Individual Interpretation Matters: The Influence of Policy Narrative Elements on Individual Policy Preference

by

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Abstract

Narrative Policy Framework (NPF) provides a framework for analyzing how policy narrative elements can influence an individual's policy preference in a manner that adheres to traditional scientific standards. At the micro-level, NPF is nascent in empirically testing whether specific narrative elements have an effect in influencing individual opinion formation. The narrative element of causal mechanism, which is embedded in policy narratives to assign responsibility and blame, is an important element that has not yet been examined. This study utilizes an experimental design to analyze which specific type of causal mechanism has a greater influence on individual opinion. As a treatment, four policy narratives were developed based on the two opposing policy preferences expressed in public comments pertaining to a controversial land use issue in Montana. For each policy preferences two narratives were developed; one with an inadvertent and another with an intentional casual mechanism. A survey pre-test measured the dependent variables of policy opinion, while controlling for policy preference, general knowledge, and political ideology. A control narrative was also employed. After exposure to one of the five randomly assigned policy narratives, a post-test was administered to determine changes in policy opinion. A probability sample of college students was employed, with n=778. Both paired *t*-tests and regression analyses reveal that the intentional casual mechanism has the ability to strongly influence an individual policy preference. The inadvertent causal mechanism influences those who initially hold an opposing policy preference than the one presented in the narrative. The importance of this study for public administrators is that it further illuminates the influence that narrative elements, specifically causal mechanisms, can have on influencing individual opinion.

Keywords: Narrative Policy Framework, narrative elements, public policy debate, causal mechanisms

As a representative democracy, the United States was founded under the presumption that the government gains its legitimacy through the consent of the citizenry. In order to gain and maintain this approval, stakeholders and political actors (interests) strive to continually persuade the broader citizenry and one another of the legitimacy of their definitions of policy problems and solutions. This persuasion occurs through the presentation of information that is delivered as narratives or stories within campaigns and messaging. The competing narratives constructed by different interests form a substantial portion of the basis of the dialectic relationship between citizens and the government. The competing narratives are delivered through a wide array of media outlets, as well as the messaging by organizations and individuals. Shanahan, Jones, McBeth, and Lane (2012) note that the "political environment of 2012 is dominated by striking images and symbolic language embedded in policy narratives intended to build a persuasive policy reality" (p. 2). When asked in July of 2012 what he believes the biggest mistake of his first term was, President Obama states that "the mistake of my first term…was thinking that this job was just about getting the policy right. And that's important. But the nature of this office is also to tell a story to the American people that gives them a sense of unity and purpose and optimism, especially during tough times" (Randall, 2012).

Stone (2002) and other post-positivists make the epistemological claim that information cannot be taken as neutral facts, though interests continually strive to present their narrative claims as fact. Rather than neutral facts, this information is interpretive, incomplete, strategically controlled, and that "political activity is an effort to control interpretations" (Stone, 2002, p. 28). Thus policy dialogue and debate are not sources of objective neutral information but are instead a place for competing interests to develop and expound their policy narratives in an effort to persuade others to support their policy goals and solutions. Within a policy dialogue

goals are established, the problem is defined, and solutions are proposed and advocated (Stone, 2002).

A majority of the modern social and political conditions are wicked problems, which do not have clear or comprehensive solutions due to complexity and interconnectedness. Modern policy debate, which is centered on wicked problems, allows for a large degree of political maneuvering and thus creates space for a wide array of competing narratives. This continual political maneuvering to gain support and legitimacy occurs through the use of policy narratives, which are "stories (scenarios and arguments) which underwrite and stabilize the assumptions for policymaking in situations that persist with many unknowns, a high degree of interdependence, and little, if any, agreement" (Roe, 1994, p. 34). Interests use these strategically constructed policy narratives or stories to gain public support and thus legitimacy for their policy solution. The public is continually inundated with policy narratives, which are "the lifeblood of politics" (Shanahan et al., 2012, p. 374).

Traditional policy process theorists do not address the influence of policy narratives within the policy process (e.g., Kingdon, 1984). Narrative research was perceived of as "value-based random garble," and was thus excluded from the traditional policy process and policy change theories (McBeth, Shanahan, Arnell, & Hathaway, 2007, p. 88). This marginalization of narratives occurred in spite of the recognition within the cognitive psychology field that "humans use narrative to organize, process, and convey information" (e.g., Gerrig & Egidi, 2003), and that there is "persuasive evidence that narrative cognition is fundamental to human existence" (Jones, 2010, p. 87). Barone (2001a) notes that narratives "cause us to question our values, prompts new imagining of the ideal and the possible. It can even stir action against the conventional, the seemingly unquestionable, the tried and true" (p. 736). Narratives are also used to "modify and

challenge particular ways of interpreting history and the existing relationships between people" (Patterson & Monroe, 1998, p. 322). Narratives help individuals to not only interpret and understand the world but also to gain an understanding and to form their opinion of policy and politics.

The recognition that narratives are a fundamental aspect of human existence, and that interests use narratives strategically to gain political support (e.g., Stone, 1989; 2002) has called for an examination of the use of policy narratives in policy science. This has led to "emerging work in the policy literature that focuses on policy narratives as a causal variable for policy outcomes using testable hypotheses" (Shanahan, McBeth, & Hathaway 2011, p. 375). This work has iteratively evolved into the Narrative Policy Framework (NPF), which is "a quantitative, structuralist, and positivist approach to the study of policy narratives" (Jones & McBeth, 2010, p. 330).

Previous research on policy narratives both through narrative policy analysis and NPF has primarily focused on how policy actors use narratives to strategically garner political support (e.g., Stone, 1989; Roe, 1994; Stone, 2002; McBeth & Shanahan, 2004). This work is based on the assumption that policy narratives have the ability to influence individuals support of policy solutions, yet there has been limited research on how exactly policy narratives influence individual opinion. The key question is why do some policy narratives have a greater influence on public opinion and thus increase the legitimacy of the policy solution or definition presented within the narrative than others? This is an important component that needs to be further developed within the study of policy narratives, as the purpose of a policy narrative is a garner public support. Shanahan et al. (2012) notes "narrative elements are the distinctively narrative structures of a story that separate narrative from other message structures such as lists or

chronologies". The impact of particular narrative elements on opinion formation is in its nacency in NPF. Research has not tested the effects of different causal mechanisms, which are embedded in almost all policy narratives and are an important aspect of narrative policies. As Stone (2002) recognizes that interests strategically craft causal stories in an effort to "make their versions the basis of policy choices" (p. 189).

The purpose of this study is to examine the influence that the narrative element of causal mechanisms has on individual policy preference. Which type of causal mechanism influences an individual's policy preferences? Does one type of causal mechanism have a greater influence on an individual's opinion than another? In this study the influence of different causal mechanisms within a land use policy debate will be examined through NPF. The focus of NPF is the concept that "policy narratives shape and interact with public opinion" (Jones & McBeth, 2010, p. 343).

In order to examine these research questions, the study begins with an examination of the role of narratives in public policy research, the evolution of narrative analysis, and the development of NPF through a review of the literature. This is followed by the central research question and the presentation of a case study policy issue. Next, an explanation of the research design and methodology is presented. The findings of the study, a discussion of the findings, and a conclusion follows. The central focus of this study is the use NPF to test how causal mechanisms influence the opinion of individuals. Understanding the influence of this narrative element can help to further the understanding of the impacts of narratives used within policy debates.

Literature Review

Due to the role that policy narratives play in legitimizing an interest's policy problem definition or solutions amongst the larger citizenry, it is important to develop a more precise

understanding how narratives influence policy debate. The role of narratives in public policy research and the perception of the function of public opinion in policy process are examined through a survey of prior literature. The recent development of the Narrative Policy Framework (Jones & McBeth, 2010), which enables the empirical testing of the influence of narratives, is explored through an examination of this literature. The literature will be used to review the structural elements of narratives with a particular focus on causal mechanisms. This narrative structural element along with the NPF (Jones & McBeth, 2010) will be presented to serve as the basis to enable an evaluation of the influence of narratives on individual opinion within the study.

Traditional Public Policy Processes and Public Opinion

The process through which policy decisions are made is an essential part of the democratic process. Policy process theories strive to provide an accurate formulation of how policy decisions are reached (Shanahan et al., 2012). The theories address how conditions become conceptualized as a policy problem since conditions do not become problems unless they are defined as such, articulated, and brought to the public's attention (Anderson, 2011). "The role of public opinion in policy outcomes is normatively understood as a 'should' or a 'must' in American democracy" (Shanahan, McBeth, & Hathaway, 2011, p.376). Through an analysis of "thirty of the most notable and cited works in public opinion and public policy scholarship," Burstein (2003) finds that "pubic opinion affects public policy three-quarters of the time" (as cited in Jones, 2010, p. 36). Burstein (1998) makes the argument that "democratic governments often do what their citizens want, and they are especially likely to do so when an issue is important to the public" (p. 51). Despite the normative value of public opinion in democracy and the affect that it has, the role and influence of public opinion is often

marginalized within the traditional policy process theories of Three Streams, Punctuated Equilibrium, Advocacy Coalition Framework, are examined in the following sections.

Jones (2010) identifies that within the debate over the influence of public opinion on policy there are two competing views. The traditionalist perspective finds that the "public is hapless and whimsical" and "public opinion is directed by elites" (Jones, 2010, pp. 3-4). Whereas those that hold the revisionist perspective find that "although the public may come up short in substantive knowledge in most policy areas, through intellectual heuristics and cognitive short cuts, the public does consistently organize its opinions around belief systems, and at least in the aggregate, is 'smart enough' to guide public policy" (Jones, 2010, p. 4).

The multiple streams approach (Kingdon, 1984) theorizes that the policy process is driven by policy entrepreneurs that work to merge the three streams of policy activity, which are problems, proposals, and politics (Anderson, 2011; Shanahan et al., 2012). These three streams occasionally align, which opens a 'policy window' and allows particular problems to gain attention, which could lead to the development of policy outcomes or solutions (Anderson, 2011). Kingdon (1984) views policy entrepreneurs as the main driving factor behind the policy process, though he does recognize that public opinion does play a role. Kingdon (1984) identifies that there is an effect from "public opinion on the government's policy agenda, be it adding a policy or constraining one," however he asserts that public opinion has an effect on the agenda levels, but does not have much of an effect in developing or adopting alternatives (as cited in Shanahan, McBeth, & Hathaway, 2011, p. 377).

Another traditional policy process theory is the Punctuated Equilibrium Theory (PET), which "posits agenda-setting as central to policy change and focuses on how institutions allocate their finite attention given venue constraints (see True, Jones, & Baumgartner, 2007; Jones &

Baumgartner, 2012)" (as cited in Shanahan et al., 2012, p.3). The focus within this theory is on how policy entrepreneurs work to alter policy image through the study of newspapers and congressional hearings, and less on changes in public opinion (Shanahan, McBeth, & Hathaway, 2011). Traditional PET theorists do not strive to "identity direct causal lineages between policy entrepreneur's activities and change in public opinion" (Shanahan, McBeth, & Hathaway, 2011, p. 376). More recent work within PET focuses on the struggle to influence public opinion by garnering the attention of the public to benefit particular policy issues (Nowland, 2011; Shanahan, McBeth, & Hathaway, 2011).

The policy process theory of Advocacy Coalition Framework (ACF) is most recognized "for its contributions to understanding incremental policy changes, the role of beliefs in public policy, and expanding our understanding of policy learning (Shanahan et al., 2012, p. 3). The role of public opinion in AFC has continued to evolve. Earlier theorists Sabatier & Jenkins-Smith (1993) felt that the "political elite have the power in the policy subsystem, not the public" (as cited in Shanahan, McBeth, & Hathaway, 2011, p. 377). More recent ACF theorists Jones and Jenkins-Smith (2009) argue that public opinion is under utilized in ACF research and that it serves as a "foundation of the policy topography" (Nowland, 2011, p. 47). Jones and Jenkins-Smith (2009) contend that public opinion can have an effect on policy in three different ways: (1) it can act as an exogenous shock, (2) it can play an active internal role in causing policy change, (3) it can be a resource that elites will try to control (Nowland, 2011; Shanahan, McBeth, & Hathaway, 2011; Shanahan, Jones, & McBeth, 2011).

The traditional study of policy process has historically excluded narratives as a basis of policy research. Although it is recognized by Zaller (1992) that "individuals are susceptible to manipulation through elite communication" (as cited in Jones, 2010, p. 6), the majority of

traditional theorists view narratives as value-laden "fodder for the masses" which is not a valid component in the analysis of how policies are developed (Shanahan et al., 2012). The field has been dominated by policy theories that focus on factors outside of policy narratives and the influence narratives have on public opinion.

Role of Narratives and Influence on Public Opinion

Stone (2002) recognizes that within politics defining a policy problem is "never simply a matter of defining goals and measuring our distance from them. It is rather the strategic representation of situations" (Stone, 2002, p. 133). This representation is often presented within the literary structure of a narrative (Roe, 1994; Stone, 2002), which are "stories with a beginning, a middle, and an end, involving some change or transformation" (Stone, 2002, p.138). Narratives serve as both a literary device and a "method of cognitive organization" (e.g. Herman, 2002, 2003, & 2009), "which functions as a seemingly universal device for individuals to sharpen certain elements of reality while leveling others (Gilovich, 1991)" (as cited in Jones & McBeth, 2010, pp. 329-330). Narratives enable individuals to gain an understanding of the world by constructing "disparate facts in our own worlds and weaving them together cognitively in order to make sense of our reality" (Patterson & Monroe, 1998, p. 315). Individuals use narratives to organize, process, and convey information in a way that allows for meaningful existence and an understanding of how the world works (Stone, 2002; Jones & McBeth, 2010).

Narratives serve the dual purpose of providing an explanation of events while allowing individual interpretation (Bruner 1996; Patterson & Monroe, 1998). Bruner (1996) notes that explanation, which involves causal statements that can be validated, and interpretation, which is understanding "the outcome of organizing and contextualizing essentially contestable, incompletely verifiable propositions" are not synonymous, yet both are necessary (as cited in

Patterson & Monroe, 1998, pp. 320). It is through this explanation and interpretation that an individual develops an understanding how the world is progressing and how he or she fits within this story of progression (Bruner, 1996; Patterson & Monroe, 1998). Narratives are not merely neutral representations of current conditions, but can serve to "suggest an interpretation of what the state of the world ought to be…(by)…suggesting both what is a norm and what is a departure" (Patterson & Monroe, 1998, pp. 320-321). It is through this normative role that narratives serve as a component that can resolve imbalance and restore clarity of a problem and restore the equilibrium of a situation (Patterson & Monroe, 1998). White (1981) takes this normative role a step further and argues that the purpose of narratives is the moralizing of judgments.

The normative role of narratives allows competing interests to utilize narratives in the develop problem definitions, as "there is not universal, scientific, or objective method of problem definition" (Stone, 2002, p. 134). The ability of narratives to influence public opinion is what allows these constructed problem definitions to gain traction or legitimacy amongst the broader citizenry. Jones & McBeth (2010) note that the ability of narratives to influence and shape beliefs, actions, and public opinion has been demonstrated in a wide array of academic disciplines including communication, marketing, neuroscience, and psychology. Roe (1994) recognizes that the objective of a narrative is to get the reader to assume something.

Research in the field of psychology shows that narratives have a stronger ability to persuade individuals and influence their beliefs than scientific evidence does (Shanahan, McBeth, & Hathaway, 2011). This finding is important for understanding how easy it can be to shape public opinion through the construction of stories rather than going to more difficult route of manipulating scientific evidence to support a political claim. Ricketts (2007) demonstrates

that narratives can have a powerful influence in the shaping of public opinion in regards to controversial policy issues (as cited in Shanahan, McBeth, & Hathaway, 2011). In sum, the ability of narratives to shape public opinion and influence policy debate presents a rationale as to why narratives should be studied within political science, though, as noted, the traditional policy process theorists do not view narratives as a valid element of policy research.

Evolution of Narrative Research in Social Sciences

Traditionally narratives have been marginalized and thus have been under-evaluated within social sciences, despite the realization that narratives are the means by which individuals "communicate, process, and organize information" (Jones, 2010, p. 68). Narrative theory finds its origins in traditional literary theory. During the early 20th century the dominant literary theory focused on the value of the form and technique within the genres of poetry and drama. In an effort to move beyond this focus on aesthetic value and establish the value of the novel, theories evolved which focused on the form, structure, and technique of novels. In the 1940s and 1950s, scholars made the argument that the value of the novel lay not within its form, but in the effect that content had on the reader (Patterson & Monroe, 1998). Realism was traditionally an essential element of novels, as the novel was intended to portray the world accurately without the intrusion of the author's perspectives or beliefs (Patterson & Monroe, 1998). It was the challenge to the "primacy of the realistic novel and its emphasis on impersonal narration that opened the way for a shift from theories of the novel to theories of narration" (Patterson & Monroe, 1998, p. 317). This shift allowed for the development of narrative inquiry and research in fields outside of literary theory.

Following this shift in the 1960s, the study of narratives began to gain recognition as a useful concept in social sciences "providing both insight into how knowledge is constructed and

a methodology for rigorous research" (Patterson & Monroe, 1998, p. 317). The majority of the social and political science research focused on narratives which individuals or institutions provide (e.g. Patterson & Monroe, 1998). The study of how narratives influence public and individual opinion is a more recent and evolving field of academic study.

The recognition that narratives are used outside of the literary field in order to influence and provide a "way of knowing" (Coulter & Smith, 2009, p. 577) has led to the identification of policy narratives. Political theorists (e.g., Jones & McBeth, 2010; Shanahan, Jones, & McBeth, 2011) make a distinction between political narratives and policy narratives. Political narratives are persuasive stories that are used to obtain a political end (e.g., to win an election), whereas "a policy narrative has a setting, a plot, characters (hero, villain, and victim) and is disseminated toward a preferred policy outcome (the moral of the story)" (Shanahan, Jones, & McBeth, 2011, p. 539). Roe (1994) defines a policy narrative as a story with "a beginning, middle, and end (or premises and conclusions, if cast as an argument) and revolves around a sequence of events or positions in which something is said to happen of from which something is said to follow" (p. 36).

Competing interests strategically construct narrative elements (e.g., plot, characters, causal mechanism) as a policy narrative in order to develop support for their desired policy outcome or solution (Shanahan, McBeth, & Hathaway, 2011). It is through this strategic construction that the choices as to what information to included or excluded in order to develop "a story that has embedded policy beliefs, characters who are poised to fix or hinder the problem and those who suffer from the opposing policy" is determined (Shanahan, McBeth, & Hathaway, 2011, p. 375).

Though the importance of narratives within policy debates is recognized, its value as a form of policy research continues to be contested. Narrative evaluation initially developed as narrative policy analysis (NPA), which "focuses on the centrality of narratives in understanding policy issues, problems, and definitions and does so without the grand theoretical aspirations of the more traditional policy change works (McBeth et al., 2007, p. 88). According to Riessman (1993) "narrative analysis is an analytical tool concerned with 'how the protagonist interprets things'" (McBeth, Shanahan, & Jones, 2005, p. 414). Barone (2001b) notes that while "conventional research strives to discover and verify knowledge about the real state of the world,…(NPA)…strives to portray experience, to question common understanding, to offer a degree of interpretive space" (as cited in Coulter & Smith, 2009, p. 578).

There are two distinct approaches to NPA. The first (e.g., Roe, 1994) relies on the structure of stories to predict the success of a policy (McBeth et al., 2005). The second (e.g., Stone, 2002) uses the content of the story to identify political values (McBeth, et al., 2005). The theory of NPA that Stone (2002) adheres to is that all language, no matter the source, is strategically constructed in order to frame issues in a way the produces the desired policy outcomes (McBeth et al., 2005). NPA is primarily qualitative (Hampton, 2009), and employs content analysis (e.g., McBeth et al., 2005; McBeth et al., 2007; Shanahan, McBeth, Arnell, & Hathaway, 2008), to examine how policy narratives are utilized in policy debate. The qualitative nature of traditional narrative research leads to the perspective that narratives cannot be studied under strict empirical testing.

Within narrative evaluation there is debate between those who operate within the structuralists' ontology and those who operate under the poststructuralists' ontology (Jones, 2010). Those operating from the structuralist perspective (e.g., Huisman, 2005) "assert that each

story has consistent and identifiable components from which generalizations can be formed…(and)…through examining discourse and language, structuralists focus on text as the primary unit of analysis" (Jones & McBeth, 2010, pp. 331-332). The structural approach takes a positivist deductive quantitative methodological approach in which a narrative is defined and an attempt is made to operationalize narrative structure and/or content to test clearly stated hypotheses" (Jones & McBeth, 2010, p. 337).

Within the majority of public policy research the application of narratives is primarily poststructural (Jones & McBeth, 2010). Poststructuralists oppose the categories produced by structrualists and adamantly oppose the notion that text can be examined separate from individual interpretation (Jones & McBeth, 2010). Operating from this ontological perspective Reissman (2008) makes the claim that "narratives do not establish the truth of it…events (or) reflect the truth of experience. Narratives create the very events they reflect upon…narratives are reflections on not of-the world as it is known" (as cited in Coulter & Smith, 2009, p. 578). Richardson (1990) asserts that narratives are contextually embedded and "that the connections between the events is the meaning" (p. 13). The poststructuralist approach takes a postpositive inductive methodological qualitative approach, which is resistant to hypothesis testing and challenges the concept of universal theories (Patterson & Monroe, 1998; Jones & McBeth, 2010).

The study of narratives has become associated with postpositivist methods and is critiqued by those operating within the positivist ontology (Shanahan et al., 2012). These critiques reduce the value that many social scientists place on the study of narratives. In order to respond to this critique Jones & McBeth (2010) argue that if "one returns to a structural

conception of narrative" (p. 333) then narratives can be empirically evaluated as a component of the policy process.

Development of Narrative Policy Framework

Postpositivists recognize that narratives play a central role in "generating and facilitating meaning via the creation of social construction (Shanahan, Jones, & McBeth, 2011), however the lack of recognition by mainstream policy theorists of the role that narratives play in policy development stems from the debate between positivists and post-positivists. This ontological debate revolves around the role of narratives and the ability of researchers to empirically examine narratives (Shanahan et al., 2012). In response to criticism of traditional narrative policy research, which does not adhere to traditional scientific standards (Shanahan, et al., 2012), policy theorist have started an iterative process to examine whether or not there is a method of empirically examining narratives (e.g., McBeth & Shanahan, 2004; McBeth, Shanahan, & Jones, 2005; Jones, 2010). McBeth and Shanahan (2004) identify that narratives are strategically constructed, and thus can and should be empirically examined as an important part of policy process theories. McBeth, Shanahan, & Jones (2005) find that policy narratives can be empirically quantified in order to reliably measure core policy beliefs. Jones (2010) uses experimental design to examine how narrative structure and content can influence opinion. Jones (2010) finds that narrative structure plays a significant role in influencing opinion and his research "moves the study of narrative in public policy away from what has been sole use of content analysis to experimental design" (as cited in Shanahan, Jones, & McBeth, 2011, p. 538). McBeth, Lybecker, & Garner (2010) and Shanahan, McBeth, & Hathaway (2011) further examine how narratives influence citizen opinion through quantitative experimental design.

These studies begin to lay the foundation for a framework that builds "a bridge between those who believe that public policy making is grounded in narratives and social construction and those who believe that research must attempt to achieve" traditional scientific standards (Shanahan et al., 2012). The result of this iterative process is the Narrative Policy Framework (NPF), formally articulated by Jones and McBeth (2010) as a "quantitative, structrualist, and positivist approach," which allows for the study of policy narratives and their role in policy debate (pp.339). Radealli, Dunlop, & Fritsch (2012) note that "narratives are representations of policy created by social actors, and thus have an inter-subjective nature, [yet] they can still be examined empirically using an objective epistemology" (p. 2).

What is Narrative Policy Framework?

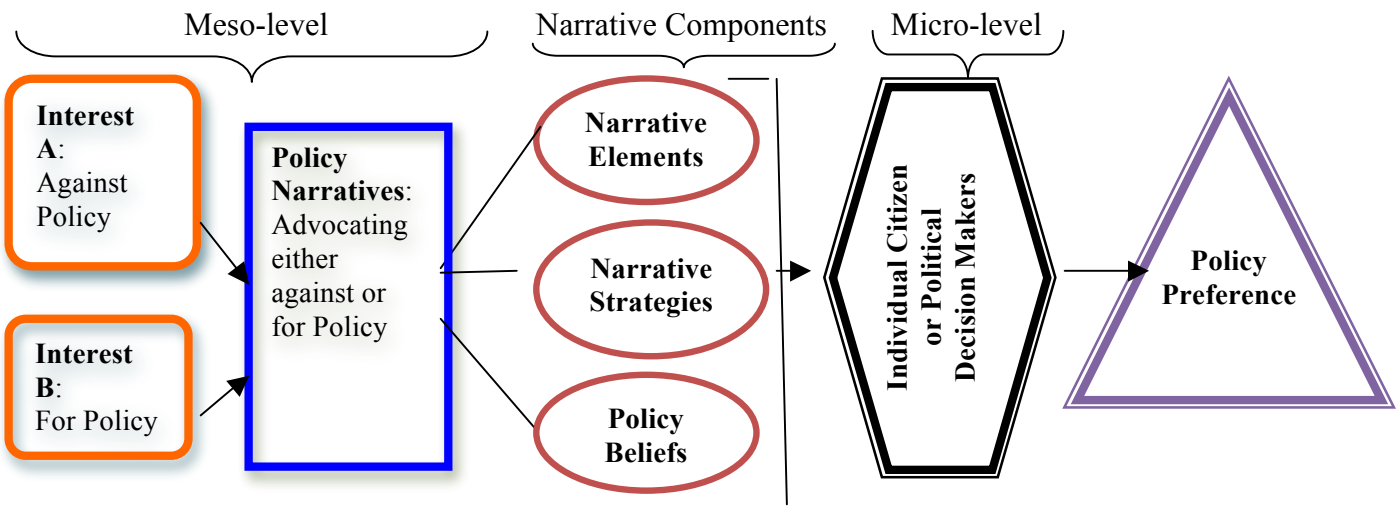
The NPF has developed from theories, which occur across a broad range of disciplines, providing a falsifiable hypothesis in order to measure the power and influence of policy narratives (Shanahan, Jones, & McBeth, 2011). The assumptions about policy narratives that NPF is based on include the concept that policy narratives are central to policy process, operate at different levels of analysis, are generated by a broad array of political actors, and that through policy narratives beliefs are translated into policies and programs (Shanahan, Jones, & McBeth, 2011).

The NPF assumption that policy narratives operate at different levels of analysis leads to the identification of three levels of analysis, each of which contains a specific unit and classes of variables (Jones and McBeth, 2010). "The unit of analysis directs the researcher to the behavior of specific entities and how policy narratives shape these behaviors" (Jones and McBeth, 2010, p. 12). Within the macro-level, which is still under development, the unit of analysis is the institution or culture (Shanahan, Jones, & McBeth, 2011).

At the meso-level the unit of analysis is groups, and the focus is on how "policy narratives shape coalition formation in a policy subsystem (expand/contain) to influence policy outcome" (Shanahan, Jones, & McBeth, 2011, p. 541). The majority of the NPF analysis focuses on the meso-level and is influenced by ACF (Sabatier & Jenkins-Smith, 1993; Jones & Jenkins-Smith, 2009) and NPA (Roe, 1994; Stone, 2002).

At the micro-level, which is the level of analysis that this study is focusing on, research focuses on the persuasiveness of policy narratives on individuals and the dependent variable is the change in an individual's attitude toward a particular policy issue (Jones and McBeth, 2010; Shanahan et al., 2012). Figure 1. provides an adaptation of an illustration of NPF's conception of the role of narratives in the policy process at the meso- and micro-levels of analysis (Shanahan et al., 2011).

Flow Diagram Adapted from the NPF Framework. *Source:* Shanahan et al., 2011



NPF conceptualizes that policy narratives contain narrative elements, narrative strategies, and policy beliefs (Shanahan et al., 2012).

Table 1. NPF Policy Narratives: Modified from Shanahan et al., 2012

	Definition
Narrative Elements	
Statement of a Problem	A policy narrative is always built around some stated problem.
Characters	The participants in a policy narrative.
Victim	The entity hurt by a specified condition.
Villain	The entity responsible for the damage done to the victim.
Hero	The entity designated as fixing or being able to fix the specified problem.
Evidence (setting)	Support offered with the intention of demonstrating a problem, usually pertaining to real world fixtures in the problem environment.
Causal Mechanism	A theoretical relationship denoting a cause and effect relationship between one or more independent variables and a dependent variable. Common causal relationships include intentional, mechanical, inadvertent, and accidental (Stone, 2012).
Moral of the Story	A policy solution offered that is intended to solve the specified problem.
Plot	A story device linking the characters, evidence (setting), causal mechanism, and moral of the story (policy solution). Common plots include decline and control (Stone, 2012).
Narrative Strategies	
Expansion	A policy story depicting concentrated benefits and diffuse costs that is intended to draw in more participants and expand the scope of conflict.
Containment	A policy story depicting diffused benefits and concentrated costs that is intended to dissuade new participants and maintain the status quo.
Devil Shift	A policy story exaggerating the power of an opponent, while understating the power of the narrating group or coalition.
Halo Shift	A policy story that emphasizes a group or coalition's ability and/or commitment to solving a problem, while de-emphasizing the villain.
Policy Beliefs	A set of values and beliefs that orient a group and/or coalition.

While narrative strategies and policy beliefs are important components of a narrative, for the purpose of this study only narrative elements will be further addressed. Narrative elements are the structural components that are unique to narratives. The first narrative element is the setting or context, which serves to support the demonstration of a problem (Stone, 2002; Jones & McBeth, 2010; Shanahan et al., 2012). Characters, which play an essential role in conveying the

policy debate, populate a policy narrative (Stone, 2002; Jones & McBeth, 2010; Shanahan et al., 2012; Shanahan, Jones, & McBeth, 2011).

A policy narrative must have a plot, which is a story that links the characters to the setting, assigns the roles of different characters, and structures causal mechanisms, which indicate the source of the policy problem and assign blame (Stone, 2002; Jones & McBeth, 2010; Shanahan, et al., 2012; Shanahan, Jones & McBeth, 2011). Finally, a policy narrative should provide a moral of the story by offering either a policy solution or prompt action that should be taken (Stone, 2002; Jones & McBeth, 2010; Shanahan, et al., 2012; Shanahan, Jones, & McBeth, 2011). These elements combine to form a policy narrative, which is used to affect an individual's perception of political reality and impact their political behavior, and thus "plays a critical role in the construction of political behavior" (Patterson & Monroe, 1998, pp. 315-316).

NPF provides a framework that allows for the operalization of a policy narrative and the empirical testing of the effect of narratives. Nowland (2011) recognizes that NPF "offers a way for policy scholars to empirically measure how policy relevant information is transmitted and interpreted by both policy elites and the mass public" (p. 53). The theorists who have developed NPF use this framework to further examine how policy narratives influence politics. They theorize that narratives have a large impact on policy debate and policy development, however they recognize that there are other factors that have an influential role as well.

NPF Evaluation of Narrative Influence on Public Opinion

The importance of influencing public opinion order to gain support for a policy definition is gaining increasing recognition within public science research. Despite of the recognition of the value of public opinion, "criticisms are continually exacted toward how influence is measured and the difficulties of objectively measuring human beliefs and thinking" (Shanahan,

McBeth, & Hathaway, 2011, p. 378). The empirical basis of NPF makes it an important tool in examining how narratives influence and garner public opinion in the face of such criticisms. The micro-level of NPF is primarily focused on the role that narratives play in shaping public opinion, however this application of NPF is however, still in its nascency (Shanahan et al., 2012). When examining the influence of narratives on public opinion, it is important to recognize that public opinion and policy narratives are not the same thing. "Policy narratives, operationalized in terms of the NPF's narrative structural elements, are likely to provide a more nuanced understanding of the dominant public perception" (Shanahan, Jones, & McBeth, 2011, p. 551).

NPF research at the meso-level tests which "narrative elements are statistically significant in influencing public opinion" and describes how coalitions use these elements (Shanahan et al., 2012). Some of this work examines the effect that narratives presented within in the media by different coalitions have on individual opinion (Shanahan, McBeth, & Hathaway, 2011). Shanahan et al., (2008) examine media accounts and finds that these accounts are primarily policy narratives. In order to then understand the influence of these media policy narratives Shanahan, McBeth, & Hathaway (2011) empirically test how competing media narratives influence policy opinions of individuals. The study finds that policy narratives influence public opinion in two ways. First, the policy narrative "can both strengthen the opinions of friendly audiences and convert the opinions of audiences harboring divergent opinions" (Shanahan, McBeth, & Hathaway, 2011, p. 392). Second, the use of narrative elements within a policy narrative can have an influence on an individual opinion at least in the short term (Shanahan, McBeth, & Hathaway, 2011). This finding of the effect of media policy narratives supports the NPF claim that interests "strategically wield policy narratives to

influence, direct, and if possible, outright control public opinion for" their interests benefit (Shanahan, Jones, & McBeth, 2011).

Jones (2010) utilizes an experimental design examining how the narrative structure of characters can influence pubic opinion at the micro-level. His work finds that the use of the hero character is particularly powerful in shaping public opinion (Jones, 2010; Shanahan et al., 2012). Hero characters are more important in influencing public opinion than other narrative structural elements (Jones, 2010). This finding leads to the NPF hypothesis that "the portrayal of policy narrative characters has higher levels of influence on opinion and preferences of citizens, elected officials, and elites than scientific or technical information" (Shanahan, Jones, & McBeth, 2011, p. 553).

NPF develops a strong definition of policy narratives and identifies the different classes of elements within a narrative, yet it is still in the beginning stages of isolating the individual elements and examining how they influence public opinion. Shanahan et al., (2012) note that the future of NPF research will involve "building toward causal models to better understand what narrative elements are most influential to the policy process and relevant policy outcomes (Shanahan et al., 2012). This study is a first step in isolating an individual narrative structural element to test the power of its influence on an individual's policy preference.

Narrative Element of Causal Mechanisms

The narrative element of causal stories is an essential component of policy narratives, which can be used to "either challenge or protect an existing social order" (Stone, 2002, p. 204). Within a policy debate conditions or issues do not have inherent properties that make them a problem, instead problem definition is about controlling images in order to attribute cause, blame, and responsibility (Stone, 1989; 2002). Therefore, Stone (2002) notes that people think

that a problem has been defined when its causes have been identified and described, thus making "causal theories origin stories of how a problem came into being (Stone, 2002, p. 134). The ability of a casual story to assign blame and responsibility, as well as "legitimize and empower particular actors as 'fixers' of the problem" (Stone, 2002, p. 204) means that causes stories must be continually "fought for, defended, and sustained" (Stone, 2002, p. 202).

This continual battle over the legitimization of a particular interest's causal mechanism often plays out through the manipulation of the role of different characters. Patterson and Monroe (1998) argue that a narrative requires agency and therefore involves entities as characters, which play an integral role within the story. The characters, which populate narrative policies, are strategically positioned within the story's plot to fulfill specific roles (Stone, 2002; Shanahan et al., 2012; Shanahan, Jones, & McBeth, 2011). The policy narrative thus becomes a battleground in which the actions of these characters play out against one another causing harm and creating heroes and villains. Causal mechanisms are theoretical abstracts and one way they can be conveyed is through the roles that different characters play. The character thus becomes a proxy for the casual mechanism. The three primary characters are heroes, victims and villains. The hero is the entity who is cast as a potential 'fixer' of the problem (Stone, 2002; McBeth et al., 2005; Shanahan et al., 2012). The hero is pitted against the villain, who is the entity responsible for the harm or policy problem (Stone, 2002; McBeth et al., 2005; Shanahan et al., 2012). The innocent victim is the entity who is harmed by a specific policy problem or the villain's actions and deserves political attention (Stone, 2002; McBeth et al., 2005; Shanahan et al., 2012).

Stone (1989) identifies that causal mechanisms are both empirical by demonstrating how one set of people cause harm to another, and normative by moving "situations intellectually from

the realm of fate to the realm of human agency" (Stone, 1989, p. 283). Stone (1989) argues that causal mechanisms "have a strong normative component that links suffering with an identifiable agent, and so they can be critical of existing social conditions and relationships" (Stone, 1989, p. 300). Both levels, empirical and normative, play a role in influencing an individual's opinion in regards to a policy debate.

In order to understand how casual mechanisms work, it is important to understand that individuals have two primary frameworks for interpreting the world (Stone, 1989). The first is natural in which people understand that an occurrence is "undirected," "purely physical," and lies within the "realm of fate and accident" and that the "best we can do is to mitigate effects" (Stone, 2002; 1989). The second framework is social in which events are understood to be within the "realm of control and intent" and are "the result of will" (Stone, 2002; 1989). This distinction between the two frameworks is critical within policy debate and problem definition.

Table 2. Types of Causal Mechanism: based on a table from Stone, 2002 with additions from Stone, 1989

Types of Causal Mechanisms		
Actions	**Consequences**	
	Intended	***Unintended***
Unguided	Mechanical Causes -realm of control and intent examples: machines that perform as designed, but cause harm; brainwashed people	Accidental Causes - realm of fate and accident examples: nature; weather
Purposeful	Intentional Causes -realm of control and intent examples: oppression; conspiracies that work	Inadvertent Causes -unintended consequences of willed human action examples: carelessness; unforeseen side effects

Based on these two frameworks Stone (1989; 2002) identifies four casual types (Table 2). The accidental causal mechanism is devoid of purpose in both action and consequence (Stone, 2002), and is viewed as simply fate. Accidental causal mechanisms include natural disasters and

occurrences outside of human control including disease or war (Shanahan, et al., 2012). Portraying an occurrence as the result of an accidental causal mechanism relieves an entity from responsibility (Stone, 2002). Since accidental causes cannot be used to assign responsibility, Stone (1989) notes that "causal politics is centrally concerned with moving interpretations of a situation from the realm of accident to one of the three realms of control" (p. 284).

The next type of causal mechanism is mechanical. Within a mechanical cause there is a purposeful actor with intended consequences, but the action is unguided and carried out through other people, machines, (Stone, 1989; 2002; Shanahan et al., 2012) or through 'automatic' social procedures or routines" (Stone, 2002, p. 193). For example, if an individual's tax return is mishandled due to a bureaucrat absent mindedly performing his or her job, this could be portrayed as a mechanical cause. While the mechanical cause is more politically powerful than the accidental cause, it is still not as powerful as the two following causes, which are the focus of this study.

The inadvertent causal mechanism is used within a policy narrative where an actor's intentional actions, which were intended to produce benefits have instead produced unforeseen harmful consequences (Stone, 2002; Shanahan et al., 2012). The inadvertent causal mechanism depicts unintended consequences of willed human action (Stone, 1989), such as a welfare program, which produces individuals who become fully dependent on the government (Shanahan et al., 2012). Inadvertence can be portrayed as ignorance, for example if an individual does not understand the harmful consequences of eating junk food even if experts predict it will lead to heart disease (Stone, 2002). The action and the associated harms can also be portrayed as carelessness or recklessness (Stone, 1989; 2002).

The intentional causal mechanism portrays an actor who is willfully or purposefully taking action to bring about intentional consequences or who acts with full knowledge of what the consequences will be (Stone, 1989; 2002; Shanahan et al., 2012). When the consequences are perceived as beneficial or good, then this is considered rational action (Stone, 2002). When the consequences are perceived of as negative they develop as stories of "oppressors and victims" (Stone, 2002, p. 191). Within this causal mechanism lie conspiracy stories in which purposeful action occurs benefitting the few and negatively impacting many (Stone, 2002).

Within a policy debate political actors use narratives to move an issue or problem from one causal mechanism to another in order to gain political power or legitimacy (Stone, 2002). Stone (2002) makes the claim that mechanical cause, with "its story of human control mediated by other people, by machines or by systems" and inadvertent cause "with its story of action without full knowledge" are relatively weak positions to take within a political debate (p.198). Accidental causes, with its story of no human responsibility or control and intentional causes, "with its story of direct control and knowing action leading to full responsibility" are relatively strong political positions to take (Stone, 2002, p. 198). Within the two stronger positions, Stone (2002) claims that intentional cause is the most politically powerful offensive position, as it lays blame directly on a political actor and makes the claim that they intentionally caused harm. Competing interests in policy debate often claim intentional cause as a tactic to assign blame and create victims. While it is recognized that casual mechanisms are a powerful tool in policy debate, there has been little testing of the actual influence of the different causal mechanisms. This study tests the validity of Stone's (2002) claim that the intentional causal mechanism has a greater influence than the inadvertent casual mechanism in influencing public opinion. Shanahan et al. (2012) define a casual mechanism as a "theoretical relationship denoting a cause

and effect relationship between one or more independent variables and a dependent variable" (p. 38). This definition enables the manipulation of causes in empirical research.

Research Question

Through an analysis of policy narratives utilizing NPF, this study seeks to gain a greater understanding of the effect of policy narratives at the micro-level and to determine if certain narrative elements have a greater influence on individual opinion. Does the narrative element of causal mechanisms influence an individual's policy preference? Stone (1989; 2002) identified four types of causal mechanisms accidental, mechanical, inadvertent, and intentional. This study will be testing the influence of two of the causal mechanisms; inadvertent and intentional. Specifically, is there a difference between intentional and inadvertent causal mechanism on the power of influence on an individual's policy preference?

Public Policy Debate Case Study: Restoration of Bison to Public Grasslands in Eastern Montana

In order to gauge the influence of different causal mechanism embedded within policy narratives, this study centers around a highly contentious current public policy debate over whether or not wild bison should be restored to portions of public grassland in eastern Montana. Wild bison have been absent from this region since hunted to near extinction by commercial hunters in the late 1880s. The majority of the private land within the region is agricultural land, with a large percent used for cattle grazing. The region is seeing a decline in population partly due to an increase in corporate agriculture. In the region there is a large amount of public land managed by a variety of agencies under different management directives, including the 1,100,000 acre Charles M. Russell Wildlife Refuge. Montana has a long-standing tradition of allowing ranchers to graze their cattle on public land for a fee. The Taylor Grazing Act of 1934

defined grazing of private livestock on public land as a privilege, and it has grown to be very important for the economic viability of individual ranchers. The Multiple-Use, Sustained Yield Act of 1960 recognized that public land must be managed for a variety of uses including for wildlife. These two acts establish that public grazing land must be managed for domestic livestock grazing and the needs of wildlife. This dual purpose leads to the current debate over whether or not there is a place for bison on the landscape.

The state wildlife agency has begun an examination as to whether or not there is a place for bison to be managed as wildlife on public lands in eastern Montana. This examination is occurring through the development of a programmatic environmental impact statement under the Montana Environmental Policy Act (MEPA). This Act requires the input of the public through formal scoping meetings and public hearings. Two opposing interests have arisen within this highly controversial policy debate. These two opposing interests are competing to have their narrative gain legitimacy within the media, in political campaigns, on group websites, and through public meetings. The agency received 22,928 comments from an estimated 20,000 individuals during the public scoping process, which indicates that this policy issue has garnered the attention of local, regional, and national interests and politicians.

The first of the competing interests are those who strongly oppose the restoration of bison. Eastern Montana, which has a large agricultural base, places a high value on personal property rights and freedoms. Those that oppose bison restoration have developed narratives that argue that the restoration of bison will lead to the end of agriculture in Montana. The second are those who support the restoration of bison. This coalition has developed the narrative that it is important to restore bison to the grassland ecosystems, and that the state is responsible for righting the historical wrong of commercial bison hunting.

Though the interests involved in this debate have developed their own narratives, the decision was made to develop narratives allow for the isolation of the narrative element of causal mechanisms. The treatment narratives were developed based on public comments that were voiced at public meetings throughout the state and by examining the narratives that the competing interests have developed. One of the researchers works for the state wildlife agency and so has been exposed to the narratives that both interests have constructed.

Methodology

This study utilized a quantitative research strategy with an experimental research design to examine the extent to which the narrative element of causal mechanisms influences individual opinion. A pre-post-test design was employed in order to allow the independent variable, causal mechanism, to be manipulated to determine if it has an influence on the dependent variable, public policy opinion (Bryman, 2008). The data used in the study was obtained from an online Survey Monkey study (n=880) that was taken by undergraduate students over the age of 18 enrolled at a large public university in the fall of 2012 (N=14,153 fall of 2011, data is not available for fall of 2012).

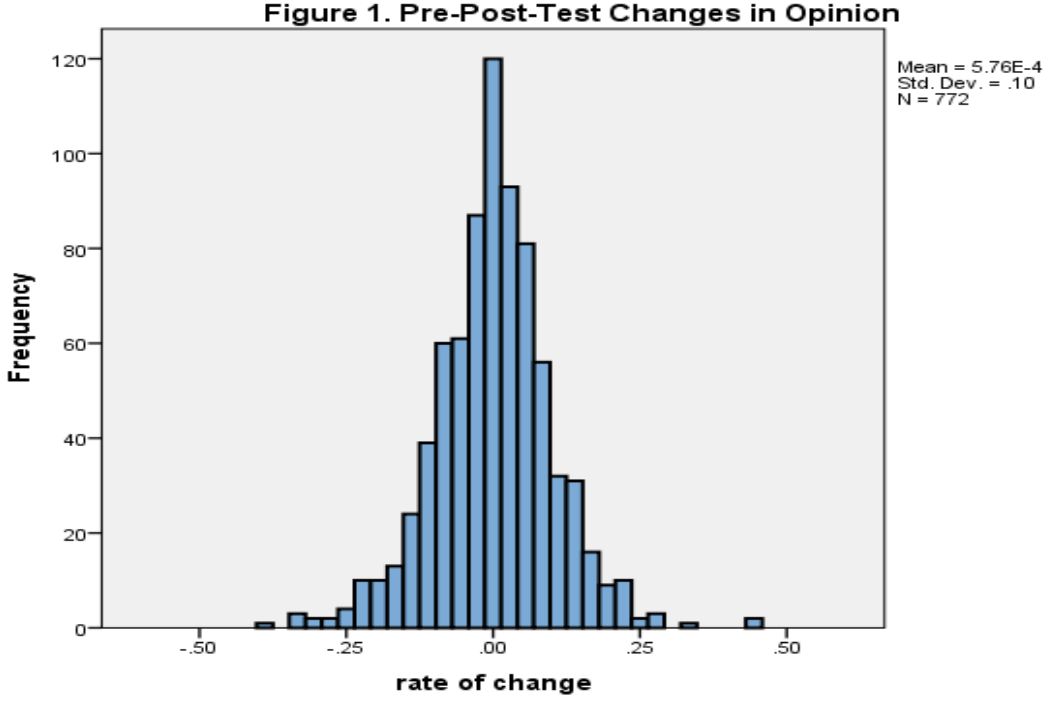
Within a quantitative study it is important to use a representative sample of the population, so that the results could be more readily generalized to the entire population (Marshall, 1996). While university students are not representative of the general population, they are more representative of an attentive political public that has higher rates of education and higher than average levels of reading; notably, the age of our sample is likely not representative of this population parameter, thus potentially introducing some sampling bias. In order to reach a broader array of students, two sampling techniques were utilized. The first technique was a convenience sample, which allows for accessibility to study subjects (Bryman, 2008). A brief

message and link to the online survey was either e-mailed or handed out to approximately 5,000 students that were enrolled in larger 100/200 level college courses. In order to increase the response rate the researcher presented the study during 12 of the courses. A brief message and link to the survey was also posted on a Facebook group for incoming freshman, which has approximately 900 members. The second technique was a probability sample, which is one that uses simple random selection in order to allow each unit within the population an equal chance of selection (Marshall, 1996; Bryman, 2008). An e-mail list of 2,500 undergraduate students was randomly generated from the undergraduate list serve. The 2,500 individuals were e-mailed a brief message and link to the survey. It is not possible to determine how many of the completed surveys resulted from the two sampling techniques, though based on timing of survey completion it appears to be close to equal.

All of the surveys were completed within a four-week time period. In order to increase student response rates, students who competed the survey had the option of being entered to win cash in the amount of $25, $50, $75, or $100 (total offered is $250). A total of 880 individuals took the survey. Of the 880 surveys, 757 surveys were completed. The survey did not include any personal or identifying information in order to increase confidentiality. Students were given the choice of entering contact information for the cash drawing. In order to increase confidentiality the contact information was kept separate from the survey results. The survey methodology utilized in this study consisted of an online self-completion questionnaire with closed questions (Appendix A). The dependent variable, opinion change, was pre- and post-tested with a set of 6, 7-point likert scale questions that were, in turn, built in to a scale variable. The opinion variable thus has a range from 6 to 42 and had a satisfactory Cronbach's alpha

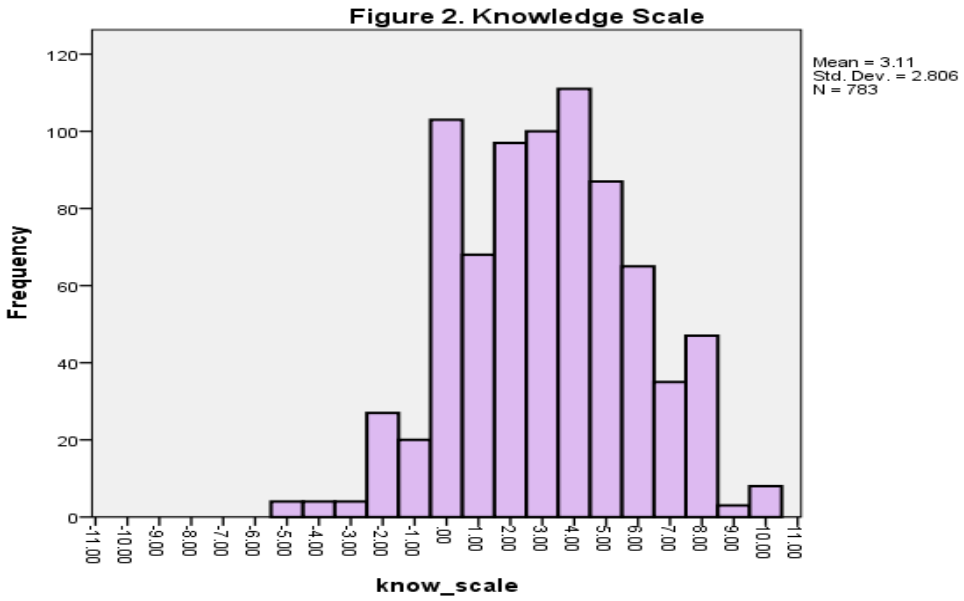
(.713)[1]; changes in the pre-and post-test thus accounted for direction of change, i.e., a negative rate means movement towards the anti-restoration narratives and a positive change means movement towards the pro-restoration narratives (Figure 1).

Figure 1. Pre-Post-Test Changes in Opinion

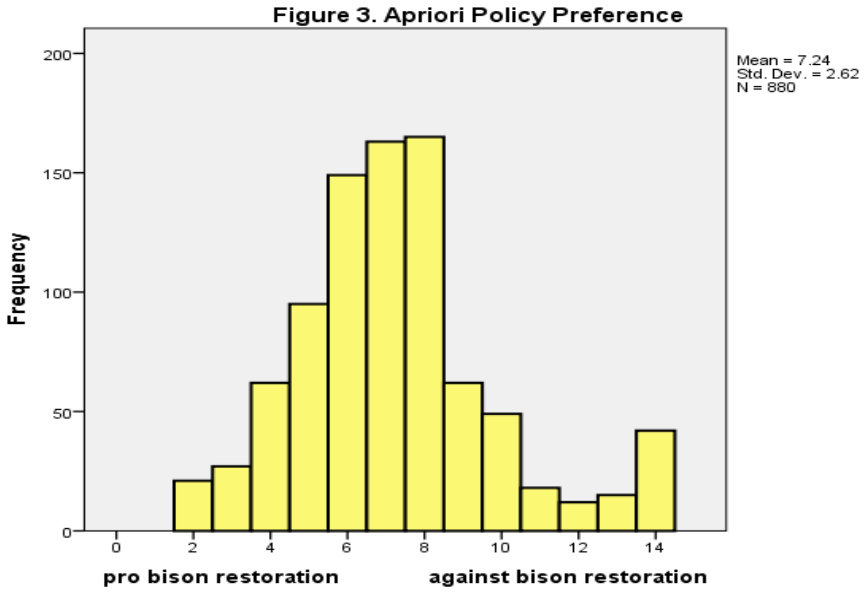


Additionally, each respondent was asked 10 knowledge questions, centered on the policy issue; these questions were combined for a scale variable (Cronbach's alpha = .772), with the range of -10 for all incorrect answers, 0 for 'do not know' and +10 for all correct answers (Figure 2).

[1] Two different sets of four red herring questions were included in the pre-and post-tests to assist in ensuring respondent interest.



Finally, two questions were asked to determine policy preference, resulting in a point scale (Cronbach's alpha = .664; Figure 3). The range was 2 for pro-bison restoration to 14 against bison restoration.



Each subject was then randomly assigned to one of four treatments policy narratives containing a causal mechanism or a neutral control narrative. While the study is aimed at understanding the power of causal mechanisms in influencing individual opinion, it is also

necessary to control for policy preference stated in the narrative. Thus, the treatment narratives consisted of a pro-restoration narrative with an inadvertent causal mechanism, a pro-restoration narrative with an intentional causal mechanism, and an anti-restoration narrative with an inadvertent causal mechanism, and an anti-restoration with an intentional causal mechanism (Stone, 1989; 2002) (Appendix B). The narratives were developed by the research team in order to enable the isolation of the causal mechanism narrative element. Structurally, the narratives were consistent, with each containing a similar setting (Stone, 2002), characters, and a moral of the story or policy solution (Stone, 2002). The subjects were informed that they were participating in a study about a policy debate, but they were not informed of the purpose of the study or that different subjects were reading different policy narratives.

Control variables (Table 3) were measured at different times in the experiment. Policy knowledge and policy preference questions were asked before the treatment. Political ideology was asked along with other demographic questions after the treatment to give the respondents some time between the pre- and post-test questions. The survey questions and the narratives were predetermined by the researcher and her committee as a method to increase the internal reliability and dependability of the study (Bryman, 2008).

Table 3. Descriptive Statistics of Dependent, Independent, and Treatment Variables

	N	Range	Measure of Central Tendency
Opinion Change	772	-.39 to .44	mean = .01 median = 0
Knowledge Scale	783	-10 to 10	mean = 3.11 median = 3.00
Apriori Policy Preference	880	2 to 14	mean = 7.24 median = 7.00
Political Ideology	774	1 to 7	mean = 3.87 median = 4.00

The survey questions were directly related to the particular policy debate and thus cannot be applied to other policy debates. The overall survey, with the inclusion of the policy narratives, could be utilized with other populations, which increases the external validity and

reliability of the study (Bryman, 2008). The methods used in the study are clear thus increasing that ability that the study could be replicated by other researchers.

Results

To determine the extent to which causal mechanisms influence policy opinion, two statistical tests are executed. First, a paired-*t*-test is conducted to examine opinion changes when exposed to different causal mechanisms in narratives that either pro or against the proposed policy of bison restoration. These comparisons are conducted by respondents' a priori policy preference. Second, a regression analysis is conducted for each causal mechanism; thus, the causal mechanism, respondent policy preference, policy knowledge, and political ideology are regressed on the rate of change between the pre- and post-tests.

The results of the paired *t*-tests generally demonstrate the power of intentional causal mechanisms over that of inadvertent causal mechanisms. The intentional causal mechanisms demonstrate statistically significant changes across both pro and against restoration narratives, despite the respondent's policy preference, with one exception (Table 4). The changes all occurred in the direction of the narrative policy stance. In other words, the pro restoration narratives with an intentional causal mechanism had a statistically significant influence toward the policy preference that is pro restoration; the narratives that were against restoration with an intentional causal mechanism had a statistically significant influence toward the policy preference that is against bison restoration. In contrast, the narratives that harbored an inadvertent causal mechanism had only two out of the six demonstrate statistical significance. As expected, the control group showed no statistically significant change in opinion.

Controlling for respondent policy preference allows for a closer examination of the power of these causal mechanisms. For example, while a person with an a priori policy preference that

supports bison restoration is expected to be reified or bolstered in his/her opinion, a person with an opposing policy viewpoint whose opinion shifts toward the policy stance in the narrative more keenly demonstrates the power of that causal mechanism. Those whose policy preferences are not strong are expected to be more strongly swayed by the narrative.

Table 4. Change of Opinion by Policy Preference, Causal Mechanism, Narrative Stance

Causal Mechanism by Narrative Policy Stance	Respondent Policy Preference (n)		Change in Opinion *t*-statistic, sig.
Inadvertent			
pro restoration	support	(n=47)	t= -.398, *ns*
	middle	(n=58)	t= 1.805, p<.039
	oppose	(n=33)	t= .887, *ns*
against restoration	support	(n=68)	t= -1.924, p<.029
	middle	(n=62)	t= .847, *ns*
	oppose	(n=27)	t= .247, *ns*
Intentional			
pro restoration	support	(n=76)	t= 1.870, p<.032
	middle	(n=56)	t= 2.090, p<.020
	oppose	(n=38)	t= 2.048, p<.048
against restoration	support	(n=69)	t= -3.810, p<.001
	middle	(n=61)	t= -.563, *ns*
	oppose	(n=44)	t= -1.718, p<.046
Control			
	support	(n=63)	t= -.290, *ns*
	middle	(n=43)	t= -1.261, *ns*
	oppose	(n=32)	t= .403, *ns*

NOTE: all *t*-tests are one-tailed

Indeed, some of the strongest opinion changes occurred when a respondent with a strong policy preference was exposed to a narrative with an opposing policy stance. For those who opposed the policy a priori and read pro restoration narratives, only the intentional causal mechanism demonstrated statistically significant influence (t= 2.048, p<.048). However, for those who supported the policy a priori and read against restoration narratives, both the intentional and inadvertent causal mechanisms reveal statistically significant influence (t= -3.810, p<.001; t= -1.924, p<.029, respectively).

Interestingly, when examining the influence of these casual mechanisms on respondents who share the same policy stance, the inadvertent casual mechanisms demonstrated no statistically significant influence. In contrast, the intentional causal mechanism did demonstrate change or reification of policy preference in respondents with congruent policy stances (t= 1.870, p<.032; t= -1.718, p<.046, support and oppose, respectively). This is perhaps an important distinction in the effect of casual mechanism in garnering stronger support for the base, so-to-speak.

Finally, the expectation was that those who do not harbor a strong policy preference would be more susceptible to being influenced by the narratives. Two of the four paired t-tests were statistically significant, and both were the pro restoration narratives with both the inadvertent and intentional causal mechanisms (t= 1.805, p<.039; t= 2.090, p<.020, respectively).

The second set of statistical analyses is that of regression, which reveals the precise nature of the influence causal mechanisms have on changes of opinion (Tables 5 and 6). With the causal mechanism, policy preference, policy knowledge, and political ideology are regressed on rate of change of opinion. The causal mechanisms are dichotomous variables, with the control narratives as the y-intercept. Thus, there are four regression equations, reflecting the causal mechanism by policy stance.

These regression results reveal that inadvertent causal mechanism have no statistically significant effect on the dependent variable, rate of opinion change, while the intentional causal mechanism does indeed have a statistically significant influence (t=2.999, p<.002; t= -1.991, p<.03). Additionally, policy knowledge, political ideology, and policy preference have statistically significant influences on change of opinion.

Table 5. Influence of Inadvertent Causal Mechanisms on Rate of Opinion Change

Pro restoration independent variables	*t*-statistic	*p*-value	*F*-statistic	R^2_{adj}
inadvertent causal mechanism	1.535	*ns*		
policy knowledge	4.882	.001		
political ideology	3.373	.001		
policy preference	3.837	.001		
			10.451, p<.001	
				.122
Against restoration independent variables	*t*-statistic	*p*-value	*F*-statistic	R^2_{adj}
inadvertent causal mechanism	.049	*ns*		
policy knowledge	3.022	.002		
political ideology	2.769	.003		
policy preference	3.318	.001		
			5.660, p<.001	
				.112

Note: all tests are one-tailed

Table 6. Influence of Intentional Causal Mechanisms on Rate of Opinion Change

Pro restoration independent variables	*t*-statistic	*p*-value	*F*-statistic	R^2_{adj}
intentional causal mechanism	2.999	.002		
policy knowledge	4.667	.001		
political ideology	2.785	.003		
policy preference	3.372	.001		
			10.650, p<.001	
				.060
Against restoration independent variables	*t*-statistic	*p*-value	*F*-statistic	R^2_{adj}
intentional causal mechanism	-1.991	.03		
policy knowledge	3.043	.002		
political ideology	2.528	.006		
policy preference	2.574	.005		
			5.667, p<.001	
				.057

NOTE: all tests are one-tailed

In sum, these results reveal that causal mechanisms are influential on policy opinion, with intentional causal mechanisms having more power than that of inadvertent. There are other important factors that also play a role in shaping opinion, such as knowledge, political ideology and a priori policy preference. However, taken as a whole, these variables explain relatively small amounts of the variation in the rate of change (ranging from 5.7% to 12.2% in the R^2_{adj}).

Discussion

The mere act of reading information does not influence an individual's policy preference, what appears to matter is how that information is constructed and presented. The policy opinion of the individual who reads a control treatment, is not influenced in a statistically meaningful way. This supports the concept that a condition does not become identified as a policy problem unless it is defined, constructed as one and presented to citizens as such (Stone, 2002; Anderson, 2011). When isolated from other aspects of a policy narrative, the narrative element of causal mechanism has an influence on an individual's policy opinion, with the intentional causal mechanism having a significantly more powerful influence than the inadvertent causal mechanism. This finding supports the concept that narratives do have an influence on an individual's understanding of the world (e.g. Stone, 2002; Jones, 2010; Jones & McBeth, 2010; Shanahan, McBeth, & Hathaway; 2011, Shanahan et al., 2012).

When evaluating a policy narratives' influence on an individual's policy opinion, influence can be examined in two ways. The first is the extent to which a narrative 'preaches to the choir' and thus reinforces the policy preference of an individual that already aligns with the policy preference presented in the narrative (Shanahan, McBeth, & Hathaway, 2011). The second is the extent to which a narrative 'converts' the policy preference of an individual who has an opposing preference than the one presented in the narrative (Shanahan, McBeth, & Hathaway, 2011). Shanahan, McBeth, & Hathaway (2011) find "the power of policy narratives can both strengthen the opinions of friendly audiences and convert the opinions of audiences harboring divergent opinions" (p. 392).

Overall the inadvertent causal mechanism does not have a strong influencing effect on individual policy preference. It is not clear as to why the inadvertent causal mechanism

increases the support of those whose initial policy preference is in the middle when embedded in the pro-restoration, but does not have the same influence when embedded within an against restoration narrative. This same result occurs with the intentional causal mechanism as well. The inadvertent causal mechanism is able to convert those who initially support bison restoration, when it is embedded in an against restoration narrative. This finding contradicts Stone's (1989) belief that "the weakest defense is to show inadvertence, especially of the unforeseen consequences variety" (Stone, 1989, pp. 292).

In the against restoration inadvertent narrative, it is possible that the reader saw the extermination of bison as an unintended mistake, a mistake that modern ranching interests should not be blamed for and thus should not have to bear the responsibility of rectifying. Stone (2002) recognizes that inadvertence can be perceived of as ignorance in which an individual does not understand the harmful consequences and is almost a victim himself or herself. "In politics, we look for causes not only to understand how the world works, but also to assign responsibility for problems" (Stone, p. 189). If the eradication of bison was a mistake and no one is assigned responsibility, does it lessen support or demand for action? If this is the case than the inadvertent causal mechanism could be an effective counter narrative for an interest to use when blame or responsibility is placed on them.

Unlike the inadvertent mechanism, the intentional causal mechanism has a powerful influence on shaping individual policy preference, by both 'preaching to the choir' and 'converting'. Stone (2002) makes the theoretical claim that intentional cause is the most politically powerful offensive position that a political interest can take as it lays blame directly on a political actor and makes the claim that they intentionally caused harm. This study is the first time that this claim has been empirically examined to determine if causal mechanisms do

influence individual policy theory. The intentional causal mechanism influences individual policy opinion for all three a priori policy preference when exposed to both pro and against restoration narratives, except for the middle of the road individuals who were exposed to an against restoration narrative. The power of assigning blame is recognized by policy theorists, and makes up much of the political strategy of competing interests within the United States.

Overall the results of this study indicate that causal mechanisms are not only able to 'preach to the choir', but they are strong enough to 'convert' individuals who hold an opposing opinion. This in an important finding as many interests develop narratives with their constitutes in mind in order to generate more support and often view the opposition as a 'lost cause'. If a narrative can be constructed to increase support among those who initially held an opposing perspective this can be an important tool in public policy debates. Within this study slightly more change occur through conversion than 'preaching to the choir'. This result differs from the findings of Shanahan, McBeth, & Hathaway, (2011), which saw that narratives in general cause "slightly more changes in opinion occur in the 'preaching to the choir context" (p. 390). The difference in results likely comes from the fact that this study was not testing narratives in general, but was able to isolate and manipulate an individual narrative element within a narrative.

The ability of a narrative to influence an individual's policy preference can engender and provide the foundation of the dialectic relationship between citizens and government (Stivers, 1994; King, Feltey, & Susel, 1998) that forms the basis of self-governance (Denhardt & Denhardt, 2007). Individuals can use narratives to express their policy preferences and engage with one another in the authentic dialogue required for deliberative democracy. On the other hand, the continual competition between interests to use the influence of narratives to gain legitimacy through the consent of the broader citizenry can also cause policy debates to become

a market place in which policies are sold to individual's through narratives (McBeth & Shanahan, 2004). McBeth & Shanahan (2004) identify that the citizen can become a political consumer whose "knowledge and interests are marketed to them. Thus, public policy problems are defined by policy marketers not citizens" (p. 328).

In order to utilize narratives to increase self-governance, it is essential that those within the field of public administration continue gain an understanding of the influence of narratives and how narratives are constructed. As further understanding is gained as to how narratives operate to influence, public opinion interests will use this knowledge to further influence public policy in their favor. In order to facilitate authentic participation, public administrators will need to work to enable citizens to understand how narratives influence them and how to develop narrative strategies so that their interests are not lost within the public policy debate. It is also important that those working within the field of public administration gain an understanding of how to develop narratives that enable the agency to continue to have a voice within the public policy debate. All to often the narratives of opposing interests are structured in a way that is more powerful than how an agency presents the science behind a decision.

A limitation of this study is the short period of time between when the individual read the treatment narrative and took the post-test. This methodology means that this study can only speak to the short-term effects of a narrative's influence on individual policy preference. It is possible that the influence of a narrative has a different effect in the long term. Further research needs to occur to determine the influence that narrative causal mechanisms has in the long run. Does the intentional causal mechanism begin to lose strength over time as people tire of the 'blame game'? Does the inadvertent causal mechanism gain strength over time as an individual begins to feel empowered? These questions will need to be examined in further research.

Using students as a sample does limit the ability to generalize the results of this study to the general population. Shanahan, McBeth, & Hathaway (2011) argue that "active citizen populations have...similar educational backgrounds and critical thinking skills as college students" (p. 382). It would be beneficial for future researchers to replicate this study with other populations to see if the influence of narratives differs amongst different populations.

Conclusion

The recognition that policy problems do not inherently exist on their own and must be constructed and fought for (Stone, 2002) has been an important step in understanding how policy decisions occur. This recognition alone does not allow for an increase in authentic dialogue, rather through gaining a better understanding as to how policy persuasion occurs citizens can begin to regain self-governance.

NPF is proving to be an important tool in the process of understanding the effect that narratives play in public policy debates, but more research needs to occur. The results from Shanahan, McBeth, & Hathaway (2011) are an important step in demonstrating "the power of policy narratives in impacting public opinion in a controversial policy issue" (pp. 391). This study takes the next step and identifies that the narrative element of intentional causal mechanism has a significant influence on individual opinion in the policy debate. In order to develop more effective narratives it is important to determine which of the narrative elements have an impact on influence. The next step will be to further identify the influence that other narratives elements have on an individual, as well as whether narrative elements can be combined to increase the influence of a narrative in a policy debate.

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Appendix A: Survey Questions

Your Opinion on the Current Policy Debate

THE POLICY ISSUE: whether to restore bison to their native prairie habitat in northeastern Montana or to not allow bison on these lands due to cattle grazing needs and ranching interests.

1. There are different OPINIONS about what should happen in this policy debate and why. Please indicate the extent to which you agree or disagree with the following policy statements that identify your OPINION on the issue:

	Extremely Agree	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Extremely Disagree
Montanans should preserve the RANCHING HERITAGE of the American West by maintaining cattle's use of prairie lands.							
COWS ARE A NATURAL PART of Montana's prairie landscape as much as bison are.							
The bison should be RETAINED AS THE SYMBOL for the Department of Interior.							
There is NOT ENOUGH open space for wild bison on the prairies, as the prairies are fragmented by highways, towns, and ranching businesses.							
Cattle SHOULD BE allowed to remain on the public prairie grasslands without the intrusion of bison.							
Bison SHOULD BE restored to the public prairie lands in Montana.							
Bison pose LITTLE OR NO THREATS to the cattle industry.							
Bison on public lands should be MANAGED AS WILDLIFE not livestock							
There are NO REAL DIFFERENCES between a bison and a beef cow.							

Causes of the Current Policy Debate

THE POLICY ISSUE: whether to restore bison to their native prairie habitat in northeastern Montana or to not allow bison on these lands due to cattle grazing needs and ranching interests.

2. There are many different CAUSES identified as to the root reason that there is a policy dilemma in the first place. Please indicate the extent to which you agree or disagree with the following policy statements that identify the CAUSE of the issue:

	Extremely	Strongly	Agree	No	Disagree	Strongly	Extremely

	Agree	Agree	Opinion	Disagree	Disagree
This policy dilemma is no one's fault. The days of vast herds of bison on Montana public grasslands are simply of a bygone era, rendering bison restoration efforts a fruitless endeavor.					
This policy dilemma is the direct result of too much media attention that exacerbates the opinions of both sides.					
This policy dilemma is caused by an unresolved land use issue that stems as far back as 200 years ago.					
This policy dilemma is no one's fault. We just need to work together to come up with a solution.					
This policy dilemma is caused by some groups that threaten our economic and historic ranching livelihood by proposing to restore bison of a bygone era to our public prairie lands in Montana.					
This policy dilemma is caused by the self-interested few who feel their right to use public land for cattle grazing is more important than the rights of other users, such as bison.					
This policy dilemma is no one's fault. The near elimination of bison as a wild species was tragic, and it is simply our responsibility to bring bison back to their native prairie habitat in Montana.					

The Role of Different Entities in the Current Policy Debate

THE POLICY ISSUE: whether to restore bison to their native prairie habitat in northeastern Montana or to not allow bison on these lands due to cattle grazing needs and ranching interests.

3. People perceive entities in policy debates to play different roles. For example, there are HEROES, who help lead the way to your desired solution. Please rate the role you believe the following entities play in being a HERO in obtaining your desired policy solution.

	central role	significant role	some role	no role	do not know
Montanans					
the U.S. President					
urbanites					
ranching/cattle interests					
Native Americans					

the media
bison advocates
Americans
The youth of today
Bison
“we” or “us”
scientists

4. People perceive entities in policy debates to play different roles. For example, there are VILLAINS, who hinder progress or thwart your preferred outcome. Please rate the role you believe the following entities play in being a VILLAIN in hindering your preferred policy outcome.

	central role	significant role	some role	no role	do not know
Montanans					
the U.S. President					
urbanites					
ranching/cattle interests					
Native Americans					
the media					
bison advocates					
Americans					
The youth of today					
Bison					
“we” or “us”					
scientists					

5. People perceive entities in policy debates to play different roles. For example, VICTIMS, who suffer negative affects from not having your policy solution. Please rate the extent to which you believe the following entities are VICTIMS who would be negatively affected if your favored policy outcome is NOT achieved.

	significantly affected	moderately affected	minimally affected	not at all negatively affected	do not know
Montanans					
the U.S. President					
urbanites					
ranching industry					
Native Americans					
the media					

bison
Americans
the youth of today
cattle
tourism industry
other wildlife
American West's heritage of ranching
American West's heritage of wildlife

General Understanding of the Policy Issue

THE POLICY ISSUE: whether to restore bison to their native prairie habitat in northeastern Montana or to not allow bison on these lands due to cattle grazing needs and ranching interests.

6. To the best of your knowledge, please indicate whether you believe each of the following statements is TRUE, FALSE, or DO NOT KNOW.

	True	False	Do not know
Historically bison did not exist east of the Continental Divide			
All wild bison are naturally infected with brucellosis, a disease that can impact the beef cattle industry			
Some Native American tribes signed treaties with the U.S. government that gave them the right to hunt wildlife (including bison) on certain public land in Montana.			
Studies have shown that bison will prevent cattle from getting close to needed water sources.			
Historically, bison were found throughout the majority of the region that is now known as Montana.			
The once vast herds of bison in Montana naturally died out due to overpopulation.			
In Montana, the legal classification for bison is both as a wild species and a domestic livestock.			
Excluding the bison in Yellowstone National Park, there are some herds of wild bison in Montana on a year round basis.			
There are wild bison herds in other western states such as Utah and Arizona where the bison are managed like other wildlife species.			
Bison are unable to jump and therefore must trample cattle fencing if they want to get through.			

Just a Quick Bit About You Before We Move On...

7. In what year were you born? (enter 4-digit birth year; for example, 1990)

8. **What is your gender?**

Male Female

9. What state did you spend the majority of your life before age 18 and consider home? (Choose from drop-down menu of all states)

10. What is the approximate population of the town where you spend the majority of your life before age 18?

- 1 to 1,000
- 1,001 to 5,000
- 5,001 to 10,000
- 10,001 to 20,000
- 20,001 to 50,000
- 50,001 to 75,000
- 75,001 to 100,000
- 100,001 to 200,000
- 200,001 to 499,000
- 500,000 to 1,000,000
- 1,000,001 or more

11. You mother's occupation is….? (check all that apply)

- tied to agriculture
- tied to ranching
- tied to tourism
- none of the above

12. You father's occupation is….? (check all that apply)

- tied to agriculture
- tied to ranching
- tied to tourism
- none of the above

13. How would you describe your political views?

- strong conservative
- conservative
- leaning conservation
- middle of the road
- leaning liberal
- liberal
- strong liberal

14. To what extent do you believe that WILDLIFE and TOURISM is a major economic driver n Montana?

- A very important economic driver

- A moderately important economic driver
- A somewhat important economic driver
- Not important as an economic driver

15. To what extent do you believe that RANCHING is a major economic driver n Montana?

- A very important economic driver
- A moderately important economic driver
- A somewhat important economic driver
- Not important as an economic driver

Your Opinion on the Current Policy Debate AFTER Reading the Policy Statement…

Now that you have read a policy statement on this issue, please answer the following questions about your OPINION about the policy issue.

Just in case... THE POLICY ISSUE: whether to restore bison to their native prairie habitat in northeastern Montana or to not allow bison on these lands due to cattle grazing needs and ranching interests

16. There are different OPINIONS about what should happen in this policy debate and why. Please indicate the extent to which you agree or disagree with the following policy statements that identify your OPINION on the issue:

	Extremely Agree	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Extremely Disagree
There is NOT ENOUGH open space for wild bison on the prairies, as the prairies are fragmented by highways, towns, and ranching businesses.							
Bison SHOULD BE restored to the public prairie lands in Montana.							
Bison pose LITTLE OR NO THREATS to the cattle industry.							
Cattle SHOULD BE allowed to remain on the public prairie grasslands without the intrusion of bison.							
Montana should FOLLOW NORTH DAKOTA's LEAD in restoring bison to the prairie grasslands.							
Bison should REMAIN IN YELLOWSTONE NATIONAL PARK to protect the cattle industry.							
Montanans should preserve the RANCHING HERITAGE of the American West by maintaining cattle's use of prairie lands.							

Bison on public lands should be MANAGED AS WILDLIFE not livestock.						
Bison advocacy groups use unseemly PROTEST lobby tactics as a way to win their policy wars.						

Causes of the Current Policy Debate AFTER Reading the Policy Statement

Now that you have read a policy statement on this issue, please answer the following questions about CAUSES of the policy dilemma.

Just in case...THE POLICY ISSUE: whether to restore bison to their native prairie habitat in northeastern Montana or to not allow bison on these lands due to cattle grazing needs and ranching interests.

17. As indicated earlier, there are many different CAUSES identified as the root reason that there is a policy dilemma in the first place. Please indicate the extent to which you agree or disagree with the following policy statements that identify the CAUSE of the issue:

	Extremely Agree	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Extremely Disagree
This policy dilemma is caused by long-standing historic differences between ranching interests and environmentalists.							
This policy dilemma is caused by those ranching interests that refuse to see the value in the bison as a symbol of this country.							
This policy dilemma is caused by the self-interested few who feel their right to use public land for cattle grazing is more important than the rights of other users, such as bison.							
This policy dilemma is caused by some groups that threaten our economic and historic ranching livelihood by proposing to restore bison of a bygone era to our public prairie lands in Montana.							
This policy dilemma is no one's fault. The days of vast herds of bison on Montana public grasslands are simply of a bygone era, rendering bison restoration efforts a fruitless endeavor.							
This policy dilemma is caused by elected officials who change their opinions, depending on what special interest group is giving to their campaign coffers.							
This policy dilemma is no one's fault. The near elimination of bison as a wild species was tragic, and it I simply our responsibility to bring bison back to their native prairie habitat							

in Montana.

The Role of Different Entities in the Current Policy Debate AFTER Reading the Policy Statement

Now that you have read a policy statement on this issue, please answer the following questions about the HEROES, VILLAINS, and VICTIMS of the policy debate.

Just in case...THE POLICY ISSUE: whether to restore bison to their native prairie habitat in northeastern Montana or to not allow bison on these lands due to cattle grazing needs and ranching interests.

18. People perceive entities in policy debates to play different roles. For example, there are HEROES, who help lead the way to your desired solution.

Please rate the role you believe the following entities play in being a HERO in obtaining your desired policy solution.

	central role	significant role	some role	no role	do not know
Montanans					
elected officials					
manufacturing interests					
ranching/cattle interests					
Native Americans					
local news outlets					
bison advocates					
Americans					
neighboring states					
Bison					
"we" or "us"					
scientists					

19. People perceive entities in policy debates to play different roles. For example, there are VILLAINS, who hinder progress or thwart your preferred outcome. Please rate the role you believe the following entities play in being a VILLAIN in hindering your preferred policy outcome.

	central role	significant role	some role	no role	do not know
Montanans					
elected officials					

manufacturing interests
ranching/cattle interests
Native Americans
local news outlets
bison advocates
Americans
neighboring states
Bison
"we" or "us"
scientists

20. People perceive entities in policy debates to play different roles. For example, VICTIMS, who suffer negative affects from not having your policy solution. Please rate the extent to which you believe the following entities are VICTIMS who would be negatively affected if your favored policy outcome is NOT achieved.

	significantly affected	moderately affected	minimally affected	not at all negatively affected	do not know
Montanans					
elected officials					
manufacturing interests					
ranching industry					
Native Americans					
local news outlets					
bison					
Americans					
neighboring states					
cattle					
tourism industry					
other wildlife					
American West's heritage of ranching					
American West's heritage of wildlife					

Appendix B: Treatment Narratives

Pro-Restoration with an Inadvertent Causal Mechanism Narrative:

While the near elimination of bison as a wild species in Montana was a tragic mistake, it can be rectified by allowing bison to return to the public grasslands they once inhabited. We not only have the opportunity to bring bison back to their native prairie habitat, we also have the responsibility to do so. Given our ranching history in the American West, many of us have become accustomed to thinking of bison as livestock, to be managed and controlled. As a result, we have inadvertently limited what we thought possible for the bison. What if we think about these wild bison as North America's elephant—a threatened species with fierce herd loyalty, cultural ties to our Native American tribes, an important part of the ecosystem for other wildlife, and our national symbol? Suddenly the idea of restoring bison as a valued wildlife species seems like the right plan to protect what some call our National Mammal. As Americans honoring our past, we can find solidarity behind this solution. Now is the time when Montanans have an opportunity to be national leaders in this effort to preserve our heritage of the American West and continue our state wildlife legacy which has restored other species such as elk and deer.

Pro-Restoration with an Intentional Causal Mechanism Narrative:

While the near elimination of bison as a wild species in Montana was a tragic mistake, ranching interests are perpetuating this history of irradiation by fighting to keep bison off of our public prairie lands. We not only have the opportunity to bring bison back to their native prairie habitat, we must stand up to the self-interested few who feel their right to use public land for cattle grazing is more important than the rights of other users. By using misinformation and fear tactics, the ranching industry is trying to stop the restoration of wild bison back to their native habitat. The cattle industry only sees bison as livestock, to be managed and controlled for their own narrow economic interests. These groups threaten our growing tourism industry that is based on our diverse wildlife. Ranchers claim that bison will compete with their cattle for grass, destroy their expensive fences, and give their cattle diseases. However, scientists say there is enough wide-open publicly owned space suitable for bison and the potential impact to the cattle industry could be mitigated. Now is the time when Montanans have an opportunity to be national leaders in this effort to preserve our heritage of the American West and continue our state wildlife legacy which has restored other species such as elk and deer.

Against Restoration with an Inadvertent Causal Mechanism Narrative:

While the near elimination of bison as a wild species in Montana was a tragic mistake, we need to recognize that the days of vast herds of bison on the public prairie lands they once inhabited are indeed past. Well-meaning groups would like to see bison back in its original habitat, but the fact of the matter is that habitat is simply gone. Those swaths of grassland are now dotted with our beloved towns, fragmented by our well-used highways, and occupied by industries like ranching that serve as strong economic drivers in our state. We have progressed in important ways, with our robust cattle industry filling the niche the bison once held. We have a responsibility to continue to enrich and safeguard our 150 year American legacy of cattle ranching on these beautiful prairie lands once occupied by bison. Advocates for restoring bison fear that these animals will be forgotten, but our American bison are everywhere—on signs and billboards, advertising and letterhead, as decor for homes and lodges, and, of course, in Yellowstone National Park. Now is the time when Montanans have an opportunity to be national

leaders in this effort to preserve our heritage of the American West by maintaining cattle's use of these prairie lands, thus continuing our state's ranching legacy.

Against Restoration with an Intentional Causal Mechanism Narrative:

While the near elimination of bison as a wild species in Montana was a tragic mistake, some advocacy groups are threatening our economic and historic livelihood by proposing to restore bison of a bygone era to our public grasslands in Montana. By using misinformation and fear tactics, these bison advocacy groups are trying to pull on heart-strings of nostalgia and threaten our private property rights. These groups would like to see bison back in their "original" habitat, but the fact of the matter is there is no such thing! Those swaths of grassland have already been developed with our beloved towns, our well-used highways, and, yes, our important cattle industry. By pushing bison onto the fragments of public prairie, these groups threaten our robust cattle industry, our economic well-being, and our 150 year American legacy of cattle ranching on these beautiful prairie lands. Cattle and bison are not meant live side-by-side, because these bison will knock down our fences, compete with our herds for grass, and possibly spread terrible diseases to our cattle. It makes us wonder if what these groups really want is to drive the ranchers off their lands! Now is the time when Montanans have an opportunity to be national leaders in this effort to preserve our heritage of the American West by maintaining cattle's use of prairie lands, thus continuing our state's ranching legacy.

Control Narrative:

There are two subspecies of bison, the plains bison and the wood bison. Plains bison historically occupied most of the North American continent, with the greatest concentration found in the Great Plains, which includes present day Montana. Bison evolved alongside other prairie species such as grassland birds, pronghorn antelope, and native prairie grasses. During the 1880s bison were eliminated in large quantities throughout their entire range, for varying reasons. Following the 1880s, there were bison in a few places: Yellowstone National Park, a small herd in Texas, and private herds that were started from orphaned bison calves. Today, the majority of bison exist in private commercial herds. However, there are two areas in Montana that are home to public herds. One is the National Bison Range and one is Yellowstone National Park. For both of these public herds of bison, the bison are managed to stay within the boundaries of these public lands. Montanans have different opinions as to whether or not a herd of wild bison has a place in Montana. Some feel that wild bison belong in Montana, whereas others feel that there are not enough resources to support bison and other land uses such as agriculture, livestock grazing, and energy exploration.

Appendix C: Survey Protocol

Bison or Cows? A Policy Decision for Montana Prairie Grasslands

Informed Consent

You are being asked to participate in a study about a policy debate in northeastern Montana to restore bison to the public prairie grasslands, a place where cattle are currently grazing. This policy has resulted in competing arguments from bison advocate groups that want to restore the bison and ranching groups that oppose this measure.

If you choose to participate by completing this survey, you will have an opportunity to be entered in a random drawing for one of four CASH PRIZE AWARDs: $25, $50, $75, or $100!!!

MSU students in introductory-level classes are being asked to participate, because you have the appropriate level of reading comprehension and a varied range of understanding of the issue. You must be 18 years or older to participate. Participation is voluntary; lack of participation will not hurt your grade.

You will not be identified with the results of your particular survey answers. Your name and student ID are never associated with your survey responses. All results are reported in the aggregate (all together). No one survey will be singled out.

The survey will take anywhere between 20 and 25 minutes to complete. There are a variety of questions, such as attitude, opinion, knowledge, and demographic questions. You will also be asked to read a policy statement (one paragraph), with some questions following your reading.

If you choose to be entered for a chance at winning one of the CASH PRIZES, please know that your contact information will remain separate from your survey. The random drawing will occur the week before Thanksgiving.

The risks are minimal: it will take your time and perhaps heighten some feelings if you are strongly invested in the issue. The benefits are that a) you will see how research is conducted and b) gain an understanding of the political system.

Results will be available in December 2012 from Dr. Elizabeth Shanahan (shanahan@montana.edu 406-994-5167). Additional questions about the rights of human subjects can be answered by Chairman of the Institutional Review Board, Mark Quinn (406-994-5721).

AUTHORIZATION: I have read the above and understand the discomforts, inconvenience and risk of this study. By proceeding with the study I agree to participate in this research. I understand that I may withdraw from the study at any time.

THANK YOU FOR YOUR TIME

Bison or Cows? A Policy Decision for Montana Prairie Grasslands

HELPFUL INFORMATION BEFORE STARTING THE SURVEY

Many thanks for participating in our survey, and good luck if you choose to enter to win some cash. Here is some helpful information.

1. Once you proceed from one page to the next, you may not return to the previous page.

2. It is best to complete the survey in one sitting. If you have to stop taking the survey for some reason, you will have to start the survey from the beginning when you log in again.

3. The survey can only be taken once.

Thank you again! Your participation is essential for accomplishing our research.

Brief Policy Statement

Please read the following policy statement carefully. Take your time. You will be asked questions about the policy issue after you have read this statement.

Individual survey taker is randomly assigned to one of the five treatment narratives (see Appendix B).

NOW ITS TIME TO ENTER FOR A CHANCE TO WIN SOME CASHE!!!

If you would like to be entered to win one of the following cash prizes of $25, $50, $75, or $100, please enter the following information. If you choose to enter yourself for the incentive award, please know that your contact information will remain separate from your survey. The random drawing will occur on October 4th.

21. Please enter the following information
Name:
Email Address
Phone Number