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Policy Feedback Effects on Mass Publics: A Quantitative Review

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There has been an impressive stride in the research on policy feedback effects on mass publics over recent years. However, we lack systematic evidence on how large such policy feedback effects are in the literature. This article provides a review of 65 published studies and quantifies the findings and key themes in the policy feedback literature. The results show a great degree of heterogeneity in the domains and outcomes being studied and in the effects of policies on the public. In line with the findings from narrative reviews, feedback effects are greater for outcomes related to political participation and engagement. Last, the review sheds light on important theoretical and methodological limitations to be addressed in future research.

KEY WORDS: policy feedback, mass publics, quantitative review

近年来，在政策反馈的大众效应上进行的研究取得了令人瞩目的进展。但是，文献中缺乏系统性的证据来说明这种政策反馈效应会有多大。本文对65篇已发表的研究进行了综述，并量化了政策反馈文献中的研究结果和关键主题。我的量化结果表明，各研究领域和结果，以及政策对公众的影响都展示出了很大程度的异质性。依照叙事性综述的发现，反馈效应在与政治参与相关的结果上更为突出。最后，本综述揭示了重要理论和方法上的局限性，这些局限性需要在未来的研究中得到解决。

Public policies have feedback effects on political actors' values and incentives with implications for future policymaking (Béland, 2010). While the idea that policies have implications for the political process goes back several decades (Lowi, 1964; Schattschneider, 1963), the systematic study of how policies have feedback effects on a variety of political processes has increased rapidly within recent years. In short, the point of departure is that preferences of the public do not only matter for how politicians design public policies, but that the design of public policies matter for the attitudes and behavior of the public as well (Campbell, 2012; Mettler & Soss, 2004; Soss & Schram, 2007).

Twenty-five years ago, Pierson (1993) concluded that "there are significant feedback processes—particularly those directly affecting mass publics rather than bureaucrats, politicians, or organized groups—that have yet to receive sufficient

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attention" (p. 597). Since then, a now substantial body of literature has devoted attention to how specific policies have feedback effects on mass publics. However, while some of these studies have been reviewed in a narrative manner, the literature has not been reviewed systematically in a quantitative manner. Such a review of how policies matter for public opinion is paramount for our understanding of the impact of public policies in contemporary democracies. Furthermore, given that a large number of the studies are published within recent years, no attempt has been made so far to gather and review the findings from a majority of these studies.

To accommodate this, I survey the quantitative policy feedback literature interested in how policies matter for political attitudes and political participation in mass publics. There are coherent themes in the policy feedback literature and recent qualitative reviews and essays have outlined trends and challenges in the literature, e.g., Mettler and Soss (2004) and Campbell (2012). However, we do not know whether a quantitative review will yield similar conclusions and so far there has been no comprehensive survey of a large part of the policy feedback literature (for an overview of the existing reviews and essays interested in policy-opinion dynamics, see Appendix A in supplementary material).

The aim of the article is three-fold. The first aim, and in line with narrative reviews on policy feedback effects, is to provide an overview of the literature with a particular focus on the policies and outcomes being studied. The second aim is to estimate the average and heterogeneous impact of policies on public opinion. This adds directly to existing reviews of the literature and provides future research with a useful baseline to discuss the significance of policy feedback effects in different settings. The third aim is to shed light on some of the obstacles that should be addressed in the literature and suggest avenues for future research.

Overall, four specific themes will be examined below. First, whether there are differences in the effect sizes in the literature. To illustrate this, and in line with the argument presented in Campbell (2012), the results show that policy feedback effects are greater for outcomes related to political participation and engagement than for general political attitudes. Second, whether policies have reinforcing (positive) or undermining (negative) feedback effects. Here, there is an important discrepancy between the theoretical ambitions in the literature and the empirical tests. Third, whether the literature primarily looks at policy feedback effects as micro-level personal experiences or macro-level policies as part of the political environment, i.e., the proximity of the policy to the public being studied. Fourth, whether and how policies interact with other features in creating public responses to policies, i.e., the conditional and complex nature of policy feedback effects.

Outcomes and Mechanisms in Policy Feedback Studies

To understand how policies matter for mass publics, one needs to study inherently distinct effects and mechanisms (Kumlin & Stadelmann-Steffen, 2016; Mettler & Soss, 2004, p. 64). Pierson (1993) distinguishes between two mechanisms, namely resource effects and interpretive effects. For the resource effects, polices affect the

economic incentives people have to participate in politics, and in particular the incentives people face to support specific policies. For the interpretive effects, policies provide salient information in the form of cognitive templates for interpretation, i.e., the impact of policies on the cognitive processes of social actors.

Subsequent studies summarizing how policies shape mass publics provide nonexhaustive lists on the impact of policies on mass publics. Soss and Schram (2007), for example, elaborate that policies change basic features of the political landscape by affecting the political agenda and shaping interests as well as identities in the public; influence beliefs about what is possible; desirable, and normal; define incentives; and so on. Ingram, Schneider, and deLeon (2007) describe that the design of a policy shapes the allocation of benefits and burdens, problem definitions, types of rules, tools, rationales, causal logic, and "messages" (see also Pierce et al., 2014). Mettler and Soss (2004) describe that policy feedback effects "include defining membership; forging political cohesion and group divisions; building or undermining civic capacities; framing policy agendas, problems, and evaluations; and structuring, stimulating, and stalling political participation" (p. 55). In other words, to fully capture and understand policy feedback effects, it is not possible to delimit an adequate review of the policy feedback literature to a single mechanism.

For the political outcomes in the policy feedback literature, several concepts have attracted varying levels of attention. First, one body of literature is interested in political engagement and participation, including turnout, party membership, contact to politicians, political efficacy, and civic participation (for an introduction to the literature on policies and civic participation, see Campbell, 2016). These studies focus on how policies provide resources reducing the cost of participating in politics, specific incentives for people to participate, as well as information that makes people more likely to engage in politics (Davenport, 2015; MacLean, 2011; Mettler, 2002; Mettler & Welch, 2004; Munoz, Anduiza, & Rico, 2014; Shore, 2014).

Second, several studies have looked at political attitudes as the outcome. Attitudes are defined here as a positive or negative evaluation of a stimuli (Eagly & Chaiken, 1993). Here, there is a relevant distinction between policy-specific attitudes and more general attitudes. Policy attitudes include attitudes related to policies, e.g., spending preferences, government responsibility attribution, and support toward welfare state policies (Banducci, Elder, Greene, & Stevens, 2016; Barabas, 2009; Busemeyer & Neimanns, 2017; Gingrich & Ansell, 2012; Jordan, 2013; Soss & Keiser, 2006). Soss and Keiser (2006), for example, show that the generosity of public assistance programs shapes the direction of citizens' demands on the welfare system. Jordan (2013) argues that inclusive welfare institutions, such as universal policies, generate larger support as they shift the focus from redistribution to market insecurities felt by the middle class. These examples illustrate how specific policies are directly affecting how people have policy-specific attitudes.

For general political attitudes, there is a plurality of different outcomes not directly related to political participation and policy-specific attitudes. These are not as coherently studied as participation and policy attitudes, but include outcomes such as anti-immigration attitudes (Nagayoshi & Hjerm, 2015), trust in the

government (Bruch & Soss, 2018), support for the European Union (Beaudonnet, 2015), and interpersonal trust (Kumlin & Rothstein, 2005).

While the study of different outcomes has improved our understanding of the implications of public policies, it also provides direct challenges for the concept of policy feedback. More specifically, as will be outlined in the next section, if the outcome is not related to political participation or the support for the policy being studied, it is not intuitively clear from the theory how the feedback effect will matter for a defining feature of policy feedback, namely future policymaking (i.e., the feed*back* mechanism).

Themes in the Policy Feedback Literature

In the policy feedback literature, scholars devote significant attention to at least four overarching themes. First, whether policies do actually have feedback effects. This will be the primary focus of the quantitative review. Second, when there is an effect, whether it is a positive or negative feedback effect. Third, whether the personal proximity to a policy matters for policy feedback effects. Fourth, and related, how policy feedback effects might be conditional upon individual and contextual characteristics. Accordingly, the review will devote attention to the policy feedback studies in relation to the four themes.

There is a lot of research on whether feedback effects are positive or negative (Weaver, 2010). However, the key challenge for the literature is distinct understandings and definitions of both positive and negative feedback effects. First, for the definitions, Jacobs and Weaver (2015) outline how policy feedback effects within a historical institutionalist approach are positive when they lead to stability (a self-reinforcing mechanism), and within a punctuated equilibrium approach are negative when they lead to policy stability. Noteworthy, in both approaches, is that the direction of policy feedback effects refers to the direction of the mobilization (such as more or less support for a policy), but not necessarily the fate of the policy. Second, for the understanding in relation to the outcomes being studied, positive and negative feedback effects are often studied in relation to different types of outcomes, some of which are difficult to connect to the concept of policy feedback.

In the literature, negative feedback effects are often studied in relation to the short-term dynamics of spending preferences. Here, feedback effects counterbalance and undermine support for specific policies. In the political science literature interested in the policy-opinion linkage, the negative feedback mechanism is in particular used in relation to relative preferences, where the "negative feedback of policy on opinion is the crux of the thermostatic model" (Wlezien & Soroka, 2012, p. 1409). However, over time, policy feedback effects can also be negative. Fernandez and Jaime-Castillo (2013) describe how policies can have unforeseen consequences resulting in less support for such policies. In a similar vein, Jacobs and Weaver (2015) argue that policies can have unanticipated losses, also undermining the support for such policies. Last, in the domain of political participation, Campbell (2012) describes how policy experiences can undermine rather than enhance political participation.

Positive feedback effects, on the other hand, are reinforcing effects. Most notably, Pierson (2000) theorizes how policies have self-reinforcing effects due to increasing returns. Such positive feedback effects are rooted in the historical institutionalist perspective and are often studied in relation to long-term processes. For that reason, positive and negative feedback effects do not necessarily work against each other but can work within different timespans. This puts specific methodological demands to scholars, namely that we rely on data that takes policy dynamics over time into account. However, as will be documented below, most policy feedback studies rely on cross-sectional data with no temporal variation.

Importantly, to understand whether policies can reinforce or undermine the support for the policies being studied, there must be a direct causal link between the policy and the outcome. This is crucial when studies look at policy feedback effects on outcomes where the implication for the policy itself is unclear. For some studies in the policy feedback literature, it is not possible to determine whether the findings are in line with a positive or negative feedback effect. Specifically, often studies do not specify how a change in the public will matter for subsequent iterations of the policy. Nagayoshi and Hjerm (2015), for example, study how labor-market policies matter for anti-immigration attitudes, but if peoples' anti-immigration attitudes change, it is unclear from the theoretical framework how this can feed *back* to labor-market policies. The theoretical disconnect between an outcome and the policy being studied makes it difficult to interpret whether a feedback effect is undermining or reinforcing the support. In other words, unless there is an explicit theoretical link in which an outcome can potentially matter for the survival of a policy, it is not possible to make inferences about the direction of the policy feedback effect.

Next, an important theme in the policy feedback literature is the focus on proximity, i.e., the public's relation to the policy under study (Larsen, 2018; Soss & Schram, 2007). Proximate experiences are direct and personal, whereas less proximate experiences are through channels such as the local context, social networks, and the mass media. Soss and Schram (2007) operate with a continuum of proximity in which the expectation is that the more proximate a policy is, the greater the likelihood that the policy will have an effect on the outcome of interest. Proximity, in the literature, is often studied by focusing on either micro-level or macro-level features of policies (Kumlin & Stadelmann-Steffen [2016]). More specifically, some studies use policy information on the micro level, usually with measures on whether a respondent in a survey has a relation to a policy, whereas other studies in comparative settings connect macro-level policy indicators to survey responses (e.g., government expenditure data).

Last, while policies might have direct feedback effects on the public, policies can also interact with other characteristics in shaping feedback effects. Thus, an important theme in the literature is understanding the conditioning nature of policies on mass publics. Overall, there are two possible pathways. The first is related to how policies have heterogeneous feedback effects (see Lerman & McCabe [2017] for a recent example). More specifically, the impact of a policy on one group might differ systematically from the impact of the same policy on another group. The second is

related to how policies shape the relations between specific factors, often at the individual level, and the outcome of interest (see Gingrich [2014] for a recent example). The common feature in these studies is the acknowledgment that policy feedback effects are complex phenomena where policies interact with other features in shaping an outcome.

Overview of Studies Included in the Survey

The review of the literature is conducted through three steps. The first step is to define, identify, and collect the relevant studies. This process consists of specifying the criteria that define the studies relevant for the review. The second step is to code the studies according to the coding scheme. The third step is to aggregate information acquired from the studies in order to identify results and themes in the literature.

To identify the studies of interest, I use four criteria a study should conform to. First, the study should be explicitly interested in the impact of *specific* policies on mass publics. This means that studies interested in how general social, cultural, economic, or/and political regimes relate to mass publics are excluded, e.g., studies focusing on ideological/welfare regimes (Alesina & Fuchs-Schündeln, 2007; Larsen, 2008; Svallfors, 2010). To be of interest in this context, a study should cite or mention policy feedback studies in relation to the theoretical framework. Thus, the study is relevant if the policy feedback framework is used to motivate or theorize an expectation about the impact of *specific* policies. This can in some cases be less clear if policy feedbacks are not mentioned explicitly, but key citations are provided in relation to the theory, e.g., references to Campbell (2012), Mettler (2002), or Soss and Schram (2007).

Second, the review is limited to published journal articles and book chapters. Note that the goal of the quantitative review is not to make inferences about unpublished studies, e.g., working papers, policy briefs, and conference presentations. Books are not included in the review for three reasons. First, results from articles are often reproduced in books and vice versa. This can lead to arbitrary choices in the inclusion of books and articles. Second, as described in detail below, the procedure of finding studies in a systematic manner favors research articles over books, resulting in potential biases due to the less systematic process of collecting books. Third, and related to the less systematic collection process, identifying and selecting empirical results in books are associated with substantial practical and methodological constraints.

Third, the study needs to include at least one numerical and statistical test against a null hypothesis. Hence, the review does not consider studies with no numerical information on the statistical tests. Lynch and Myrskylä (2009), for example, report several statistical tests, but only include the sign of the coefficient with no information about the size of the coefficient. Furthermore, qualitative research (e.g., ethnographic studies, in-depth interviews) on policy feedback effects on the public, while crucial for our understanding of policy feedback dynamics, is not included in

the review. This means, for example, that the quantitative analysis in Soss (1999) is included in the review, but not the results from the qualitative interviews.

Fourth, the analysis should use and analyze individual-level data. This means that studies interested in macro-level outcomes (such as the aggregate turnout in an election, aggregate policy responsiveness, and aggregate support for a political party) are not included. Furthermore, studies using aggregated data based on individual-level data are not included (e.g., Breznau, 2017; Larsen, 2008; Soroka & Wlezien, 2004; Soss & Keiser, 2006).

To find the studies of interest, I used three methods: searches in bibliographic databases, citation searches, and personal requests. First, I used several distinct search keywords at Google Scholar and Web of Science (see Appendix B in supplementary material for the keywords). Second, for the initial set of studies included in the review from the database searches, all references in and citations to each of the studies were checked. Third, based on the list of studies, personal contacts were asked to evaluate the studies on the list and make suggestions for studies that could be relevant to the list. Overall, this procedure provided 65 relevant studies. This is noteworthy, as a large amount of the studies are published over the recent years, most of them have not been reviewed in the narrative reviews on policy feedback effects (see Appendix A in supplementary material for the overlap).

For each study, I first coded the author(s), publication year, and the type of data (cross-sectional, experimental, time series, panel). To obtain as much information from each study as possible, the unit of analysis is the policy feedback effect (often in the form of a coefficient in a regression table). Since most studies are interested in multiple effects (e.g., multiple policies or/and multiple outcomes), I coded all effects that are interpreted as effects of a policy on the individual-level outcome variables of interest. For each effect I coded the policy, outcome, the feedback effect parameter (e.g., coefficient), standard error, descriptive statistics for the policy and outcome (standard deviations, minimum values, and maximum values), estimation method, sample size and table, as well as page number. In some cases, not all information was available, especially for the standard errors (or similar uncertainty measures), and some parameters was recalculated manually (e.g., odds ratios to coefficients). Furthermore, the standardized regression coefficients were coded as well when reported in the study. Next, the policy domain (social policy, education, health care, other) and interpretation of the result was coded.

For the last part of the coding, information was collected related to the specific themes in the policy feedback literature outlined above. First, whether it is a significant policy feedback effect. Second, when possible, whether the effect was in line with a positive, negative, or no feedback mechanism as interpreted in the article (self-reinforcing effects being positive, undermining effects being negative). If it was not possible to code this information for the effect, this was coded as missing.

Second, whether there was variation in the study on the proximity between the individual and the policy, i.e., whether there was measures on personal experiences with the policy of interest or not. This variable captures information on whether the study was interested in personal experiences with policies (micro-level information

on policy) or general macro experiences with policies (macro-level information on policy), i.e., mass publics being part of a political context with a specific policy.

Third, whether the study examined the conditional nature of policy feedback effects. This is coded as parameter heterogeneity. This is any condition, contextual or individual, that interacts with the policy in shaping a policy feedback effect. For the coding procedure followed for all variables in the review, see Appendix C in supplementary material. For information on the studies initially collected but not included due to the criteria described in the coding procedure, see Appendix E in supplementary material.

Table 1 provides information on the studies in the review, i.e., the policy; the outcome; and, if relevant, the conditioning feature. An extended version with additional information on the policy issue, the data type, and the context for the study is available in Appendix D in supplementary material. For the domains, a majority of the studies are interested in social policies or policies within other domains of the welfare state such as education and health care.

The 65 studies provide a total of 578 policy feedback effect estimates. It was possible to code whether the policy was related to a personal experience with the policy for all effects. Around 40 percent of the effects are interested in personal experiences with policies. For conditional policy feedback effects, it was also possible to code all estimates according to whether they were related to a direct estimate of a policy feedback or a conditional policy feedback effect. For the direction, it was possible to indicate a direction (negative, none, positive) for 382 of the effects. In 451 cases, information required to calculate a test statistic was available. In 94 cases of the direct effects, and as described below, there was information to calculate standardized effect sizes based on the regression coefficients (for descriptive statistics on all measures, see Appendix F in supplementary material).

Results: Outcomes in Policy Feedback Studies

For the outcomes studied in the literature, a majority examines attitudes toward policies or patterns of political engagement. For political engagement, studies often use an index of political participation (Flavin & Hartney, 2015) or measures related to political efficacy (Watson, 2015). For policy attitudes, the outcomes are closely related to the policy that is studied.

Figure 1 shows how the outcomes differ between domains for all policy feedback effects. First, for education, a majority of the outcomes are related to political engagement, such as how educational benefits matter for political participation (Mettler, 2002), but also with attention to how education policies matter for social policy attitudes (Busemeyer, 2013). Second, in the domain of health care, the focus is almost exclusively on social policy attitudes (Bendz, 2015; Jordan, 2010). In one of the exceptions, Kumlin and Rothstein (2005) study how perceptions of health-care treatment matter for interpersonal trust. Interestingly, recent studies are using health-care reforms in the United States to study policy feedback effects on political engagement (Clinton & Sances, 2018) and policy attitudes (Hopkins & Parish, forthcoming).

Table 1. Overview of Studies, Policies, Outcomes, and Conditions

Study	Policy	Outcome	Condition
Anderson (2009)	Labor-market policies	Social ties (*multiple*)	Labor-market insider/outsider
Banducci et al. (2016)	Family policy	Government policy attitudes	Parenthood
Barabas (2009)	Private investment account program	Support for privatization policies	
Barnes and Hope (2017)	Means-tested public assistance	Political socialization	
Beaudonnet (2015)	Welfare efficacy	Support for the European Union	*Multiple*
Bendz (2017)	Privatization option	Attitudes toward health-care privatization	Ideology
Bendz (2015)	Privatization reform	Attitudes toward health-care privatization	Ideology and health
Bruch et al. (2010)	Government assistance	Political engagement	
Bruch and Soss (2018)	School experiences	Political engagement and government trust	
Busemeyer (2013)	Private share in education funding	Attitudes toward redistribution	Education
Busemeyer and Iversen (2014)	Public share of education spending	Attitudes toward government spending on education	Income
Busemeyer and Neimanns (2017)	Childcare and unemployment benefits	Government responsibility	Parent status and unemployment
Chattopadhyay (2017)	Dependent coverage provision	Policy support and political engagement	
Davenport (2015)	Policy-induced risk	Political participation	Town casualty
Dellmuth and Chalmers (2018)	EU spending	Support for the EU	Regional need
Fernandez and Jaime-Castillo (2013)	Pension policy attitudes (e.g., generosity)	Attitudes toward increasing contributions to the pension system	
Flavin and Griffin (2009)	*Multiple*	Policy preferences	Policy winner or loser
Flavin and Hartney (2015)	Bargaining laws	Political participation	Teacher
Fleming (2014)	School voucher program	*Multiple*	
Garritzmann (2015)	Education expenditures	Attitudes toward financing students from low-income families	
Gingrich (2014)	Tax design and welfare visibility	Right-wing party vote	Redistribution preferences
Gingrich and Ansell (2012)	Employment protection legislation and single-payer system	Government spending attitudes	Education and skill specificity
Guo and Ting (2015)	Social insurance coverage	Political participation	
Haselswerdt (2017)	Medicaid beneficiary	Political participation	Change in Medicaid recipients
Haselswerdt and Bartels (2015)	Tax expenditure policy tool	Approval of social programs	*Multiple*
Hedegaard (2014)	Proximity to welfare recipient	Social policy preferences	
Hedegaard and Larsen (2014)	Proximity to welfare recipient	Social policy preferences	
Hern (2017a)	Policy access	Political participation	
Hern (2017b)	Government project access	Political participation	
Hetling et al. (2008)	Welfare reform	Attitudes toward welfare recipients	Reform awareness
Im and Meng (2016)	*Multiple welfare policies*	Attitudes toward government responsibility	
Jordan (2010)	Hierarchical health care system	Attitudes toward government responsibility	Class occupation
Jordan (2013)	Welfare policy generosity	Government responsibility for welfare	
Kotsadam and Jakobsson (2011)	Prostitution law	Attitudes toward prostitution	Age and geography

Table 1. (*Continued*)

Study	Policy	Outcome	Condition
Kreitzer et al. (2014)	Same-sex marriage legalizing	Support for same-sex marriage	
Kumlin (2011)	Social policy generosity	Satisfaction with democracy	Unemployment rate
Kumlin (2014)	Welfare policy information	Performance evaluation	
Kumlin and Rothstein (2005)	Needs-tested policies	Interpersonal trust	
Larsen (2018)	Retrenchment reform	Government support	Education status
Lavery (2014)	Policy information design	Political knowledge and engagement	
Lavery (2017)	Policy information	Political engagement	
Lerman and McCabe (2017)	Public insurance	Support for health-care policies	Partisanship and generalized political knowledge
Lindh (2015)	Private funding and public employment	Support for market distribution of services	Labor market position
Lü (2014)	Policy benefit	Attitudes toward government responsibility and trust in government	Policy awareness
MacLean (2011)	Public schools and clinics	Political participation	
Maltby (2017)	Jail ratio	Political attitudes and participation	Education
Mettler (2002)	Educational benefits	Political participation	Childhood characteristics
Mettler and Stonecash (2008)	Means-tested programs	Political participation	Age group
Mettler and Welch (2004)	Educational benefits	Political participation	Education
Munoz et al. (2014)	Austerity package	Political engagement	Public-sector worker
Nagayoshi and Hjerm (2015)	Labor market policies	Anti-immigration attitudes	Long-term unemployment
Pacheco (2013)	Smoking legislation	Attitudes toward smoking and smokers	
Raven et al. (2011)	Welfare state spending	Preferences for social security spending	
Rhodes (2015)	Education policies	Political engagement	
Schneider and Jacoby (2003)	Public assistance	*Multiple*	
Shore (2014)	Social benefits	Political engagement	Income
Soss (1999)	Social policies (AFDC and SSDI)	Political engagement	Education and geography
Soss and Schram (2007)	Welfare reform (TANF)	*Multiple*	Spending preferences and perceptions of ethnic groups
Sumino (2016)	Share of taxes in household income	Support for taxation	Income
Swartz et al. (2009)	Social policy assistance	Political engagement	
van Oorschot and Meuleman (2014)	Unemployment policies	Perception of deservingness of the unemployed	Income
Watson (2015)	Conditional benefits recipient	Political engagement	State cash/means-tested
Weaver and Lerman (2010)	Contact with the authorities	Political engagement and political trust	
Zhu and Lipsmeyer (2015)	Privatization of health-care responsibility	Support for increasing government health-care spending	Unemployment risk
Ziller and Helbling (2017)	Antidiscrimination laws	Public administration evaluation, political trust, and democratic satisfaction	Discrimination and egalitarian values

Note: See Appendix C in supplementary material for additional information for each study.

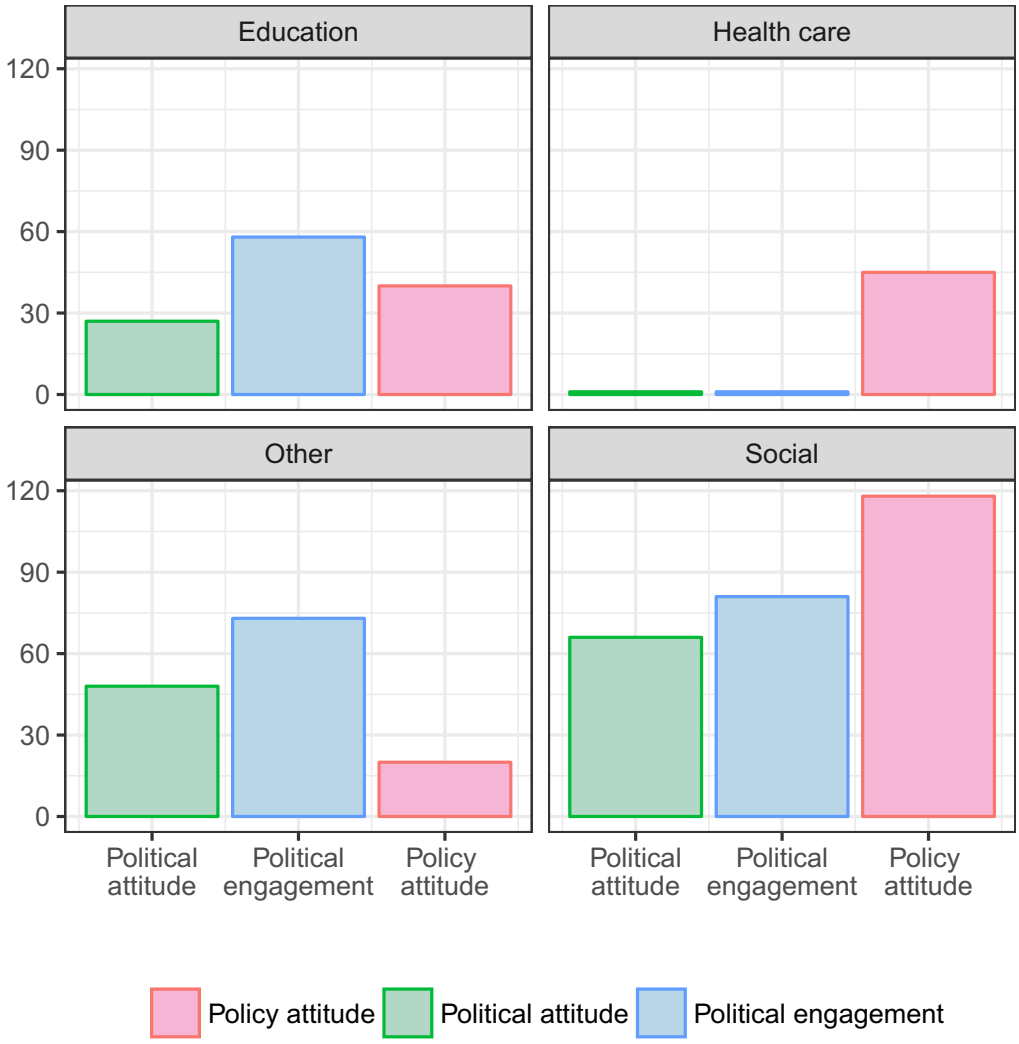

Figure 1. Outcomes Studied in the Policy Feedback Literature.

Third, in the domain of social policies, quite unsurprisingly, a great number of policy feedback effects are interested in social policy attitudes (e.g., Im & Meng, 2016), but we also see studies interested in political engagement (Bruch, Ferree, & Soss, 2010) and general attitudes, such as satisfaction with democracy (Kumlin, 2011).

In sum, the policy feedback literature pays attention to different outcomes within different policy domains. However, not all outcomes are studied to the same extent, and future research should focus on the generalizability of the effects within one domain to other domains.

Results: Policy Feedback Effects Sizes

To examine the results in the literature, Figure 2 shows the distribution of test statistics. The value of 1.96 is the test statistic for obtaining a two-sided *p*-value of 0.05. This is the statistical threshold used for finding a significant result in most of the

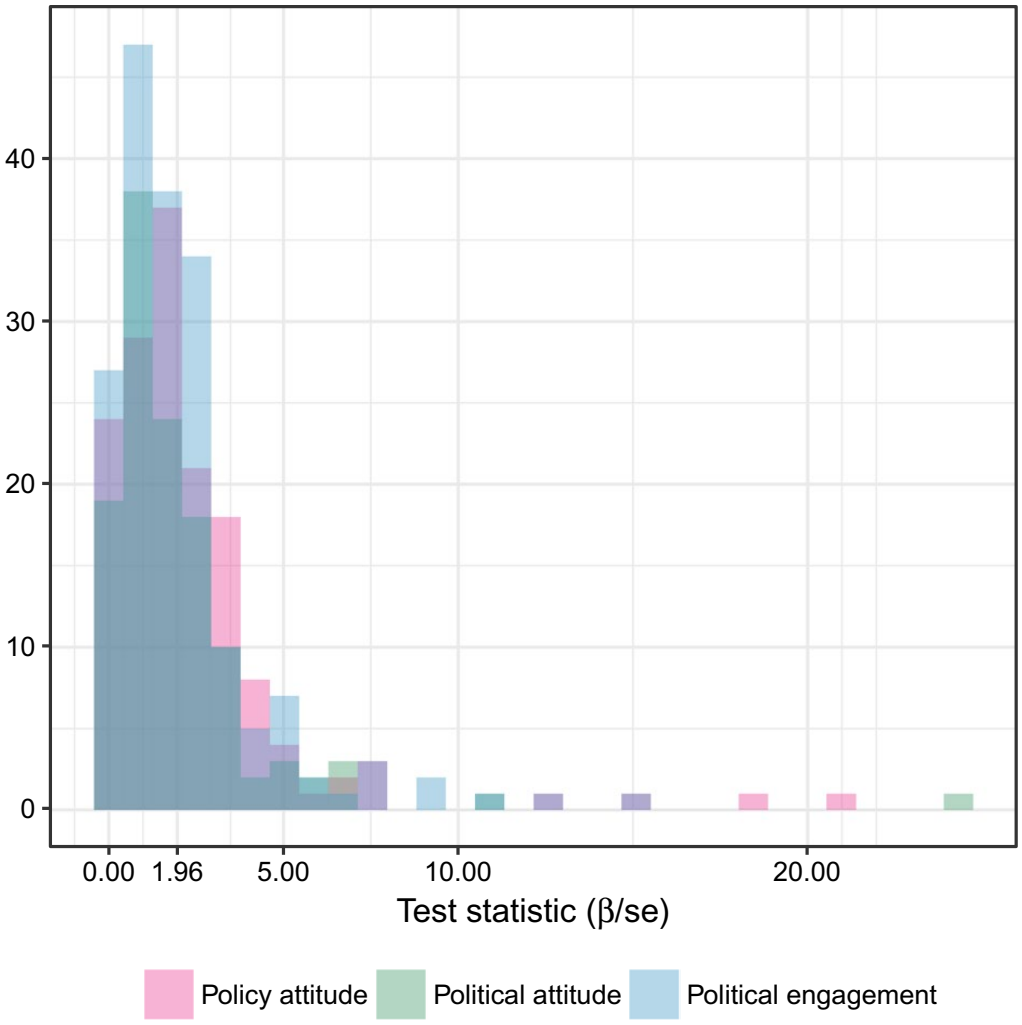

Figure 2. Test Statistics in Policy Feedback Studies.

policy feedback studies. Interestingly, a majority of the effect estimates are insignificant at the 0.05 level. The median value of the distribution is 1.62, indicating that a majority of the effects are insignificant at the 0.1 level as well.

As we can see, in terms of the different outcomes, there is evidence on both significant and insignificant studies for all outcomes. This echoes the conclusions made in the qualitative reviews. Overall, the distribution of test statistics tells us that the literature finds mixed evidence for the impact of policies on mass publics. Hence, there is some evidence for the existence of policy feedback effects on mass publics, but it is also clear that policies do not always shape public outcomes.

Consequently, I will examine systematically *when* such policy feedback effects are more likely to occur in the literature. To examine the effects of policies, I calculated a metric-free measure of the effects in the studies, i.e., standardized effect sizes. As most quantitative feedback studies rely on ordinary least squares (OLS) regression, I used information on the regression coefficients in the models and the standard deviations of the key variables to standardize the reported results. While not perfect it provides a useful indicator of the effect sizes in the literature relevant

for future studies interested in comparing the obtained effects with similar effects in the literature. For more information and a discussion of using standardized regression coefficients in meta-analyses, see Peterson and Brown (2005).

The information required to produce such measures was not present in all studies. Furthermore, standardized effect sizes based on interaction terms provide no meaningful interpretation and were not included. In sum, as described above, it was possible to calculate 94 effect size measures.

Figure 3 shows the distribution of the effect sizes. The average standardized effect size is 0.13 with the greatest effect size being 0.73. Whether an effect is substantially interesting, e.g., practically significant, is often conditional upon the context of the study, but the figure makes it possible to discuss how findings within the policy feedback literature, and in future studies, relate specific effects to the overall effect sizes established in the literature.

A standardized effect size of 0.13 is not large, and this points to the fact that policies often have limited effects on the public. Importantly, future research should devote attention to not only why policies matter for mass publics, but also why

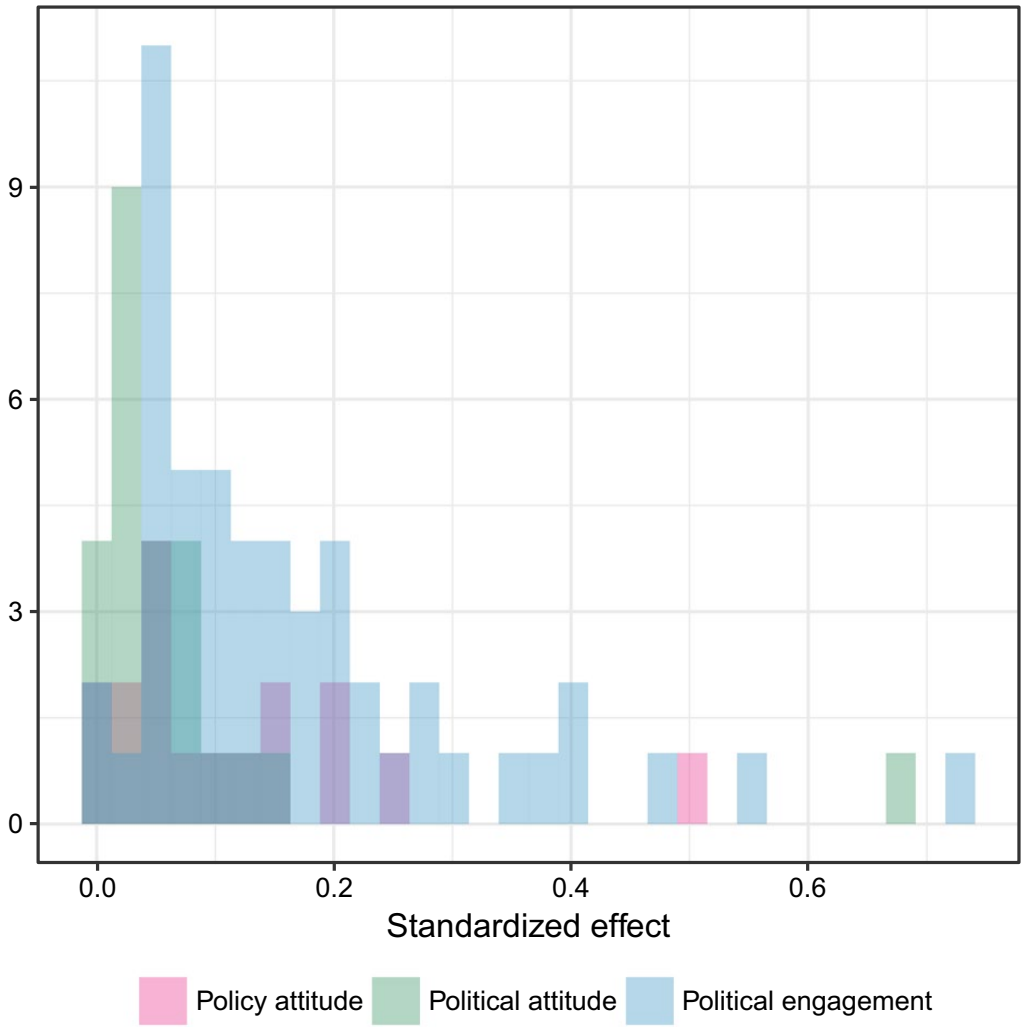

Figure 3. Effect Sizes in Policy Feedback Studies.

policies have no or limited feedback effects. Lerman, Sadin, and Trachtman (2017), for example, show that partisanship is affecting whether people are having experiences with certain policies. This illustrates one way in which other factors can crowd out or mitigate policy feedback effects.

In her review of the literature, Campbell (2012) argues that the findings related to political participation have been more consistent. To test this, i.e., whether the effects are greater for outcomes related to political engagement and involvement, the standardized effect size was regressed on the outcome being studied in the literature. Table 2 provides the results from six models. The first three models are OLS regressions with the effect size regressed on the outcomes (model 1), with the inclusion of issue (model 2) and proximity (model 3). Models 4, 5, and 6 build on the same procedure but in random effects multilevel models with effect sizes nested within individual studies.

Across all models, we find greater policy feedback effects for outcomes related to political participation than political attitudes. In other words, policies seem to have a greater effect in the published literature when related to outcomes that matter for citizens' level of engagement in and with politics. There is no evidence that the feedback effects are greater in different policy domains or when the policies are proximate.

Table 2. Determinants of Effect Sizes in Policy Feedback Studies

	OLS	OLS	OLS	ML, RE	ML, RE	ML, RE
Outcome: Participation	0.10***	0.13***	0.12***	0.09**	0.09**	0.09*
	(0.03)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)
Outcome: Policy attitude	0.05	0.06	0.06	0.03	0.04	0.04
	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Issue: Education		−0.05	−0.02		−0.03	−0.02
		(0.05)	(0.06)		(0.07)	(0.08)
Issue: Social		0.01	0.04		0.04	0.05
		(0.04)	(0.05)		(0.05)	(0.06)
Issue: Health care		−0.07	−0.02		−0.06	−0.03
		(0.11)	(0.12)		(0.12)	(0.14)
Proximity: Personal			−0.04			−0.02
			(0.04)			(0.05)
Constant	0.07**	0.07*	0.07*	0.09***	0.08*	0.08*
	(0.03)	(0.04)	(0.04)	(0.03)	(0.05)	(0.05)
Observations	94	94	94	94	94	94
R^2	0.08	0.11	0.12			
Adjusted R^2	0.06	0.06	0.06			
Log Likelihood				47.03	42.78	40.85
AIC				−84.07	−69.56	−63.71
BIC				−71.35	−49.22	−40.82

Note: The dependent variable is the effect size in the respective study. The reported regression coefficients are unstandardized. The first three columns are OLS regressions and the last three from multilevel models with random effects at the study level. The baseline category for outcomes is political attitudes. The baseline category for issues are issues not related to education, social, and health-care policies. AIC, Akaike information criterion; BIC, Bayesian information criterion. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

In sum, these results reflect positively on the conclusions made in the qualitative reviews and add quantitative evidence on how large the effects are in the published literature. However, the fact that it was not possible to calculate standardized effect sizes for all effects shows that future research should devote more attention to reporting and interpreting effect sizes. Specifically, future studies should provide sufficient information to evaluate the practical significance of policy feedback effects.

Results: Policy Feedback Directions

Figure 4 shows the direction of the policy feedback effects where it was possible to make an interpretation of the direction. For these effects, information was coded on whether the evidence was in line with negative feedback effects, no feedback effects, or positive feedback effects.

The figure shows that positive feedback effects are often found on social policy attitudes. In other words, social policies more often increase social policy support than undermine the support. However, as was also shown in Figures 2 and 3, there is a large proportion of the feedback effects that simple shows no feedback effect.

As noted above, due to the possibility that policies can have positive and negative feedback effects at different times, it is important to keep in mind that most policy feedback studies rely on cross-sectional data with no attention to or variation in the timespan. Figure 5 shows the data sources used in the studies. This is interesting, as policy feedback effects often presume a process, or as Gusmano, Schlesinger, and Thomas (2002) argue, "policy feedback would be assessed using longitudinal data on public opinion that could be sequenced with policy interventions" (p. 736).

While it is possible in some cases to read the individual results and make interpretations on whether the specific result is in line with one theory or another, it tells us little about how policies affect the public at different time spans, which is crucial if we are to understand how and when policies have positive and negative feedback effects. Accordingly, it is vital that future research engage in addressing policy feedback effects over time with appropriate research designs and data, and in particular *when* and *how* policies have positive and negative feedback effects.

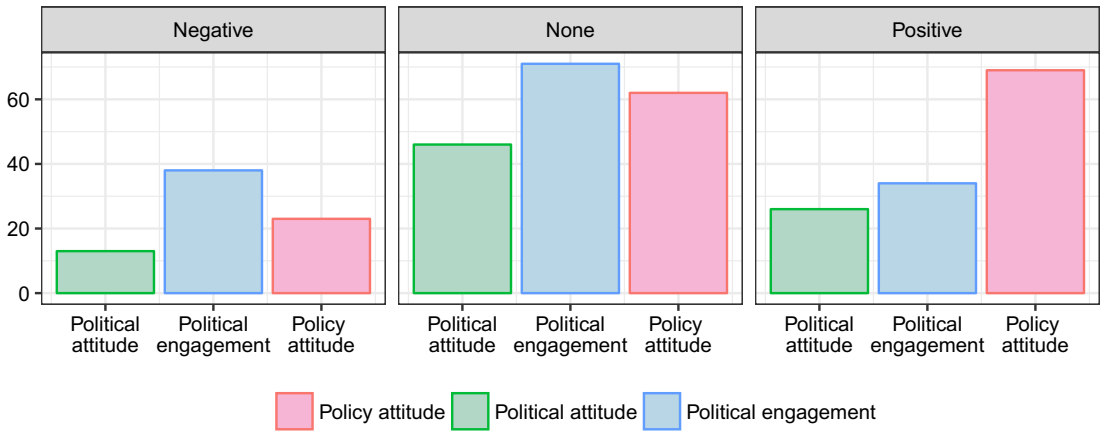

Figure 4. Positive and Negative Feedback Effects in the Literature.

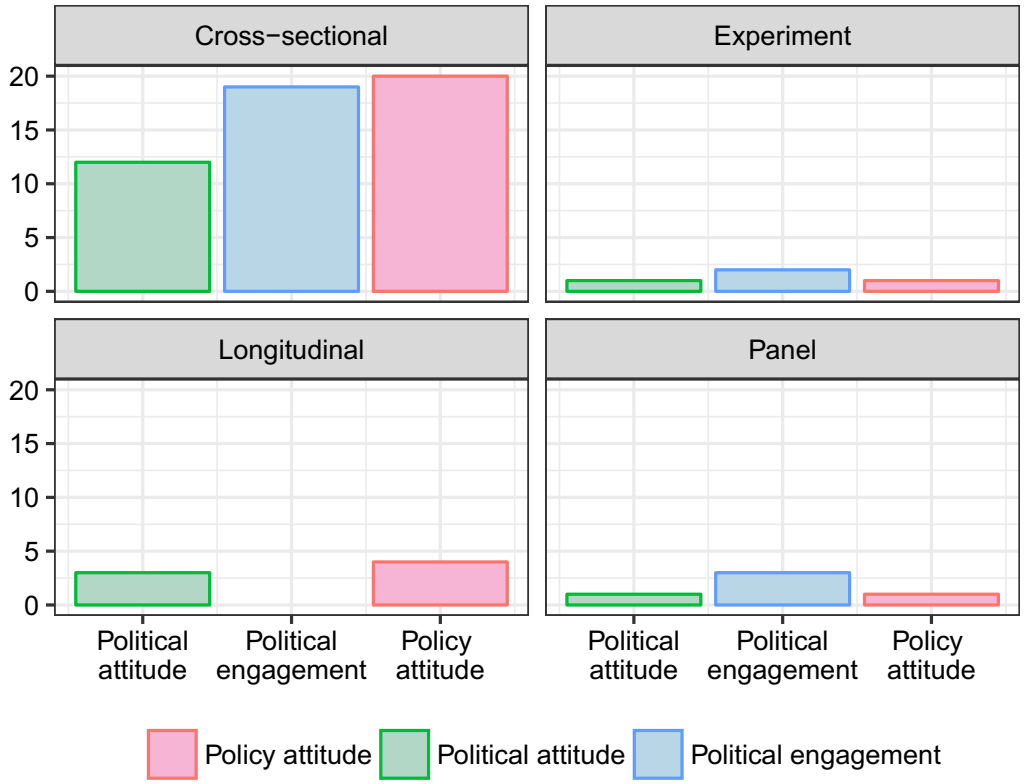

Figure 5. Types of Data Used in Policy Feedback Studies.

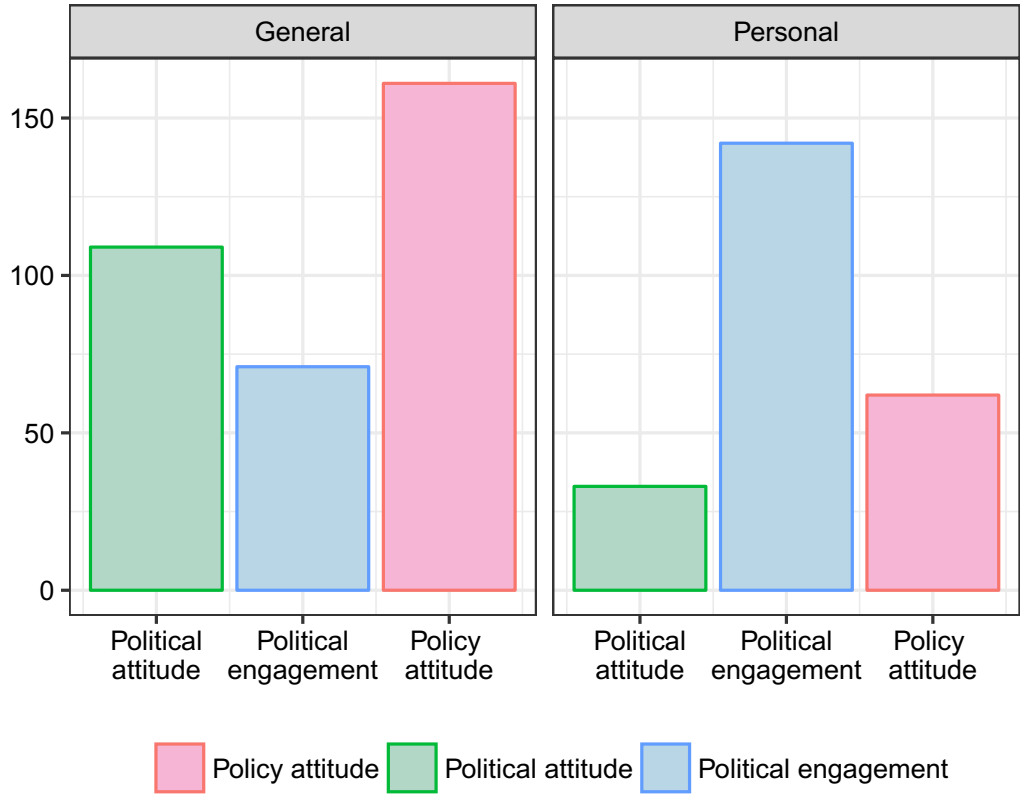

Figure 6. Proximity and Policy Feedback Effects.

Results: Proximate Policy Feedback Effects

Figure 6 shows that scholars have focused on both personal and general policy feedback effects. Interestingly, there are differences in what types of outcomes scholars study for different types of proximity. Studies looking at political engagement are more likely to measure individual-level experiences with such policies, whereas studies looking at attitudes are more likely to look at attitudinal outcomes.

As noted above, there is no evidence that policy feedback effects are stronger when studied as proximate experiences. However, this might be due to the fact that there has been a limited focus on actually measuring changes with personal experiences with policies, e.g., using panel data (Watson, 2015). This limitation in the literature calls to be addressed as few policy feedback studies are able to link actual changes in policies to the personal experiences people have with such policies.

Last, policies can have both direct and indirect effects on the public. In the literature, conditional and indirect feedback effects are often estimated with interaction terms in regression analyses. However, some studies, while not in a formal test, examine the conditional impact of policies as well, primarily in subsample analyses (e.g., Anderson, 2009; Flavin & Hartney, 2015; Hetling, McDermott, & Mapps, 2008; Mettler & Stonecash, 2008).

Overall, as can be seen in Table 1, the studies in the review are interested in different characteristics that might interact with policies in shaping feedback effects. Several studies are interested in factors related to the importance of the visibility of policies (Mettler, 2011), as policies differ in the extent to which they are salient to mass publics (Soss & Schram, 2007). Gingrich (2014), for example, shows how the visibility of welfare policies conditions the impact of redistribution preferences on party choice. Mettler (2002) shows that the information and meaning policies provide citizens affect their propensity to participate in politics, and more specifically that the G.I. Bill of Rights, a program providing different social benefits, increased participation in lower socioeconomic groups.

While almost all conditioning characteristics are measured at the individual level, there are some noteworthy examples on how policies interact with features of the political environment in shaping mass publics. Davenport (2015), for example, focuses on how experiences with military policies interact with town casualties in shaping political participation. In the domain of the welfare state, Kumlin (2011) is interested in how social policy generosity interacts with the unemployment rate in affecting satisfaction with democracy. These studies show a promising direction within the literature in understanding the complex environment in which policy feedback effects are shaped. Accordingly, as the review has showed that policies often have limited effects on mass publics, future research should pay close attention to testing the mechanisms of different micro- and macro-level characteristics in shaping policy feedback effects.

Concluding Remarks

In contemporary democracies the public matter for the design of policies, as public support is decisive for the survival of both policies and politicians. For that reason, a large body of research is interested in understanding how policies have feedback effects on the public's political attitudes and behavior. The field interested in policy feedback effects has provided insights on the dynamics between polices and public opinion, but scholars interested in how policies matter for citizens are often left with scattered findings, and even more important, no systematic overview of how large policy feedback effects are.

The review presented here aims at providing a systematic overview of the impact of policies on the public. In any field of scientific research, it is important to evaluate the body of research and identify overall themes, results, and directions for future research beyond the scope of a traditional literature review. A single study, while important, is of little relevance in and by itself, and the cumulative enterprise of scientific research requires that we evaluate the overall body of research in a systematic manner.

The points raised in this review confirm and expand the conclusions made in narrative reviews. This speaks to the validity of the different reviews as the quantitative review offers a supplementary and distinct basis for evaluating policy feedback effects. Last, the unique estimates on how large policy feedback effects are provides a basis for a more nuanced discussion of how and when policies have—and do not have—feedback effects on mass publics. Note that policies do not have as large effects on the public as often presumed and future research will have to understand how and when we see such effects.

Accordingly, the focus on over 60 empirical studies interested in policy feedback effects on the public points to relevant avenues for future research. First, and most important to be asked in future research, why do policies often have no feedback effects? Second, *when* do policies have positive and negative feedback effects? Third, what dynamics in the public interact with policies in creating policy feedback effects? All of these questions relate to the causal mechanisms linking policies to the public.

Public opinion is only one aspect that is important for the design of public policy (Burstein, 2018). Similarly, it is no surprise that policy feedback is not the only explanation for a policy-opinion linkage. Consequently, we need to study the different ways in which mass publics interact with policies in a broader framework where policy feedback is one among other factors. Despite the mixed findings in the policy feedback literature, the policy feedback literature has a strong theoretical potential to integrate such insights and help understand the complex dynamics between policies and the public.

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

APPENDICES

Policy Feedback Effects on Mass Publics: A Quantitative Review

A: Review of reviews

The review is not the first of its kind to review the literature interested in the relation between public policies and public opinion. On the contrary, multiple pieces have focused on different aspects of how policies and public opinion are connected. Table A.1 provides an overview of the key reviews interested in policy-opinion dynamics.

Table A.1: Review of reviews, policy-opinion dynamics

Review	Focus	Description	Study overlap
Béland (2010)	Policy feedback	Essay on the concept of policy feedback.	6/65 (9%)
Burstein (2003)	Policy responsiveness	Systematic review of studies interested in the impact of public opinion on policy.	0/65 (0%)
Campbell (2013)	Policy feedback	Qualitative review of policy feedback effects on public opinion.	8/65 (12%)
Druckman (2014)	Policy responsiveness	Essay on the structure of public opinion and its implications for policy responsiveness.	1/65 (2%)
Kumlin and Stadelmann-Steffen (2016)	Policy feedback	Introduction to issues and studies in the literature on policy feedback effects on mass publics.	3/65 (5%)
Manza and Cook (2002)	Policy responsiveness	Essay on different theories of how public opinion matter for policies.	0/65 (0%)
Mettler and Soss (2004)	Policy feedback	Review on how policies matter for democratic citizenship.	3/65 (5%)
Mullinix (2011)	Public opinion	Essay on policy related public opinion research	1/65 (2%)

Importantly, some reviews have focused on policy feedback effects. Béland (2010), Campbell (2013), Kumlin and Stadelmann-Steffen (2016) and Mettler and Soss (2004) all review the policy feedback literature with some attention to public responses to policies. However, as described in the main text, no review has so far provided a quantitative synthesis of the literature. Burstein (2003) provides a quantitative review of the policy responsiveness literature and discusses methodological challenges in the literature, but no evidence on policy feedback effects of any kind. In addition, Druckman (2014) and Manza and Cook (2002) also reviews the policy responsiveness literature. Last, Mullinix (2011) provides an essay interested in broad trends in the literature on policy related public opinion.

To illustrate the contribution of the review presented in the main text, the fourth column present the number of studies cited in the individual reviews also included in this review. As can be seen, Campbell (2013) presents the greatest overlap with 13% of the studies cited in her review of the policy feedback literature. Overall, the studies included in the review in the main text has not been reviewed in previous overviews of the literature. The reason for this is not that previous reviews have overlooked a significant body of literature, but that there has been an increase in policy feedback studies interested in public opinion, especially within the last five years.

B: Online search keywords

policy feedback, political attitudes; policy feedback, political behavior; policy feedback, political participation; policy feedback, public opinion; feedback effects, political attitudes; feedback effects, political behavior; feedback effects, political participation; feedback effects, public opinion.

C: Coding rules for studies

1. Is it a published empirical study on interested in policy effects on mass publics?
    a. Yes: continue to item 2
    b. No: continue to next study
2. Is there any mentions of policy feedbacks effects or citations to policy feedback studies?
    a. Yes: continue to item 3
    b. No: continue to next study
3. Is there at least one effect estimate that report the effect of a policy on an individual-level outcome?
    a. Yes: continue to item 4
    b. No: continue to next study
4. Provide the study with a unique ID
5. Report study information
    a. Author(s)
    b. Publication year
    c. Data type
6. Identify the numbers of coefficients that is related to an effect of a policy on the outcome variable(s)
7. For each coefficient report the
    a. Table and page number
    b. Issue (policy domain)
    c. Policy (independent variable)
    d. Outcome (dependent variable)
    e. Proximity (variation in personal experiences with policy)
    f. Conditionality (parameter heterogeneity, yes/no)

g. Direction
    i. None: No statistically significant effect or meaningful interpretation of direction (0)
    ii. Positive: Reinforce attitudes, increase support for institutions (trust, democracy, politicians), increase support for policy or similar policies, increase political engagement (1)
    iii. Negative: Undermine attitudes, decrease support for institutions, decrease support for policy or similar policies, decrease political engagement (-1)
h. Reported N in model
i. Model estimation (OLS, logit etc.)
j. Coefficient
k. Standard error
l. Interpretation made in study
m. Minimum value of policy
n. Maximum value of policy
o. Minimum value of outcome
p. Maximum value of outcome
q. Standard deviation of policy
r. Standard deviation of outcome

8. Any relevant comments to add? (e.g. where in the text some information is from, relevant model specification choices)
    a. Yes: write a note and continue to next study
    b. No: continue to next study

D: Full version of survey table

Study	Issue	Policy	Outcome	Condition	Data*	Context	Note on reported results**
Anderson (2009)	Labour market	Labour market policies	Social ties (*multiple*)	Labour market insider/outsider	CS	16/17 countries	
Banducci et al. (2016)	Welfare	Family policy	Government policy attitudes	Parenthood	CS	28 countries	
Barabas (2009)	Health care	Private investment account program	Support for privatization policies		CS	U.S.	
Barnes and Hope (2017)	Welfare	Means-tested public assistance	Political socialization		CS	U.S.	
Beaudonnet (2015)	Welfare	Welfare efficacy	Support for the European Union	*Multiple*	CS	27 countries	
Bendz (2016)	Health care	Privatization option	Attitudes toward health care privatization	Ideology	CS	Sweden	
Bendz (2015)	Health care	Privatization reform	Attitudes toward health care privatization	Ideology and health	Longitudinal	Sweden	No standard errors reported.
Bruch et al. (2010)	Welfare	Government assistance	Political engagement		CS	U.S.	Results are reported as odds ratios and calculated to coefficients by taking the natural logarithm.
Bruch and Soss (2018)	Education	School experiences	Political engagement and government trust		CS	U.S.	Results are reported as odds ratios and calculated to coefficients by taking the natural logarithm.
Busemeyer (2013)	Education	Private share in education funding	Attitudes toward redistribution	Education	CS	20 countries	
Busemeyer and Iversen (2014)	Education	Public share of education spending	Attitudes toward government spending on education	Income	CS	20 countries	

Busemeyer and Neimanns (2017)	Welfare	Childcare and unemployment benefits	Government responsibility	Parent status and unemployment	CS	21 countries	
Chattopadhyay (2017)	Welfare	Dependent coverage provision	Policy support and political engagement		CS	U.S.	Descriptive statistics from the supplementary material.
Davenport (2015)	Military	Policy-induced risk	Political participation	Town casualty	CS	U.S.	
Dellmuth and Chalmers (2018)	EU	EU spending	Support for the EU	Regional need	CS	13 EU member states	Descriptive statistics from the online appendix. Results are reported as odds ratios and calculated to coefficients by taking the natural logarithm.
Fernandez and Jaime-Castillo (2013)	Pension	Pension policy attitudes (e.g. generosity)	Attitudes toward increasing contributions to the pension system		CS	27 European countries	Standard deviations not provided for the outcome variables.
Flavin and Griffin (2009)	*Multiple*	*Multiple*	Policy preferences	Policy winner or loser	Panel	U.S.	
Flavin and Hartney (2015)	Labour market	Bargaining laws	Political participation	Teacher	CS	U.S.	No formal interaction test between the two groups. Standard deviations obtained from the replication material.
Fleming (2014)	Education	School voucher program	*Multiple*		CS	U.S.	
Garritzmann (2015)	Education	Education expenditures	Attitudes toward financing students from low-income families		CS	17 countries	No standard errors are reported, only p-values (in most cases as 0.00). No standard deviations for the policy variables.
Gingrich (2014)	Welfare	Tax design and welfare visibility	Right-wing party vote	Redistribution preferences	CS	16 countries	
Gingrich and Ansell (2012)	Welfare	Employment protection legislation and single payer system	Government spending attitudes	Education and skill specificity	CS	18 countries	No descriptive statistics for the policy variables. No standard deviations for the outcome variables.

Guo and Ting (2015)	Welfare	Social insurance coverage	Political participation		CS	China	
Haselswerdt (2017)	Health care	Medicaid beneficiary	Political participation	Change in Medicaid recipients	CS	U.S.	
Haselswerdt and Bartels (2015)	Welfare	Tax expenditure policy tool	Approval of social programs	*Multiple*	Survey experiment	U.S.	Descriptive statistics from the replication material.
Hedegaard (2014)	Welfare	Proximity to welfare recipient	Social policy preferences		CS	Denmark	No standard errors reported. P-values are noted with a greater-than sign but should be reported with a less than sign.
Hedegaard and Larsen (2014)	Welfare	Proximity to welfare recipient	Social policy preferences		CS	Denmark	Results are reported as odds ratios and calculated to coefficients by taking the natural logarithm. No standard errors reported.
Hern (2017a)	Government service	Policy access	Political participation		CS	Zambia	Results are reported as odds ratios and calculated to coefficients by taking the natural logarithm.
Hern (2017b)	Government service	Government project access	Political participation		CS	Zambia	Results are reported as odds ratios and calculated to coefficients by taking the natural logarithm.
Hetling et al. (2008)	Welfare	Welfare reform	Attitudes toward welfare recipients	Reform awareness	Longitudinal	U.S.	
Im and Meng (2016)	Welfare	*Multiple welfare policies*	Attitudes toward government responsibility		CS	China	
Jordan (2010)	Health care	Hierarchical health care system	Attitudes toward government responsibility	Class occupation	CS	11 countries	
Jordan (2013)	Welfare	Welfare policy generosity	Government responsibility for welfare		CS	17 countries	
Kotsadam and Jakobsson (2011)	Moral	Prostitution law	Attitudes toward prostitution	Age and geography	Longitudinal	Sweden and Norway	Standard deviations are derived as the mean of the standard deviations from all the waves (reported in Table 1). As the number of observations in Norway and Sweden are comparable,

							the standard deviation for the prostitution law is assumed to be .5.
Kreitzer et al. (2014)	Moral	Same-sex marriage legalizing	Support for same-sex marriage		Panel	Iowa (U.S.)	Effect of policy is not reported in a statistical test. Based on the information available in Table 2, pre- and post-policy means are calculated on the binary dependent variable. This R code is used to get the information: test <- prop.test(c(138, 120), c(486, 486), conf.level = 0.95); effect <- test$estimate[1] - test$estimate[2]; ci <- test$conf.int[[1]]; round(effect, 3); round((effect-ci)/1.96, 3)
Kumlin (2011)	Welfare	Social policy generosity	Satisfaction with democracy	Unemployment rate	Longitudinal	11 countries	No standard errors reported.
Kumlin (2014)	Welfare	Welfare policy information	Performance evaluation		Survey experiment	Sweden	
Kumlin and Rothstein (2005)	Welfare	Needs-tested policies	Interpersonal trust		CS	Sweden	No standard errors and descriptive statistics.
Larsen (2018)	Education	Retrenchment reform	Government support	Education status	CS	Denmark	
Lavery (2014)	Education	Policy information design	Political knowledge and engagement		CS	U.S.	
Lavery (2017)	Education	Policy information	Political engagement		Survey experiment	U.S.	
Lerman and McCabe (2017)	Health care	Public insurance	Support for health care policies	Partisanship and generalized political knowledge	CS	U.S.	Descriptive statistics from the replication material.
Lindh (2015)	Welfare	Private funding and public employment	Support for market distribution of services	Labour market position	CS	17 countries	
Lü (2014)	Education	Policy benefit	Attitudes toward government responsibility and	Policy awareness	CS	China	

			trust in government				
MacLean (2011)	Welfare	Public schools and clinics	Political participation		CS	Africa	No standard errors reported.
Maltby (2017)	Crime	Jail ratio	Political attitudes and participation	Education	CS	U.S.	
Mettler (2002)	Education	Educational benefits	Political participation	Childhood characteristics	CS	U.S.	
Mettler and Stonecash (2008)	Welfare	Means-tested programs	Political participation	Age group	CS	U.S.	
Mettler and Welch (2004)	Education	Educational benefits	Political participation	Education	CS	U.S.	
Munoz et al. (2014)	Public sector	Austerity package	Political engagement	Public sector worker	Panel	Spain	
Nagayoshi and Hjerm (2015)	Labour market	Labour market policies	Anti-immigration attitudes	Long-term unemployment	CS	26 countries	
Pacheco (2013)	Smoking	Smoking legislation	Attitudes toward smoking and smokers		CS	U.S.	
Raven et al. (2011)	Welfare	Welfare state spending	Preferences for social security spending		Longitudinal	Netherlands	
Rhodes (2014)	Education	Education policies	Political engagement		CS	U.S.	Negative standard errors are coded into positive standard errors.
Schneider and Jacoby (2003)	Welfare	Public assistance	*Multiple*		CS	U.S.	
Shore (2014)	Welfare	Social benefits	Political engagement	Income	CS	26 countries	
Soss (1999)	Welfare	Social policies (AFDC and SSDI)	Political engagement	Education and geography	CS	U.S.	Standard deviations are calculated from the American National Election Study 1992.
Soss and Schram (2007)	Welfare	Welfare reform (TANF)	*Multiple*	Spending preferences and perceptions of ethnic groups	Longitudinal	U.S.	Estimates are from the supplementary material (provided via mail by Joe Soss).

Sumino (2016)	Taxation	Share of taxes in household income	Support for taxation	Income	CS	19 countries
Swartz et al. (2009)	Welfare	Social policy assistance	Political engagement		CS	U.S.
van Oorschot and Meuleman (2014)	Welfare	Unemployment policies	Perception of deservingness of the unemployed	Income	CS	23 countries
Watson (2015)	Welfare	Conditional benefits recipient	Political engagement	State cash/means-tested	Panel	U.K.
Weaver and Lerman (2010)	Crime	Contact with the authorities	Political engagement and political trust		CS	U.S.
Zhu and Lipsmeyer (2015)	Health care	Privatization of healthcare responsibility	Support for increasing government healthcare spending	Unemployment risk	CS	19 countries
Ziller and Helbling (2017)	Antidiscrimination	Antidiscrimination laws	Public administration evaluation, political trust and democratic satisfaction	Discrimination and egalitarian values	Longitudinal	21 countries

* CS = Cross-sectional. ** For information on specific tables results are from, see replication data file.

For the data sources used in the studies, there are considerable similarities between the empirical approaches. Hence, as discussed in the main text, most studies use cross-sectional data with no variation over time. Interestingly, there is an increasing interest in using panel data to study policy feedback effects (Flavin and Griffin, 2009; Watson, 2015), and there are examples of studies using an experimental approach, and more specifically using survey experiments to present people with different types of policy designs (Haselswerdt and Bartels, 2015; Kumlin, 2014). Two additional points are worth noticing. First, the data employed in the studies says little about the validity of the inferences being made. In other words, some studies using cross-sectional data have a strong design utilizing features of the data making it a natural experiment. Lerman and McCabe (2017), for example, utilize a fuzzy regression discontinuity design with cross-sectional data. Here, they use age as a threshold where the propensity of being exposed to a policy is substantially greater for people aged 65 and 66 than for those aged 63 and 64.

Second, one should keep in mind that the criteria used for the studies in the review favors specific types of studies, and time-series studies might be less likely to report statistical tests of the feedback effects being studied. That being said, future research can benefit tremendously from pursuing different empirical strategies beyond evidence from cross-sectional studies.

For the countries, there is a clear U.S. bias. A great number of the studies are interested in policy feedback effects solely within the U.S. context. This is somewhat ironic, as the policy feedback literature is especially interested in the feedback effects of welfare policies, and the U.S. is less representative with regard to welfare policies experienced in most countries, nor comparable to a traditional welfare regime. However, in multiple studies, scholars use comparative data, especially with the use of data from the International Social Survey Programme and the European Social Survey. While some of the studies focus on Western countries, there are examples of single-country studies

interested in policy feedback effects in countries such as Africa (Hern 2016, MacLean 2011) and China (Im and Meng 2015, Lü 2014).

E: Policy feedback studies not included

Some seminal or otherwise potentially relevant feedback studies are not complying with the criteria outlined in the main text. Table E.1 show the studies as well as the reasons for not including the specific studies with the number for the coding stage where it was excluded (cf. Appendix C).

Table E.1: Reasons excluding specific studies

Study	Reason for exclusion	Coding stage exclusion
Alesina and Fuchs-Schündeln (2007)	No description of policy feedback mechanisms or effects	2
Breznau (2017)	No coefficients on individual-level effects	3
Busemeyer and Goerres (2014)	No coefficients on individual-level effects	3
Campbell (2003)	About policy threats, no mentions of policy feedback	1
Campbell (2011)	No statistical tests are reported	3
Clinton and Sances (2018)	No individual-level analysis	3
Ellingsæter et al. (2017)	No specific policy but multiple reforms	3
Gusmano et al. (2002)	No policy feedback effect estimates	3
Karch (2010)	Not about public attitudes	1
Kongshøj (2017)	No policy feedback effect estimates	3
Larsen (2008)	No individual-level analysis	3
Lindbom (2014)	No individual-level analysis	3
Lynch and Myrskylä (2009)	No coefficients reported	3
McDonnell (2012)	No statistical tests are reported	3
Mettler (2011)	No statistical tests are reported	3
Patashnik and Zelizer (2013)	No statistical tests are reported	3
Prato (2018)	Theoretical contribution	
Skogstad (2017)	No statistical tests are reported	3
Soroka and Wlezien (2004)	No individual-level analysis	3
Svallfors (2010)	No coefficients reported	3

F: Descriptive statistics

Table F.1: Descriptive statistics, coded policy feedback effects

Statistic	N	Mean	St. Dev.	Min	Max
Proximity	578	0.40	0.49	0	1
Conditionality	578	0.33	0.47	0	1
Direction	382	0.14	0.72	-1	1
Test statistic	451	2.21	2.59	0.00	24.31
Effect size	94	0.13	0.14	0.00	0.73

Note: Proximity is coded 1 for policies with variation on whether a subject had personal experiences with a policy or not, 0 otherwise. Direction is coded as -1 if the feedback effect is negative, 0 if there is no feedback effect and 1 if there is a positive feedback effect. See main text for further descriptions on the coding and the sources for missing values for the direction and the test statistic.

References not included in the main text

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Busemeyer, Marius R., and Achim Goerres. 2014. "Varieties of capitalism, education and inequalities in political participation." In *How Welfare States Shape the Democratic Public: Policy Feedback, Participation, Voting, and Attitudes*, eds. Staffan Kumlin and Isabelle Stadelmann-Steffen. Cheltenham: Edward Elgar Publishing, 63-91.

Campbell, Andrea Louise. 2003. "Participatory Reactions to Policy Threats: Senior Citizens and the Defense of Social Security and Medicare." *Political Behavior* 25 (1): 29–49.

Campbell, Andrea Louise. 2011. "Policy Feedbacks and the Impact of Policy Designs on Public Opinion." *Journal of Health Politics, Policy and Law* 36 (3): 961-973.

Druckman, James N. 2014. "Pathologies of Studying Public Opinion, Political Communication, and Democratic Responsiveness." *Political Communication* 31 (3): 467-492.

Ellingsæter, Anne Lise, Ragni Hege Kitterød, and Jan Lyngstad. 2017. "Universalising Childcare, Changing Mothers' Attitudes: Policy Feedback in Norway." *Journal of Social Policy* 46 (1): 149-173.

Gusmano, Michael K., Mark Schlesinger, and Tracey Thomas. 2002. "Policy Feedback and Public Opinion: The Role of Employer Responsibility in Social Policy." *Journal of Health Politics, Policy and Law* 27 (5): 731–772.

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Patashnik, Eric M., and Julian E. Zelizer. 2013. "The Struggle to Remake Politics: Liberal Reform and the Limits of Policy Feedback in the Contemporary American State." *Perspectives on Politics* 11 (4): 1071-1087.

Prato, Carlo. 2018. "Electoral Competition and Policy Feedback Effects." *Journal of Politics* 80 (1): 195-210.

Skogstad, Grace. 2017. "Policy feedback and self-reinforcing and self-undermining processes in EU biofuels policy." *Journal of European Public Policy* 24 (1): 21-41.