally we know that the identification of dominant Values is fundamental to the work we do at FrameWorks because Values help direct how people think about, prioritize, and assess the efficacy of public policies. In this paper we test four Values either because they are commonly used by advocates or because we believe (based on prior research) that they may powerfully shape more productive thinking about health issues. Those Values frame elements are: Interdependence, Ingenuity, Prevention, and Fairness. Our definition of these Values is available in the Appendix.

Values are not the only frame elements we have observed in our research that help direct people's thinking about health issues. We also test a series of issue Domains and Simplifying Models. We hypothesized that, in the case of health issues, the choice of a Domain (or context) in which the health information occurs may be as important as the Value itself. As a result, we test three Domains: health (which we thought would be a particularly recalcitrant variable), the environment, and children. Finally, we developed and tested three Simplifying Models that we suspected might prove helpful in translating the abstractness and complexity of key public health concepts into common terms: Patchwork, Public Structures, and Food and Fitness Environment.

Table 1 summarizes all frame elements tested in these experiments. Although there is no specific hierarchy in terms of which frame elements are most important, it is our determination that the elements within the 'Values' category are a higher priority and, as such, the experiments were designed to present frame elements within this category as primary or 'main effects'. Frame elements in the 'Models' and 'Domains' categories are presented as secondary effects.

After the selection of the variables in each of the frame elements, we then developed a narrative paragraph as a representative of how that variable might be discussed in a media report or some other form of health policy advocacy materials to which informants might routinely be exposed. Although those paragraphs may (or may not) represent how they might be presented in practice, each of the Frames tested reflects FrameWorks' best execution of that idea.[1] For example, the Fairness/Social Justice frame was intentionally reworked to address disparities between places, not people, based on FrameWorks' past research; in this sense, it deviates markedly from the more commonly used Fairness/Social Justice frame which differentiates outcomes by individual or group.[2] The specific texts of the paragraphs representing the variables in each of these frame elements are available in Appendix 1 alongside the definition of the element.

Table 1. Experimental Testing Elements	
Main Effects - Values	
Interdependence Ingenuity / Solutions First Prevention Fairness/Social Justice	
Secondary Effects	
Models	**_Domains_**
Patchwork Public Structures Food and Fitness Environment	Health Environment Children

In addition to these frame elements, we also collected a list of corresponding public policy preferences against which we could measure the success of the frame elements chosen. In doing so, we collected and categorized those policies into seven discrete categories: physical education, school nutrition, transportation, parks and open space, community design/development, food and regulation.[3] Policies included in the experiments were statistically evaluated for inclusion in the experiments. Researchers pre-tested the various items with a small pilot sample of 125 people. They first checked the inter-item correlations between the respective variables within each issue Domain. They then performed a factor analysis to confirm that the issue Domains were in fact distinct. The results indicated that the "batteries" represented distinct underlying factor structures. We performed a Cronbach's alpha test for the fidelity of the scales.[4] All tests demonstrated that the respective scales displayed coefficients of .70 or higher; well within the range of acceptability and, because of the consistency in each category, they were collapsed into a single variable for that policy area. Finally, for greater ease of interpretation, these variables were rescaled to range from 0 to 1. A list of the specific policies included in these categories of policy preferences can also be found in the Appendix.

A. The Samples

The experiment testing our frame elements was administered to 4,500 adults in the United States, with a subsample of 2,031 in California and an oversample of African-Americans and Hispanics. Although the samples are not randomly selected, a two-state matching methodology allowed our researchers to derive representative samples from a self-selected panel.[5]

| Table 2. Selected Demographic Characteristics of the National and California Samples					
	National Sample (N=4500)	California Subsample (N=745)		National Sample (N=4500)	California Subsample (N=745)
Demographic Characteristics			Political and Civic Interest (Self-Described)		
Attends Church Regularly	35%	29%	**Registered to Vote**	97%	95%
Age			**Partisanship**		
0 to 24 yrs.	4.7%	7.6%	Democrat	43.5%	42.2%
25 to 39 yrs.	22.8%	25.4%	Republican	26.1%	27.7%
40 to 55 yrs	40.2%	36.9%	Independent	21.6%	18.9%
56+ yrs.	32.3%	30.1%	Other	5.0%	6.6%
Race/Ethnicity			**Ideology**		
White	55.6%	56.4%	Very Liberal	10.1%	11.4%
Black	19.4%	7.9%	Liberal	19.9%	20.3%
Hispanic	19.4%	27.4%	Moderate	31.2%	29.0%
Asian	1.2%	2.2%	Conservative	22.2%	23.3%
Native American	.5%	.5%	Very Conservative	10.3%	9.9%
Other	3.8%	5.8%	Not Sure	6.2%	6.0%
Income			**Political Interest**		
Less than 50K	40%	35%	Very Much Interested	62.7%	62.4%
More than 50k	60%	65%	Somewhat Interested	29.7%	30.1%
			Not Much	6.6%	5.8%
Education					
Less than High School	2.6%	5.1%			
High School	20.7%	32.4%			
Some College	31.4%	24.0%			
2 year Degree	12.3%	9.1%			
4 year Degree	23.0%	19.3%			
Post- Graduate Degree	10.0%	10.1%			
Marital Status					
Married/Dom. Partnership	60%	58%			
Single/Widowed/Divorced	40%	42%			
Gender					
Male	46%	51%			
Female	54%	48%			

Basic demographic characteristics of the national survey, as well as the California subset of respondents used in the analyses, are detailed in Table 2. A comparison of the national survey with the California

subsample reveals that in most respects the samples mirror each other with a few important exceptions: Californians tended to be slightly younger, wealthier, less religious, and have greater Asian and Hispanic representation.

We should also note that, with the exception of Tables 2 and 3 (which describe the samples collected), all other data tables and figures in the report have been weighted to better approximate truly representative samples.

B. The Experimental Design

The strength of each frame element was tested against the policy battery using a web-based survey experiment. The two-stage matching methodology allowed us to secure representative samples and as a result, each respondent to the survey was randomly assigned to one of four primary treatment groups or to the control group. Within each treatment group, the respondents were then randomly assigned to either one of three different models or one of three different Domains. This means that each respondent could potentially belong to one of 24 different treatment groups or the control group. Figure 1 provides a schematic of the experimental design.

Figure 1. Schematic of the Experimental Design
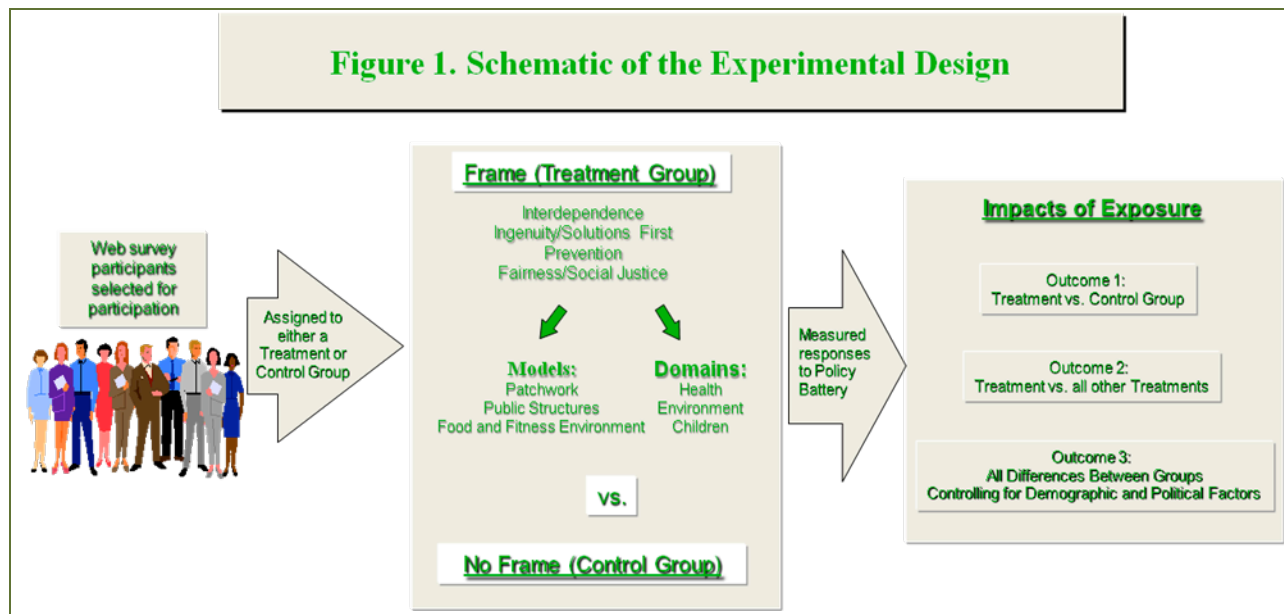
In completing the web-based survey, respondents were first asked to respond to a series of base questions that asked them to rate their level of concern about a short series of unrelated political issues. Results from this first set of questions are shown in Table 3, although these results are not a part of the subsequent frame element analysis discussed in our findings.

Table 3. Most Important Issue - % Extremely Concerned/Concerned September – October 2007		
	National Sample (N=4500)	California Subsample (N=745)
Terrorism	86%	78%
Iraq	91%	93%
Economy	87%	89%
Education	91%	92%
Health	87%	88%
Global Warming	66%	71%
Children	90%	90%

Crime	90%	87%

Immediately following this series of questions, respondents were offered the treatments (which consisted of reading an on-line paragraph that framed health according to the narrative assigned to their particular treatment or control group) and subsequently being asked to answer questions related to their opinions in the seven different policy areas in the policy battery. The specific texts of the paragraphs given to respondents are also available in the Appendix.

Summary of Current Research Findings

Results from the National Study

✓ All Values tested have the effect of raising support for every policy battery, even after controlling for key demographic and political factors such as race, gender, partisanship, and education.
✓ When used in isolation of either a Simplifying Model or a Domain, the Values of Fairness and Prevention are most effective in consistently raising support for health policies.
✓ Pairing a Value and Model offers the largest effects on policy. The most effective V/M combinations are:
  o Fairness combined with Patchwork or the Food and Fitness Environment.
  o Prevention combined with any of the models (it works equally well across the models).
  o Ingenuity combined with Public Structures (which interestingly enough provided the single largest mean difference in policy support across the control and treatment groups).
✓ Pairing a Value with a specific Domain is not as effective as the V/M combinations; however, adding a Domain is also helpful in moving public support. Effective V/D combinations are:
  o Fairness combined with Environment and Children (although some modest gains in policy support were also found when it was combined with Health).
  o Prevention combined with any Domain works equally well, as was true for the models.

Results from the California Study

✓ No single Value predominates consistently across the policy battery but Interdependence and Fairness both show generally large mean differences, indicating more public support.
✓ There were no strong results on the Models or the Domains; however, all Values tended to lift policy support when paired with the Food and Fitness Environment Model and/or pairing Ingenuity with the Domain of Children.
✓ Differences across discrete demographic and political groups were particularly prominent in the California analyses.

Study Findings

In the first set of analyses, we were most interested in determining the efficacy of framing on support for a wide variety of public policy options. Reading figure 2 and understanding that lower mean scores represent more support for the policy options, it is clear that framing matters. In particular, all of the means show movement in the expected direction and there are statistically significant differences in 5 of the 7 policy areas.[6] Only the 'transport' and 'food' policy areas failed to achieve statistical significance between the treatment and control groups.

Figure 2. Overall Impact of Framing on Policy Preferences - Mean Comparisons

* Statistically Significant Differences at p<.05
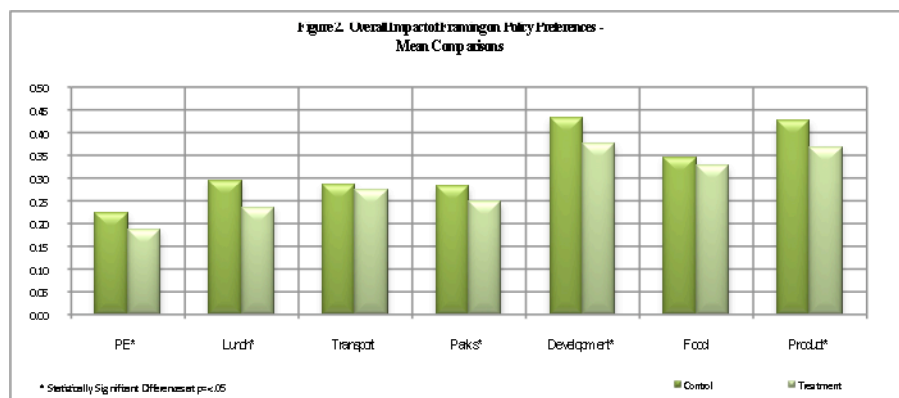
a. Main Effects (Values – Interdependence, Ingenuity, Prevention, Fairness)

To explore the differences between the control and treatment groups in greater depth, the results of a separate set of disaggregated mean comparisons is summarized in Table 4. Table 4 shows the main effects – differences between our control group and the Values treatments (Interdependence, Ingenuity, Prevention, and Fairness). Results summarized in Table 4 are consistent with the general findings from Figure 2 in that the treatment means on our Values are lower (indicating greater policy support) than those in the control group across the board. In terms of statistical significance, Table 4 suggests that even once we disaggregate the specific treatments into finer categories (i.e. specific Values), the policy battery still shows statistically significant differences across our groups.

| Table 4. Main Effects of Values Frame Elements on Public Policy Preferences Mean Scores for the National Sample						
	Control	Interdependence	Ingenuity	Prevention	Fairness	Sample Size
Physical Education*	.2242 (0.0163)	.1857 (.00631)	.1926 (.00627)	.1790 (.00602)	.1787 (.005750)	4446
Lunch**	.2950 (.0182)	.2274 (.0073)	.2333 (.0075)	.2365 (.0076)	.2387 (.0073)	4448
Transport	.2856 (.0207)	.2760 (.0080)	.2817 (.0080)	.2704 (.0077)	.2682 (.0078)	4441
Parks*	.2781 (.0177)	.2513 (.0072)	.2463 (.0070)	.2450 (.0072)	.2447 (.0067)	4437
Development**	.4421 (0.021)	.3699 (.0082)	.3686 (.0080)	.3780 (.0083)	.3851 (.0083)	4410
Food **	.3367 (.0194)	.3489 (.0085)	.3167 (.0077)	.3178 (.0084)	.3274 (.0080)	4442
Products**	.4296 (0.0256)	.3784 (.0095)	.3701 (.0091)	.3483 (.00914)	.3601 (.0093)	4437
Standard errors in parentheses.				*p ≤ .10; **p ≤ .05; ****p ≤ .001		

In sum, these analyses suggest that framing matters a great deal in terms of eliciting policy support on health issues, as all of the Value Frames tested offer some advantage over no framing at all. These are particularly strong results, given that the differences were produced by a very brief single exposure to the Value frame elements and they confirm our view that existing ways of thinking about health in the public are assailable through intentional reframing.

These initial results raise a derivative question though: *to what extent is any particular Value frame element more useful than the others tested*? Our analyses suggest that the Fairness and Prevention treatments show the greatest promise in lifting policy preferences. Although neither of these treatments

consistently produced the lowest means across the policy areas (which would indicate greater levels of policy support), they were the only two Values to demonstrate statistically significant differences across the policy areas. That is, the depth of the differences produced by these two Values was stronger and more durable than any of the other treatments. *Thus, the idea that certain communities are struggling because they are not given a fair chance to get in good shape (Fairness) and that we should work to prevent further damage to our nation's quality of life (Prevention), represent the best ways to reframe existing health messages if one simply uses the Value frame element without a Model or Domain.*

b. *Secondary Effects – Simplifying Models and Domains*

Recall that each main effect treatment was also combined with either one of three models (Patchwork, Public Structures, and Food and Fitness Environment) or one of three Domains (Health, Environment, and Children). For purposes of capturing and measuring the impact of these secondary effects, we combined the policy battery into a single response variable. Factor analysis of the policy battery shows a very high probability that the battery could also

Figure 3. Effect of Models on Average Support for Policies-Mean Difference Between Treatment and Control Groups

function well as a single factor (chi – squared statistic = 925.23 on 14 degrees of freedom) and as such, allows us the opportunity to summarize the impact of the secondary effects using one policy variable in these analyses.
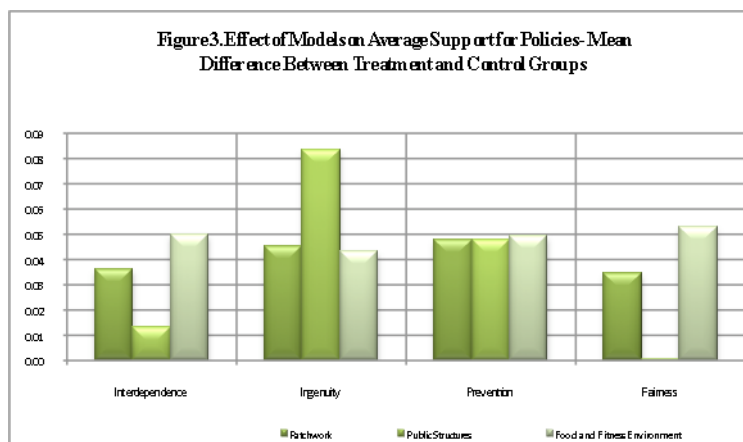
Figures 3 and 4 illustrate the effect of the models and Domains when combined with each main effect treatment on the single response variable. The bars represent the difference between the control and treatment groups or simply, the change in means between the treatment and the control group.
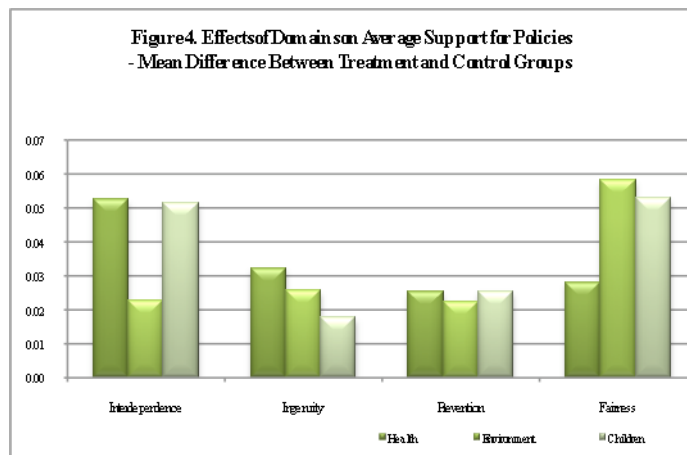
In terms of the Simplifying Models specifically, we examine Fairness and Prevention first, since both proved more durable in the earlier means tests. Figure 3 suggests that both Patchwork and the Food and Fitness Environment work well with the Fairness value. Prevention as a Value works well with any/all of the models, which suggests that regardless of which model is used, the overall impact is likely to be the same – greater policy support at the same levels.

Once we examined the pairing of the Value and Model frame elements overall, another set of possible reframes emerged. The single largest mean difference, for example, is in pairing the Value Ingenuity with the model Public Structures. This suggests that, to the extent that we want to combine the Values with a Simplifying Model for the largest possible effect, the combination between Public Structures and Ingenuity provides the best fit and gives us the most lift. In terms of how these two elements might be combined colloquially, we might argue for example, that it is important to devote greater attention to effective policies and programs that keep "the machinery that makes it possible for Americans to maintain their health and quality of life". Interestingly enough, the Public Structures model only seems to work successfully when paired with Ingenuity or Prevention. When paired with Interdependence or Fairness,

the results are strikingly lower or nonexistent. This attests, in our estimation, to some powerful interaction between the Values and Model here.

Both the Patchwork and Food and Fitness Environment Models also seem to perform well across the Value Frames and produce comparatively similar expansions of policy support. We should note that

most of these latter combinations, although moving the means in the right directions, are statistically insignificant. Only Fairness and Prevention combinations produced statistically significant results.[7]

In terms of the Domains, all combinations with the Value frame elements consistently move policies in the right direction, but are not as effective as the Models in moving public support. Figure 4 summarizes the impact of the Domains on average policy support. That is, the magnitude of the difference in means

Figure 4. Effects of Domains on Average Support for Policies - Mean Difference Between Treatment and Control Groups

between the treatments and control groups was smaller than with the Value and Model combinations. Additionally, fewer of the differences in the tests of the Domains were statistically significant. Put simply, the take-away for application from these results is that reminding the public of the context in which the policy is to be understood further supports policy-thinking.

There are, moreover, some notable differences that can help guide the selection of appropriate Domains in the advocacy work around health. In particular, the Values (when paired with different Domains) suggest that a sizable advantage comes from explaining the Values of Fairness and Interdependence in terms of specific Domains. In fact, the largest single mean difference comes from combining Fairness with Environment. Combining the Domain of Children or Health also lifts support but more modestly than the Environment.

While the Value of Fairness seemed to be most effective in terms of mean differences overall, Interdependence also performed quite well when combined with Health or Children. Finally, similar to our findings on the models, the Prevention Value lifts policy support but there appears to be no particular advantage from explaining Prevention in any of the three Domains examined.

c. *Policy Battery*

When we look overall at the Values, Models, and Domains across the policy areas, several policy areas tended to be more malleable to framing. In particular, overall mean differences in the policy areas 'Lunch, 'Development' and 'Products' were substantially larger than for other policy groups and were more typically statistically significant. These results suggest that moving policy support will be easier on policies to regulate food products in schools (Lunch), development of infrastructure that might make healthier food choices more accessible (Development), or policies that actively promote healthy products and limit products deems to be harmful (Products). We also found however that, at least one policy area ('Transport') seemed particularly resistant to reframing – remaining statistically insignificant even in the

most basic statistical analyses. So, for example, providing subsidies for public transport, limiting speeds in pedestrian areas, installing bike lanes, sidewalks in suburbia, walking or bike paths – may be more stubbornly resistant to our framing cues.

d. *Demographic and Political Factors*

We also conducted analyses to address the potential impacts of others factors (mostly demographic and political) that may have had mitigating impacts on the success of our attempts to shift policy preferences. We wanted, moreover, to ensure that our finding (that framing has an impact on policy preferences) holds even once we take into account key demographic and political factors. To address this issue generally, we used a regression analysis (a technique used to evaluate how much of the variance in our policy battery is explained by different factors) and regressed key variables against the average policy support variable. This technique was also used as a means of identifying variables with particularly important impacts that we could examine in more depth in this report.
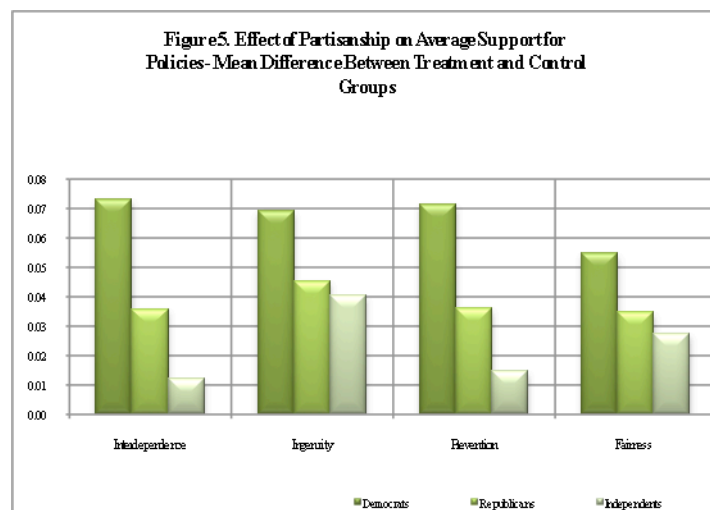
Table 5. Overall Influence of Demographic and Political Factors Main Effect of Framing On Average Policy Support Mean Scores for the National Sample				
	Unstandardized Coefficients		t	Sig. Level
	Beta	Standard Error		
(Constant)	.366	.021	17.161	.000
In a Treatment Group	-.045	.016	-2.738	.006
Income > 50k	.016	.007	2.304	.021
Attends Church Regularly	-.003	.007	-.478	.633
Black	-.020	.011	-1.892	.059
Hispanic	-.018	.010	-1.855	.064
Married or in Domestic Partnership	.006	.007	.843	.400
Education > high school	-.020	.007	-2.839	.005
Democrat	-.076	.008	-9.338	.000
Republican	.068	.008	8.040	.000
Male	.040	.006	6.237	.000
Age	-.001	.000	-4.079	.000

First and foremost, the results in Table 5 reaffirm our primary finding - *being in any of the treatment groups significantly raises average support for the policies* – keeping in mind of course that lower beta levels indicate higher levels of support. Table 5 also shows that most of the demographic and political variables we tested have an independent effect on public support and only two of these variables (marital status and church attendance) have minimal or no impact on policy support, as indicated by significance levels greater than .10.

While our key finding holds, even when controlling for other variables, Table 5 also makes it clear that some of these demographic and political factors have important effects to be taken into consideration alongside our findings. More specifically, partisanship, gender, race, income and education represent strong mediating demographic and political factors that affect the success of frame elements. As a result, we conducted additional analyses of these areas to decompose these effects. The results of these analyses are discussed below alongside our discussion of the California subsample.
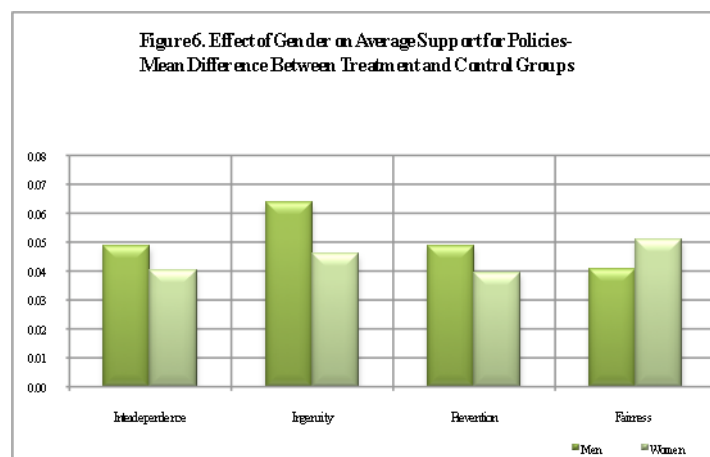
i. *Partisanship*

A fairly interesting and complicated story emerges when we unpacked the effects of the Values frame elements on partisans. Both Democrats and Republicans had fairly consistent responses to the Frames; that is, Democrats responded effectively to all of the Frames with about the same enthusiasm, while Republicans had a more modest, but similarly consistent response across the Frames. Independents responded particularly well to the Ingenuity Value but more modestly to the all others. Discussed another way, the Ingenuity Value seemed to have the most positive effect when all partisans are examined, followed by the Fairness Value.
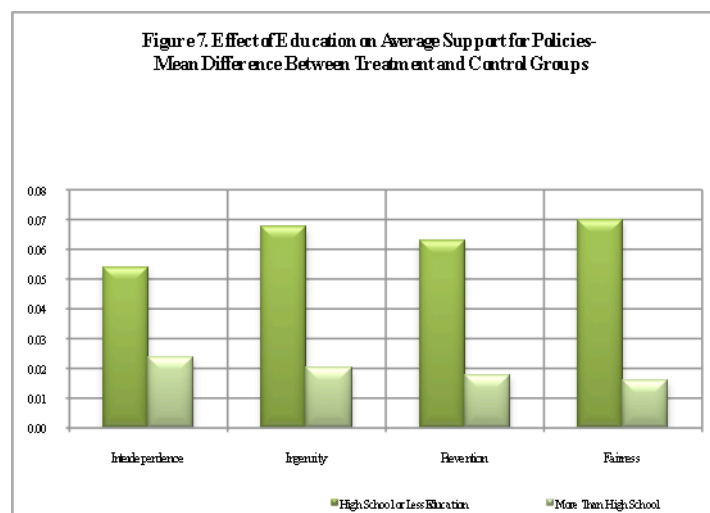

Figure 5. Effect of Partisanship on Average Support for Policies-Mean Difference Between Treatment and Control Groups

ii. *Gender*

Analysis of the impact of gender on policy support indicates that there is a large gender impact on the Values. That impact occurs mostly among men, whose baseline support for the policies is initially much lower than for women. This may suggest that the frame elements may work most effectively on those whose public support is more tentative to begin with. All but one of the Values Frames prove significantly powerful for men but the Ingenuity frame has particular bearing. In contrast, for women, the Fairness Value seems to carry much more persuasive weight.

Figure 6. Effect of Gender on Average Support for Policies-Mean Difference Between Treatment and Control Groups

iii. *Education*

Across the board, college graduates show lower initial support for the policies than do non-college graduates and they are harder to move in terms of policy support than their less educated peers. If we step back and look at the break between those with high school or less levels of education against those with more than a high school diploma, the differences across the Frames are particularly clear, as shown in Figure 7. Those with less education favored the

Figure 7. Effect of Education on Average Support for Policies-Mean Difference Between Treatment and Control Groups

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Fairness frame, followed closely by other Values - Ingenuity and Prevention. Support was more modest for more educated respondents and no frame element appeared dramatically more advantageous than the others.

iv. Race

As might be expected, there are substantial racial differences in the effectiveness of the Value frame elements, as shown in Figure 8. Hispanics seemed most resistant to change after exposure to the Frames (with almost no change after exposure to 3 of the Values). At the other end of the spectrum, blacks tended to be most affected when exposed to the Value Frames. With regard to the latter, the single largest mean difference was found among blacks when exposed to the Ingenuity Value. However, fairly strong results for blacks are shown in the context of Prevention as well. Finally, although there are fairly

Figure 8. Effect of Race on Average Support for Policies- Mean Difference Between Treatment and Control Groups

dramatic 'ebbs and flows' in policy support among blacks across the Values, policy support among whites is much more consistently high across the Value areas. We should note here, interestingly enough, all racial differences were highly statistically significant.
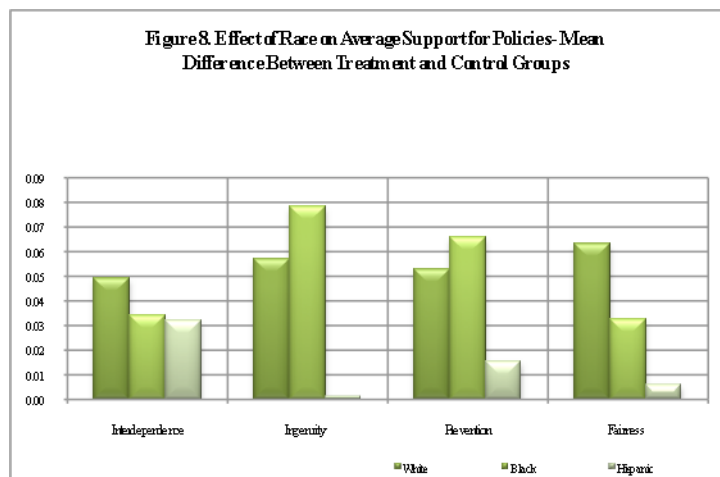
i. Income

Figure 9 demonstrates that there are even more striking differences across income levels. While our analysis only measures two broad income categories, we found statistically significant results even when we disaggregated income into finer categories. Here, we find that respondents making $50,000 or more were much more likely to change their policy support after exposure to the frame elements. This is possible in part because of the relatively low initial levels of support from the higher income group. What is perhaps most interesting here is the relative

Figure 9. Effect of Income on Average Support for Policies- Mean Difference Between Treatment and Control Groups

consistency of the responses from both income groups across all Values tested. We should also note here that although education and income are usually proxies for each other, our income cutoff here at $50,000 includes many respondents with low levels of educational attainment and thus, confound attempts to match policy support by income and education.
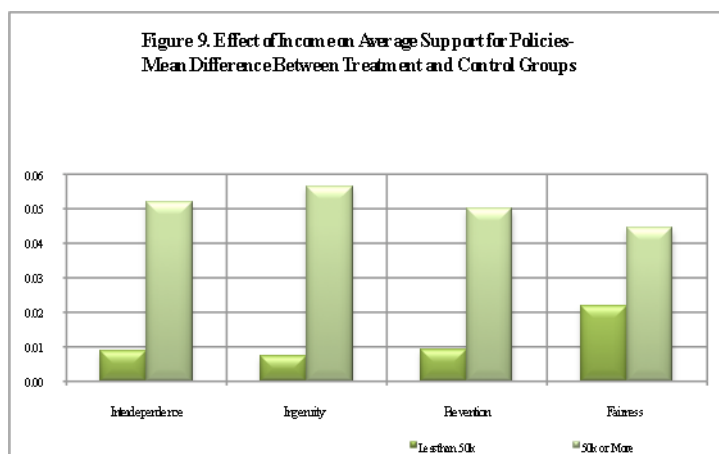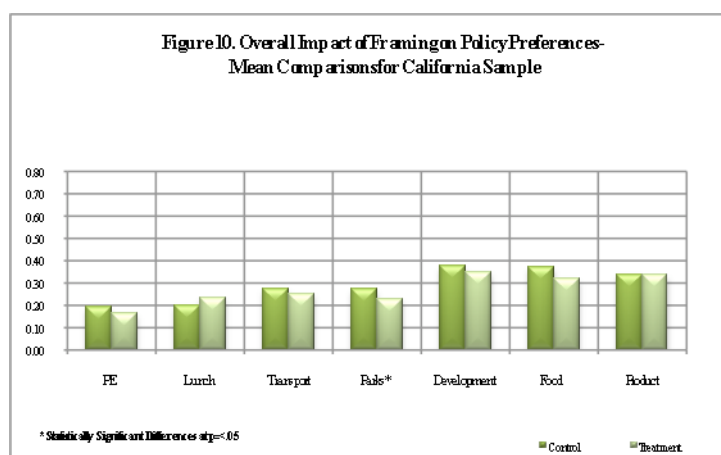
The California Sample

At the outset, FrameWorks identified California as a particular variable of interest. We developed a completely separate subsample to effectively examine within-state differences in policy support across our frame elements. While many of the same directional results found in the national sample hold for California, there are also some interesting differences and nuances which we discuss here.

a. Main Effects (Values – Interdependence, Ingenuity, Prevention, Fairness) in CA

Figure 10 makes it clear that the consistent pattern between the treatment and control groups does not hold as uniformly for Californians – but it is close. Since lower mean scores indicate more policy support in this graph (unlike some of the other graphs that show the difference between treatment and control groups), all policy areas except the policy area 'Lunch' confirm our earlier conclusions regarding the impact of framing on policy support. Unlike our national results, however, only one policy area is significant ('Parks'), although several other policy areas

Figure 10. Overall Impact of Framing on Policy Preferences- Mean Comparisons for California Sample

*Statistically Significant Differences at p=<.05

are close to significance levels. This is likely a function of a smaller sample sizes in the subsample.

| Table 6. Overall Impact of Values Frame Elements On Public Policy Preferences Mean Scores for the California Sample						
	Control	**Interdependence**	**Ingenuity**	**Prevention**	**Fairness**	**Sample Size**
Physical Education	**.1928** (.0194)	**.1559** (.0086)	**.1549** (.0085)	**.1614** (.0085)	**.1801** (.0092)	1943
Lunch	**.2009** (.0232)	**.2215** (.0109)	**.2303** (.0114)	**.2455** (.0120)	**.2399** (.0113)	1954
Transport	**.2755** (.0273)	**.2560** (.0110)	**.2509** (.0114)	**.2587** (.0117)	**.2469** (.0113)	1914
Parks*	**.2714** (.0249)	**.2267** (.0096)	**.2234** (.0105)	**.2488** (.0112)	**.2146** (.0096)	1913
Development	**.3760** (.0303)	**.3283** (.0124)	**.3466** (.0119)	**.3646** (.0135)	**.3638** (.0122)	1741
Food	**.3715** (.0323)	**.3153** (.0115)	**.3037** (.0121)	**.3332** (.0130)	**.3266** (.0126)	1829
Products	**.3403** (.0329)	**.3269** (.0134)	**.3414** (.0143)	**.3553** (.0136)	**.3183** (.0132)	1897
Standard errors in parentheses.			*p ≤ .10; **p ≤ .05; ***p ≤ .001			

To ensure that differences between the control and treatment groups persist once the specific treatment groups are disaggregated, a separate set of mean comparisons was conducted for the California subsample as well. Table 6 suggests that, once we disaggregate the specific treatments, most policy areas continue to see substantial mean differences and the policy area 'Parks' remains statistically significant. Both 'Physical Education and 'Development' were close to statistical significance in this model.

For the California sample, no single Value predominates, although both Interdependence and Fairness show the greatest mean differences across the policy battery, with all policy areas except 'Lunch' being substantively moved by the frame elements.
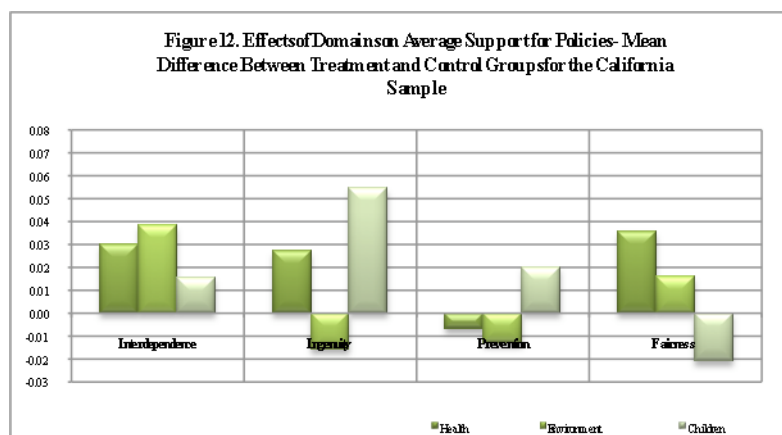
b. Secondary Effects in CA – Simplifying Models and Domains

Overall, combining Values with Models and Domains proved to be less effective in the California sample and, as indicated in our analyses below, the results for the California sample are mixed. Even so, some basic patterns did emerge that provide insight into how health policies might be effectively framed for Californians; our findings here reconfirm the notion that framing does have an impact on overall policy support.

Table 11 examines the performance of the Simplifying Models in the California subsample and shows mixed results in terms of the performance of the models. The Food and Fitness Environment has the most consistency across the treatments. The Public Structures model works best with the Fairness model and seems to work well (but more modestly) with all other treatments. The Patchwork model was the most inconsistent among the models – performing very well with

Figure 11. Effect of Models on Average Support for Policies- Mean Difference Between Treatment and Control Groups for the California Sample

Interdependence, moderately well with Fairness, but poorly when matched with Ingenuity or Prevention.
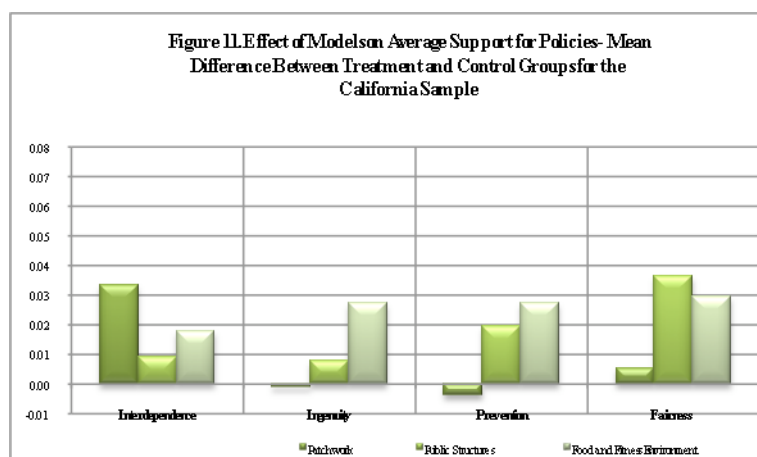
Similarly mixed results summarize the analysis of the Domains. That is, the Domains in the California subsample performed even more unpredictably than the Simplifying Models. The single largest effect was found when we combined Children and Ingenuity. And, although the Children Domain performed well with both Interdependence and Prevention, it had a strong, negative effect when paired with Fairness. When Health was paired with Interdependence,

Figure 12. Effects of Domains on Average Support for Policies- Mean Difference Between Treatment and Control Groups for the California Sample

Ingenuity, or Fairness, we found positive results; but when paired with Prevention, Health had a negative effect. The Food and Fitness Environment performed particularly well with Interdependence and more modestly when paired with Fairness but negatively with both Ingenuity and Prevention.

c. Policy Battery

When we look overall at the Values, Models, and Domains across the policy areas, several areas tended to be more malleable to framing. In particular, mean differences in the policy areas 'Parks', 'Development'

and 'Food' were substantially larger than for other policy groups. In addition, at least one policy area ('Lunch') was particularly resistant to framing – not only remaining statistically insignificant even in the most basic statistical analyses but it also constituted the one policy area where no frame element was able to lift policy support above the control.

d. Demographic and Political Factors in California Subsample

We also performed statistical tests comparable to the national sample in terms of examining mitigating factors on our frame elements.

i. Partisanship

Although partisanship seemed to dampen the strength of the Frames overall, all groups responded positively to the Values Frames except notably in Prevention where the impacts were dramatically different for all three groups examined (Democrats, Republicans and Independents). More specifically, Independents responded well to the Prevention frame while both Democrats and Republicans had the opposite reactions, but the magnitude of the difference in the reaction between

Figure 13. Effect of Partisanship on Average Support for Policies- Mean Difference Between Treatment and Control Groups for the California Sample

the Democrats and Republicans was fairly dramatic.   That is, Democrats responded much more negatively to the Prevention frame overall.
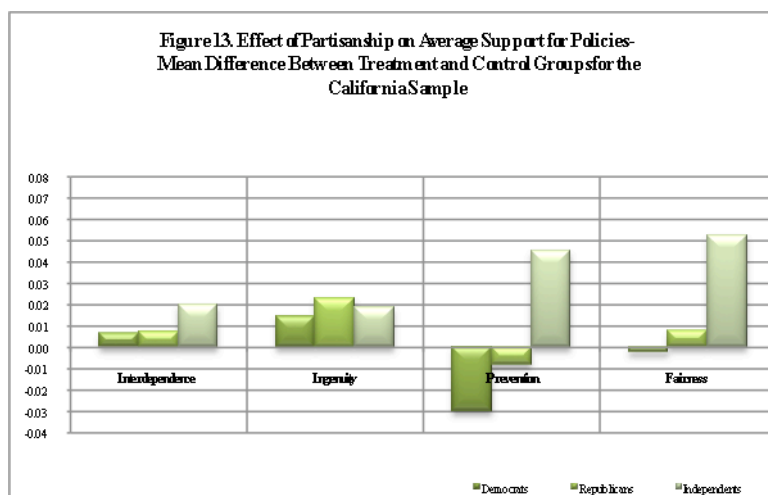
The best overall responses to the framing came from Independents where policy preferences were dramatically lifted in response to Fairness and Prevention but more modestly to Interdependence and Ingenuity. Ingenuity seemed to affect all partisans in the same way – prompting modest raises in policy support.
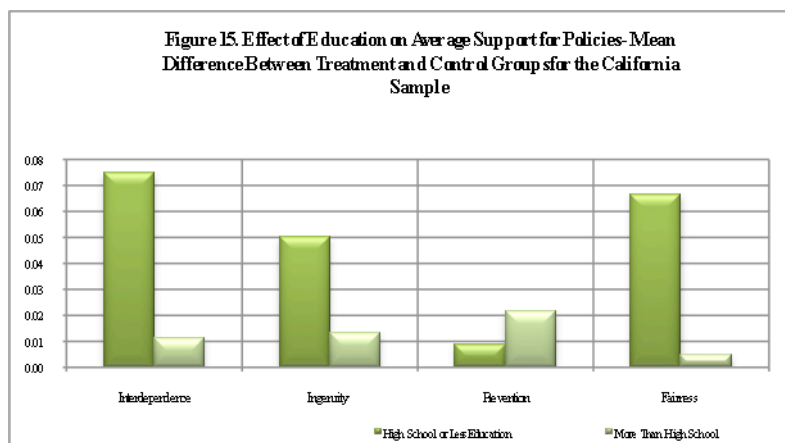
ii. Gender

The impact of gender was particularly interesting in the California sample. Men and women had completely opposite reactions to the Values framing elements across the board. This was particularly true for Prevention. Men, who mostly began with much lower support for our policy measures, were negatively affected by almost every frame. Women, on the other hand, demonstrated modest but consistent

Figure 14. Effect of Gender on Average Support for Policies-Mean Difference Between Treatment and Control Groups for the California Sample

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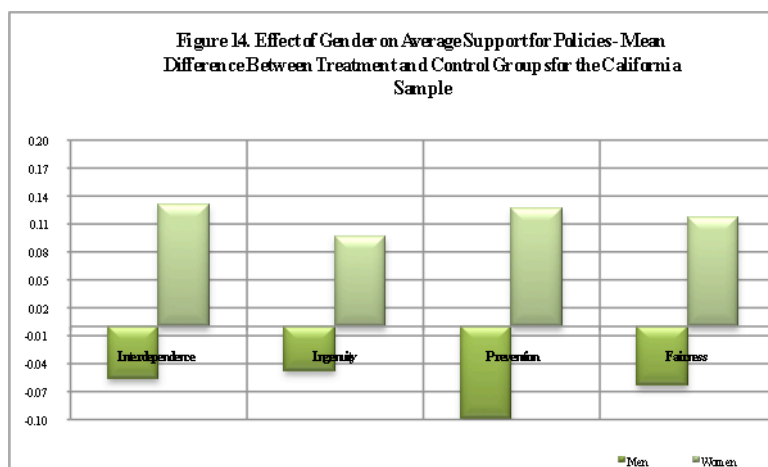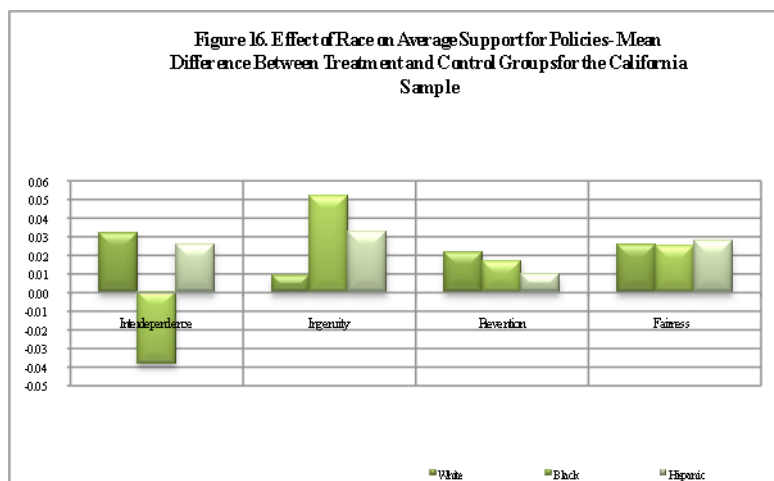
expansion in their support for policies overall.

iii. Education

Similar to the national sample, more educated respondents were overall less responsive to framing, as shown in Figure 15. This was true with the exception of the Prevention frame where educated respondents edged out those with less education. The largest single effect came from the Interdependence Value, followed by Fairness and Ingenuity.
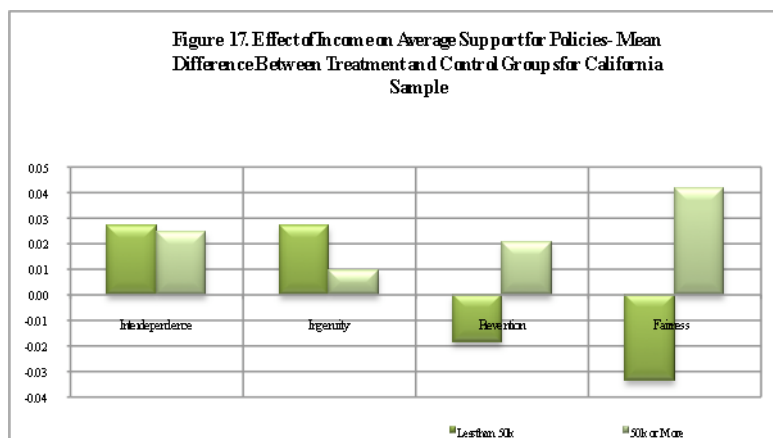

Figure 15. Effect of Education on Average Support for Policies-Mean Difference Between Treatment and Control Groups for the California Sample

iv. Race

California results on race were dramatically different from the national sample – which may be a result of the fact that the racial composition of California is also different from that of the nation overall. In particular, although all Value Frames seemed to lift public support in some ways, the magnitude was much smaller for Californians than for these groups in the national sample. In addition, the Interdependence Value had a strong negative effect for black respondents.

Figure 16. Effect of Race on Average Support for Policies-Mean Difference Between Treatment and Control Groups for the California Sample

Fairness was perhaps the most consistently positive across all groups in the California sample and was closely followed by Prevention. The one major similarity between the California and the national samples was that blacks were found to have the single largest reaction to the Ingenuity frame.

v. Income

Results on income in California compared to the national sample are less dramatic and less consistent. Unlike the national sample where there were consistent differences across income groups, differences here were more striking and in some cases more diametrically opposed to those findings. On both Prevention and Fairness, the lower income group showed

Figure 17. Effect of Income on Average Support for Policies-Mean Difference Between Treatment and Control Groups for California Sample

negative policy responses compared to the control group – meaning they had the opposite reaction to our framing attempts. Conversely, the higher income group responded particularly well to the Fairness Value and at least modestly to Prevention.

Summary and Conclusions

At the outset of this report, we set out to identify opportunities to reframe the way that public health issues are discussed in the media. It is our contention that a new community health discourse is more likely to produce public support for health policies that address the concerns of public health advocates and our findings (expressed in this report and in its predecessors) bare that out, albeit in complex ways. More specifically, in answer to the three discrete questions posed at the top of this report, we found that:

> (1) exposure to alternative health policy Frames matters a great deal in terms of public support for health policy;

> (2) the Values of Fairness and Prevention are particularly effective in raising public support for health policies. While Prevention seemed to work in lifting support regardless of whether it was combined with any particular Model or Domain, using a Model like Patchwork or the Food and Fitness Environment further improved policy support when paired with Fairness; and

> (3) while a variety of demographic and political factors were shown to significantly affect policy support, our Frames still proved successful in lifting policy support even after controlling for those factors.

As such, the findings from this report mitigate those found in earlier FrameWorks project reports by demonstrating that even the most entrenched or dominant Frames found in popular media (especially health individualism) are indeed assailable through reframing. This is cause for good news although, we think there are at least three other reasons to be excited about the contents of this report from the vantage point of improving media communications on health issues overall.

First, our research suggests that people are highly amenable to framing on health policy topics. Almost across the board, we were able to lift public support for important health policies by framing them in discrete ways. And although we selectively chose frame elements that we thought would have a high degree of success, the magnitude of the changes in policy support were quite impressive when compared to other policy issues that we have studied.

A second cause for good news about the contents of this report is that there are a multitude of possible Values/Models/Domain combinations that work successfully to lift policy support. In addition to the Fairness and Prevention Values, we found other potential reframes that were also effective in lifting public support such as Ingenuity when combined with Public Structures, for example. This suggests to us that health advocates are not limited to using Fairness and Prevention but can strategically employ a wider variety of reframes identified in our findings above.

Third, even though we found very strong evidence of the effects of partisanship, gender, race, income and education on policy support, our reframes hold their significance in the context of those differences and those differences represent opportunities to nuance the health message to particularly key audiences. For example, blacks were especially drawn to the Ingenuity frame in both the national and California-specific

studies.   The Ingenuity frame, although not as robust as Fairness or Prevention across the study, was remarkably successful among other subgroups in the national sample – such as political Independents, those making at least $50,000 per year, men, and those with limited education. To the extent that any of these groups represent audiences of interest, our findings are a good start in terms of tailoring a stronger, more persuasive health policy message.

Finally, we also point out an interesting and important detail that emerged in the analyses that we conducted. Public support seemed to be lifted most successfully among groups that initially had the lowest levels of support for policies. For example, as we note in the report, policy support among less educated respondents improved most, compared to other groups. This suggests to us that framing may work best among those with the least exposure to these policy issues or those who may not have very well developed/entrenched opinions on these issues. That is, our frame elements may work most effectively on those for whom public support is more tentative to begin with. As a result, one useful strategy for health policy advocates may be to identify groups with lower levels of policy support at the outset and tailor very specific media campaign messages to these groups.

Please follow standard APA rules for citation, with FrameWorks Institute as publisher. Manuel, Tiffany & Gilliam, Franklin D. (2008). Framing Healthy Communities: Strategic Communications and the Social Determinants of Health. Washington, DC: FrameWorks Institute.

Appendix I: Values, Models, and Domains

Each respondent that was not in the control group was exposed to one frame and then either one of the models or Domains. The text of the Frames, models, and Domains is below.

Values

(1) **Interdependence**, or the idea that public policies often ignore the fact that what affects Americans in one part of the nation affects us all and that we will only succeed when all parts of the nation are in good shape. When we build communities where people can't breathe healthy air, exercise safely and conveniently, and get nutritious foods, these areas cannot contribute as they might to the nation's overall prosperity and the nation's progress is held back. As a result, we are unable to improve school test scores, physical fitness and workforce participation.

> ➢ **Narrative for Interdependence Used in Experimental Testing:** "Lately there has been a lot of talk about social conditions in America. Some people believe that public policies often ignore the fact that what affects Americans in one part of the nation affects us all and that we will only succeed when all parts of the nation are in good shape. According to this view, when we build communities where people can't breathe healthy air, exercise safely and conveniently, and get nutritious foods, these areas cannot contribute as they might to the nation's overall prosperity and the nation's progress is held back. As a result, we are unable to improve school test scores, physical fitness and workforce participation."

(2) **Ingenuity**, or the idea that we as a society are not devoting enough attention to effective policies and programs that would get American communities in good shape. Smart states have been able to build communities where people can breathe healthy air, exercise safely and conveniently, and get nutritious foods. These innovative investments have significantly improved conditions by raising school test scores, improving physical fitness and workforce participation in these areas.

> ➢ **Narrative for Ingenuity Used in Experimental Testing:** "Lately there has been a lot of talk about social conditions in America. Some people believe that we as a society are not devoting enough attention to effective policies and programs that would get American communities in good shape. According to this view, smart states have been able to build communities where people can breathe healthy air, exercise safely and conveniently, and get nutritious foods. These innovative investments have significantly improved conditions by raising school test scores, improving physical fitness and workforce participation in these areas."

(3) **Prevention**, or the idea that that we should prevent further damage to our nation's quality of life by helping American communities get in good shape. By preventing unhealthy air quality, increasing safety and convenience in environments where people exercise, and increasing regular access to nutritious foods, we would save money and lives in the long run. And, by devoting

more resources to addressing these problems before they become even more serious, we may be able to reverse declining school test scores, improve physical fitness and workforce participation.

> ➢ **Narrative for Prevention Used in Experimental Testing:** "Lately there has been a lot of talk about social conditions in America. Some people believe that we should prevent further damage to our nation's quality of life by helping American communities get in good shape. According to this view, preventing unhealthy air quality, increasing safety and convenience in environments where people exercise, and increasing regular access to nutritious foods would save money and lives in the long run. And, by devoting more resources to addressing these problems before they become even more serious, we may be able to reverse declining school test scores, improve physical fitness and workforce participation."

(4) Fairness, or the idea that that certain communities are struggling because they are not given a fair chance to get in good shape. We need to level the playing field so that every community's residents can breathe healthy air, exercise safely and conveniently, and get nutritious foods. When some communities are denied the resources they need to build these things into their environments, they are unable to improve school test scores, physical fitness and workforce participation.

> ➢ **Narrative for Fairness Used in Experimental Testing:** "Lately there has been a lot of talk about social conditions in America. Some people believe that certain communities are struggling because they are not given a fair chance to get in good shape. According to this view, we need to level the playing field so that every community's residents can breathe healthy air, exercise safely and conveniently, and get nutritious foods. When some communities are denied the resources they need to build these things into their environments, they are unable to improve school test scores, physical fitness and workforce participation."

Models

(1) Narrative for Patchwork: "Experts have observed that every town, neighborhood and region in America can be evaluated in terms of how well basic systems and services are distributed. Currently, they say, we have a Patchwork Effect. When some communities are underfinanced or ignored, they are put at a disadvantage, resulting in an uneven patchwork of inadequate transportation, markets without healthy foods, and schools with few physical fitness requirements. Left out of the distribution of goods and services that get communities into the economic mainstream, people's health and quality of life decline. When we improve the connectedness of a place, the health of the people who live and work there improves as well. Have you heard of this explanation to improve social conditions in America?"

(2) Narrative for Public Structures: "Experts have observed that every town, neighborhood and region in America can be evaluated in terms of its Public Structures. These include, for example,

adequate transportation, markets with healthy foods, and schools with physical fitness requirements. Without these structures, however, community success is undermined. When they are well maintained, they form a kind of machinery that makes it possible for Americans to maintain their health and quality of life. When we improve the Public Structures in a place, the health of the people who live and work there improves as well. Have you heard of this explanation to improve social conditions in America?"

(3) Narrative for Food and Fitness Environment: "Experts say that every town, neighborhood and region in America can be evaluated in terms of its Food and Fitness Environment. Where we live or work is one of the most important things determining whether we end up fit and healthy or not. When people do not have access to a healthy environment or opportunities to make healthier choices, they have worse health and a lower quality of life. When we improve these Food and Fitness Environments by creating adequate transportation, markets with healthy foods, and schools with physical fitness requirements, the health of the people who live and work there improves as well. Have you heard of this explanation to improve social conditions in America?"

Domains

(1) Narrative for Health: "Experts agree that being healthy requires more than access to medical care. The decisions made in our neighborhoods and municipalities about whether and where to site a supermarket, create mass transit options or maintain a neighborhood park affect the future of our health. Promoting and maintaining individual health, they say, requires attention to community health. Have you heard of this explanation to improve social conditions in America?"

(2) Narrative for Environment: "Experts agree that being physically fit requires more than access to a gym. The decisions made in our neighborhoods and municipalities about whether and where to site a supermarket, create mass transit options or maintain a neighborhood park affect the viability of these environments. Promoting and maintaining good environments for individuals, they say, requires attention to community environments. Have you heard of this explanation to improve social conditions in America?"

(3) Narrative for Children: "Experts agree that being healthy and fit in adulthood is largely determined by the communities that we live in as children. The decisions made in our neighborhoods and municipalities about whether and where to site a supermarket, create mass transit options or maintain a neighborhood park affect our children's development. Promoting and maintaining the health of our children requires attention to community environments. Have you heard of this explanation to improve social conditions in America?"

Appendix II: Dependent Variables

The seven policy batteries were each created from several questions. On each question, the respondent was asked to state their support for the policy on a five point scale ranging from 'strongly favor' to 'strongly oppose'. The questions for each battery were tested for internal consistency and were judged to be consistent by the conventionally accepted levels of a Cronbach's Alpha coefficient.

Physical Education (PE) Battery
1. Favor PE for students
2. Favor recess for elem and middle school
3. Description: Favor children walking/biking to school
4. Favor sports in PE curriculum
5. Favor after-school recreation

Lunch Battery
1. Favor water, juice and milk at school
2. Favor banning soda pop at school
3. Favor limiting high-sugar snacks in school
4. Favor lower-fat items in school
5. Favor restricting sweets as rewards in school

Transport Battery
1. Favor walking and biking paths
2. Favor bike lanes and sidewalks in suburbia
3. Favor limiting speeds in pedestrian areas
4. Favor subsidies for public transport

Parks Battery
1. Favor maintenance of park facilities
2. Favor more public indoor recreation facilities
3. Favor % of land for parks in new developments
4. Favor incentives to contribute to new parks
5. Favor funding security for public recreation

Development Battery
1. Favor mixed-use commercial and residential development
2. Favor promotion of 'walkable buildings'
3. Favor discouraging unwalkable developments
4. Favor clustered development

Food Battery
1. Favor tax incentives for groceries
2. Favor farmer's markets
3. Favor promotions for local food producers
4. Favor community garden programs
5. Favor nutrition info on menus

Product Battery
1. Favor limiting harmful products
2. Favor limiting promotion of harmful products
3. Favor restricting liquor stores
4. Favor promotion of healthy product

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[1] For more information about the criteria of admissibility for Frames, see the discussion in our Message Memo, "Framing Community health as if Food and Fitness Mattered: A FrameWorks Message Memo" available on our website www.frameworksinstitute.org.
[2] For more on this distinction, see "A Note to Frame Sponsors," FrameWorks Institute, April 2008.
[3] In our findings, the seven policy batteries that served as dependent variables are referred to as: pe, lunch, transport, parks, development, food, and products.

[4] Cronbach α (alpha) is a statistic test that gauges the reliability of a series of related items in a survey instrument.

[5] More specifically, we made use of the national web-based surveys conducted by Polimetrix at Stanford University. Polimetrix requires its two million panelists to participate in weekly studies in exchange for free Internet access. A two-stage sampling procedure is utilized to create a "matched" sample. First, a conventional random sample is drawn utilizing a RDD sampling frame. At the second stage Polimetrix mirrors the conventional sample by selecting panelists who most closely resemble each member of the random sample.

[6] Two statistical tests were performed to ensure that the differences in means are robust. We first performed the traditional Analysis of Variance test (ANOVA) and then performed the Welch robust test of equality of means for Asymptotically F distributed data.

[7] Although these combinations lack statistical significance, we report them because they show promising results and it is likely that results an experimental design with more statistical power (i.e. larger sample sizes) would estimate these results with greater certainty.