

An Exploratory Study of Risk Experience and Personal Values on Support for Climate Change Policies

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An Exploratory Study of Risk Experience and Personal Values on Support for Climate Change Policies

Abstract

In 2020 Oregon suffered one of the worst wildfire seasons on record that included a higher percentage of burned forest area, the destruction of residential areas, and significant risk to human health. The level of wildfire intensity was largely attributed as an effect of climate change, and future Oregon wildfire seasons are predicted to grow in intensity, acreage burned, and total duration. Public policy can be a tool to help to mitigate the effects of climate change, but successful policy implementation relies on public support. Therefore, this study sought to explore two factors that may influence support for climate change policy: risk experience and personal values. Oregon residents' perceptions of and experiences during the 2020 Oregon wildfire season were assessed. Results indicated the value of universalism had a significant and substantial association with support for climate change policy, and power, achievement, stimulation, self-direction, and benevolence had significant low associations. Participants' risk experience with wildfires accounted for little total variance in regard to support for climate change policy.

Keywords

climate change, wildfire, personal values, risk experience, policy support

Authors

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Introduction

In 2020, Oregon suffered one of the most devastating wildfire seasons on record. The wildfire spread over the course of the season resulted in nine fatalities, dangerous air quality, an estimated total cost of \$1.5 billion in total damages, more than 1.2 million total acres burned, the loss of 5,000 homes and commercial structures, and the displacement of thousands of residents (Garrett et al., 2021; Peñaloza, 2020; Urness, 2020). The 2020 wildfires reached a level of annual burned area in Oregon that had not been reported since 1900 (Abatzoglou et al., 2021). More than 11% of the state's total forest area was burned, exceeding the combined burned forest area for the previous 36 years (Abatzoglou et al., 2021). Additionally, the state's forest-dependent industries and businesses experienced \$5.9 million in economic losses in 2020 (Rasmussen et al., 2021). The agricultural industry was also highly impacted during the 2020 wildfire season. As the most extreme wildfire conditions took place during peak harvest time, farm laborers in some cases were forced to choose between working in hazardous conditions or forfeiting pay (Goldberg, 2020). Some cattle, sheep, and goat producers in [States] were forced to evacuate their livestock and later reported crop and pasture loss and declines in animal health attributed to smoke exposure (O'Hara et al., 2021). Vineyards, orchards, and farm infrastructure were also damaged or destroyed (Powell, 2021).

The magnitude and extreme nature of Oregon's 2020 wildfires was fueled by unusually warm temperatures and limited precipitation that resulted in moderate to extreme levels of drought. In fact, more than 80% of the state experienced moderate to extreme drought levels in the 60 days leading up to the season's major fires (National Drought Mitigation Center, 2020). The most significant damage occurred during and following a severe windstorm that took place over the Labor Day weekend (Garrett et al., 2021). The conditions described above created a high-risk environment that caused rapid fire to spread across the state (Abatzoglou et al., 2021; Burns, 2020). While the 2020 wildfire season was one of the worst and most destructive on record, Oregon is predicted to continually experience future wildfire seasons that will break records as effects of climate change continue to unfold (Urness, 2020).

Oregon is not alone when it comes to wildfire risk associated with the effects of climate change. Many regions of the United States are at risk for more frequent wildfires as longer periods of drought and temperature increase (Shaftel et al., 2021). Beyond the United States, projected complex weather extremes, such as higher maximum temperatures, increased numbers of hot days, more intense precipitation events, increased and intensified droughts and floods, and more intense storms will travel across the planet (Haines & Patz, 2004). The effects to human health will be felt through a diminished supply of food, lack of access to clean water, decreases in available shelter, and increased probability for infections and diseases (Alwan et al., 2017; Haines & Patz, 2004).

Extreme weather events like the 2020 Oregon wildfire season are memorable for those who experience them. These types of events can serve as 'signals' or 'focusing events' and serve as tangible, triggering reminders or climate change effects (Capstick et al., 2015; Renn, 2011). These experiences, and frames of reference, impact an individual's risk perceptions (Brown, 2014). As individuals become aware of risk, assess it, and respond to it, the perception of risk and risk experience connect and overlap (Demuth, 2018). Understandably, those with direct experience (e.g., those who were directly impacted by a wildfire) tend to be more aware of risk than those with indirect experience (e.g., those who watched a wildfire on television or social

media; Fischer et al., 2023). In essence, prior experience provides individuals with an awareness of what to expect and how to respond, along with a variety of perceptions about the risk itself.

Demuth (2018) found four factors to explicate memorable extreme weather experiences: awareness, personalization, impact, and affect. Especially in cases of extreme weather, risk awareness involves attention to warnings, seeking information about the risk, and developing a level of concern related to the potential risk (Demuth, 2018). In events of extreme weather, individuals become aware of risk through information seeking efforts such as watching forecasts or local news, or talking with others about the risk (Demuth, 2018).

Personalization also plays a role in risk experience and refers to one's analysis of personal impacts resulting from the risk (Becker et al., 2017; Demuth, 2018). Personalization may be experienced as an individual remembers the actions they took during an extreme weather event to protect themselves, loved ones, or property, and other first-hand experiences (Demuth, 2018). Impact refers to actual damage experienced, such as damage to property or the disruption to lives, as a result of the extreme weather event or other risk (Demuth, 2018). Impact can also relate to the cognitive effects of processing the risk afterward (Demuth, 2018). After experiencing an extreme weather event, individuals may experience, fear, worry, or even dread about future risks (Becker et al., 2017), a trigger of the affective response (Demuth, 2018). Thus, affect refers to emotional reaction to the impacts of the risk. In extreme weather events, individuals may experience feelings of shock, loss, or devastation (Demuth, 2018). These factors impact future risk processing, as when individuals with risk experience are forced to navigate new or unfolding risks, the negative affect response will likely engage and influence judgements or perceptions on the new risk (Terpstra, 2011).

Studies exploring the connections between climate change perceptions and a variety of extreme weather experiences in numerous locations and communities present varying findings. In some cases, climate change attitudes and extreme weather experience can be related to the individual's overall of climate views, which are influenced by one's social and psychological contexts, and how they perceive climate change to be related to the extreme weather events (Ogunbode et al., 2019; Orton et al., 2022). Others have found positive relationships between extreme weather experience and concern for climate change (Demski et al., 2016; Konisky et al., 2016). Still, some have found factors such as political ideology over extreme weather experience to dominate climate views suggesting the potential role of motivated reasoning in interpreting and processing impacts from these events (Marquart-Pyatt et al., 2014; Zanoocco et al., 2018). The levels of harm reported and felt as a result of an extreme weather event have also been shown to be factors in play when it comes to extreme weather experience and climate change views (Zanoocco et al., 2018, 2019). Other factors like issue salience, psychological distance, motivated reasoning, and event attribution also play a role in the formation of climate change attitudes (Sisco, 2021). In a study of New York adults, Fownes and Allred (2019) found those who personally experienced extreme weather more strongly believed in the effects of climate change.

As complex and high-risk issues like the effects of climate change continue to impact lives, policy development and government involvement can help to mitigate effects by providing guidance and support (Cerna, 2013). The enactment of environmental policy aims to address and manage risk, either by mitigating future risk or responding to the unfolding risks by adapting to the issue (Shaftel et al., 2021; Smith & Stern, 2011). In particular, environmental policy is often responsible for instating or banning actions to lessen the negative effects of climate change or for helping households respond in the aftermath of a natural disaster (Ghorpade, 2012). Policy

outlines the specific details associated with financial aid, physical assistance, supplies, and military intervention provided to respond and recover after a disaster (Pinkowski, 2008). For those in the agriculture and natural resources industries, policies aimed to address past and potential future issues associated with wildfires and extreme weather could help mitigate future risk by creating better plans for land and forest management (Swagel, 2022), providing disaster assistance for livestock, noninsured crops, grazing lands, hay, and more (USDA, n.d.).

Public policy and its successful implementation are greatly influenced by public opinion (Burstein, 2003) and support of the policy itself (Rasmussen et al., 2017). When it comes to policy to address climate change, however, persistent denial and spread of misinformation (Collomb, 2014) have been identified as factors in thwarting policy response (Petersen et al., 2019). If individuals assess climate change as a lesser or nonexistent threat, there may be insufficient mitigation and adaptation policies to adequately aid citizens in risk management responses (Smith & Stern, 2011; World Wildlife Fund, 2022).

Much akin to the studies with varying findings regarding experience and climate change attitudes, those who have explored variables related to support for climate policy have yielded mixed results as well. For example, Zanoocco et al. (2019) found both political ideology and personal harm to be factors in one's decision to support or oppose policy. However, Ray et al. (2017) found those with recent extreme weather experience were more likely to support climate change adaptation policy, but with the level of support decreasing with the passage of time. Experience with flooding events contributed to increased support for climate mitigation policies in some cases (Demski et al., 2017; Zanoocco et al., 2019), but not always in others (Ogunbode et al. 2019). Experience in different communities affected by major tornado, wildfire, hurricane, and landslide events throughout the United States also correlated with increased support for climate mitigation policy (Zanoocco et al., 2019). In Michigan, experience with extreme heat events led to increased support for government involvement in making plans to adapt to climate change (Lee et al., 2018). In other studies, extreme weather experiences were unlikely to impact policy support unless participants also perceived a connection with climate change (McCright et al., 2014; Ogunbode et al., 2019; Reser et al., 2014).

Opinion formation in this context has been previously attributed to factors including risk perception (Moussaïd, 2013) and human values (Kilburn, 2009). The role of risk perception in opinion formation has also been explored in relation to values. For example, Yang et al.'s (2014) research suggested individuals' importance of environmental values influenced participants' information processing of climate change risk information. Their research found individuals with weaker environmental values were more skeptical of climate change and information about the topic (Yang et al., 2014). At the same time, personal values have also been shown to influence skepticism about climate change (Poortinga et al., 2011). Despite this evidence, it must be acknowledged that climate change beliefs and attitudes are complex, and support for climate change mitigation and adaptation policies can be difficult to predict due to an intricate combination of factors (Dietz, et al., 2007; Dryzek et al., 2012).

Policy will likely play a role in mitigating climate change, so it is important to identify factors that contribute to individuals' support for climate change policy. At the same time, given the economic and other significant impacts to the agriculture and natural resources industries experienced as a result of the wildfires, an understanding of policy perceptions and factors influencing these perceptions is essential. The understanding of these factors can help communicators craft future messages to encourage the support of policies to benefit the agriculture and natural resources industries. Overall little research has explored support for

climate change policies in relation to both human values and risk experience, but disaster experience has been identified as a significant predictor for climate change mitigation support (Orton et al., 2022). This study attempts to continue addressing the need to identify factors involved with an individual's decision to support or oppose climate change policies from two perspectives which have not yet been explored. First, we seek to compare different values in relation to support for climate change policy, and secondly, we aim to further explicate risk experience as a predictor for climate change policy.

Conceptual Framework

To guide this study, we create a conceptual model based on the Risk Information Seeking and Processing Model (Griffin et al., 1999) and the Theory of Basic Values (Schwartz, 1992) in an effort to determine both relationships to and predictors of climate policy support. While some research may be underway where Schwartz Theory of Basic Human Values and the RISP model are being jointly applied to explain policy views, we were unable to find any previous literature. However, other value structures have been applied. For example, Yang et al. (2014) suggested as eco-centric values became more positive, the more likely the support for climate change policy. In the sections below the model and theory are discussed, and a new conceptual model is detailed with emphasis on a more comprehensive understanding of personal human values.

Risk Information Seeking and Processing (RISP) Model

Originally created with health information seeking in mind, Griffin et al. (1999) created the Risk Information Seeking and Processing (RISP) model to better understand seven factors that may prompt individuals to seek and process information in varying ways (Griffin et al., 1999). The seven factors proposed in the model include, 1) individual characteristics, 2) perceived hazard characteristics, 3) affective response to risk, 4) felt social pressure to have relevant information, 5) information sufficiency, 6) personal capacity to learn, and 7) beliefs about usefulness of information in various channels (Griffin et al., 1999). These factors can also play a role in influencing the degree to which individuals seek risk information from different channels and the extent to which they will invest time and effort to critically analyze the risk (Griffin et al., 1999).

The RISP model offers a variety of potential variables to explore within the seven factors listed above. While this study is limited in the fact that it does not fully engage all elements of the RISP model, key to this study is the role of individual characteristics, specifically the role of prior risk experience. In the RISP model, individual characteristics refer to a set of variables that represent the demographic background and past experiences with the relevant hazard (Griffin et al., 1999). Prior risk experience involves the ways in which individuals become aware of risks, assess risks, and respond to risks (Demuth, 2018). Risk experience has been shown to be a powerful factor in predicting action to protect from future hazards (Yang et al., 2014). Risk experience drives knowledge about the risk, and as new risk is encountered, the amount of knowledge held in regard to a specific risk may affect individuals' capacity to gain new risk information (ter Huurne et al., 2009).

The RISP model has also been used to analyze environmental risk information-seeking in relation to one's experience with disasters. Kahlor (2007) applied the RISP model to evaluate perceptions of global warming and found perceived social pressures influenced individuals when

seeking information on global warming. Rose et al. (2017) applied the RISP model when they investigated citizen information-seeking behaviors regarding smoke emissions to determine factors that motivated people to seek relevant hazard information. In this study, the findings suggested participants were concerned about the issue but believed more information was needed to fully understand the risk (Rose et al., 2017). The RISP model can also be applied to issues of agricultural science and natural resource issues. Holt et al. (2020) and Martinez et al., (2021) applied the RISP model to investigate the impact of animated infographics on memory recall of information on controversial issues of science.

In the hopes of assessing the threat perception of wildfires for the creation of risk management policies, Brenkert-Smith et al. (2012) used the RISP model to explore the ways in which risk was amplified throughout society via personal interactions, and how the perceived reliability of the information source influenced the level of perceived risk. In another study, Yang et al. (2014) also applied the RISP model and found as perceived importance of the issue increased, attitude toward environmental information, and systemic information processing for support for climate change policy also increased.

The RISP model can be adjusted and applied to address a variety of studies, especially regarding environmental risks. To examine factors related to prior risk experience, constructs including risk awareness, risk personalization, impact, and affect as motivational elements of support can be assessed. Thus, when individuals have a general awareness of a risk, they rely on information and past experiences to evaluate their circumstances based on these formed perceptions (Demuth, 2018). The level in which the individual personalizes the risk based on the likelihood of being directly is risk personalization (Demuth, 2018). Impact refers to how the individual perceives the impacts of the risk experience for themselves and others (Demuth, 2018). Based on their prior risk experience, affect references the individual's negative emotional responses to the risk (Demuth, 2018).

Personal Values

The term 'values' refer to wants, goals, needs, desires, moral obligations, and preferences (Williams, 1979), and serve as standards by which judgements, choices, attitudes, and rationalizations are formed (Rokeach, 1979). Values allow individuals to describe assumptions and beliefs that influence decision making (Rohan, 2000). Theorists argue values are significant to risk perception as there is emphasis on how individuals interpret issues in different ways (Douglas, 1966). Values also play a central role in debates about climate change. The significance and meaning of climate change, and individuals' responses to it, are tied to personal values (O'Brien & Wolf, 2010). Some scholars have argued for a values-based approach to addressing climate change given that climate change elicits a number of responses, each in need of a different approach and because opposing values tend to stimulate conflict (O'Brien & Wolf, 2010). Effective climate risk adaptation is dependent on what individuals perceive as worthy of achieving (O'Brien & Wolf, 2010). Therefore, an understanding of values is key to creating policies and plans to adapt to climate change, a topic that varies widely. Values can strongly predict belief in and concern about climate change more than other factors like demographics or knowledge (Kahan et al., 2012; Leiserowitz, 2006; Whitmarsh, 2011). For example, Leiserowitz (2006) found values to be more powerful predictors of risk perception and policy preference than sociodemographic variables, like political affiliation, thereby holding the potential to better understand how individuals think about policy to manage climate change.

While not identified as a specific factor in the RISP model, the role of personal values can be argued as a significant element when it comes to individual motivation to act or behave in certain ways (Schwartz, 1992) and it is important to consider how values influence risk information seeking and processing. Poortinga et al. (2011) found risk perceptions related to climate change were strongly influenced by environmental values. Yang et al. (2014) explored the role of eco-centric values on the importance of climate change as an issue and found those with stronger eco-centric values viewed climate change as a more important issue. One of the most significant components that motivates individual action and explains the behaviors are basic human values; specifically, those values that individuals hold at high levels of importance (Schwartz, 1992). Minimal research has been conducted to explore the role of basic human values and the potential implications on the RISP Model. However, values literature suggests individuals place more attention and information seeking behaviors on topics that are deemed personally important (Schwartz, 1992). To measure the importance of personal values, Schwartz (1992) created multiple scales. While the original Schwartz (1992) Value Survey consisted of 56 items, the Short Schwartz (1992) Value Survey has been refined to identify ten distinct, basic values that people across cultures recognize and separate into underlying categories. The ten motivationally-distinct values include “power,” “achievement,” “hedonism,” “stimulation,” “self-direction,” “universalism,” “benevolence,” “tradition,” “conformity,” and “security.”

Schwartz (2012) suggested the organization of like-value groups based on underlying relations (Table 1). Four groups were formed, including: 1) *openness to change*, with the values of “hedonism,” “stimulation,” and “self-direction,” 2) *self-enhancement*, which includes “achievement” and “power,” 3) *conservation*, encompassing the “security,” “conformity,” and “tradition” values, and 4) *self-transcendence*, which accounted for the “universalism” and “benevolence” values. Although these values are recognized across cultures and geographically, different groups or individuals may attribute vastly different levels of importance to different values. The Schwartz (1992) Theory of Basic Values states that these values, whether individually or grouped, form motivations for individuals and groups.

Table 1.

Personal Value Groups and Associated Values

Value Group	Associated Values
Openness to Change	Hedonism, Stimulation, Self-direction
Self-Enhancement	Achievement, Power
Conservation	Security, Conformity, Tradition
Self-transcendence	Universalism, Benevolence

Schwartz’s (1992) Theory of Basic Values has been applied extensively across disciplines to examine relationships between values and environmental issues, and it is often the primary value survey in this area of research (Corner, 2014; Schwartz, 2012). Some values, including “power,” “self-direction,” “benevolence,” and “universalism,” commonly have varying levels of association with belief and concern about climate change (Dias et al., 2020; Prati et al.,

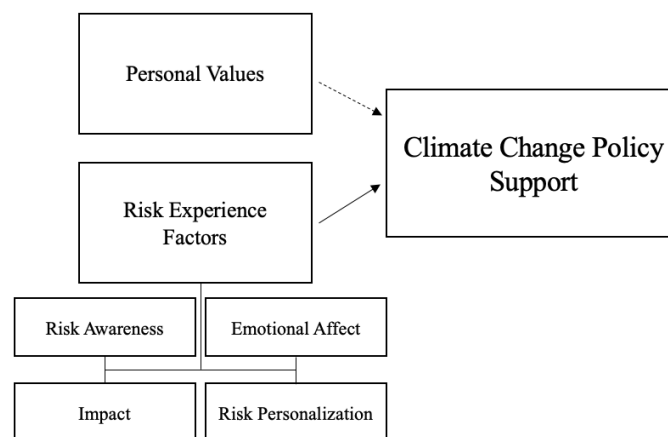
2018). A variation of the Short Schwartz (1992) Value Survey has also been used to explain beliefs about the environment (Marshall et al., 2019). Poortinga et al. (2011) utilized the Short Schwartz Value Survey and found participants' core values and worldviews hold the potential to directly relate their views on social matters, such as their outlooks on climate change. The Short Schwartz (1992) Value Survey has been utilized widely to identify trends in core values as they relate to a specific topic, such as climate change, and can be used to explore associations of what topics individuals deem important and how it relates to risk information seeking and processing.

Proposed Conceptual Model

Given the importance of values and experience in risk information seeking and processing regarding climate change, we propose the following two-pronged model to guide the purpose and research questions for the current study (Figure 1). First, as risk experience has been explored as a predictor of climate policy support in multiple previous studies with mixed findings (Konisky et al., 2016; Ogunbode et al., 2019; Sisco, 2021; Zanoocco et al., 2018; Zanoocco et al., 2019), we seek to determine any differences in predictive power of prior disaster experience with a sample of residents from Oregon who experienced a unique extreme weather event. Secondly, the literature suggests values have a role to play in climate perceptions (Poortinga et al. 2011). For example, values supporting environmentalism and universalism have been seen to have a more positive relationship with climate change perceptions (i.e., universalism); however, other values may have a negative or negligible relationship with climate change perceptions (i.e., security). Thus, given the potential roles values may play in climate policy support, but considering individuals may prioritize values differently, we seek to explore any potential relationships between 10 values and support for climate policy. We also aim to identify personal values that may have strong relationships with climate policy support in an effort to test the power of strongly-related values' predictive power in the future.

Figure 1

Relationship of Personal Values to and Impacts of Risk Experience on Climate Change Policy Support



Note: The dotted arrow refers to a potential relationship; the solid arrow indicates potential predictive power.

Purpose and Research Questions

The purpose of this study was to explore risk experience and personal values on support for climate change policy. The study was guided by the following research questions.

RQ1: How do personal values relate to support for climate change policy?

RQ2: How does risk experience predict support for climate change policy?

Methods

Data for this study were collected using a quantitative survey instrument developed by the researchers to determine Oregon residents' perceptions of and experiences during the 2020 Oregon wildfire season. We used the conceptual model (Figure 1) outlined above to integrate measures based on the RISP model and Theory of Basic Values. The instrument was reviewed by a panel of experts to ensure validity. Approval to conduct the study was granted by the Oregon University Institutional Review Board. To ensure the instrument's reliability, two pilot tests were conducted before collecting data. The first pilot test yielded 64 valid responses and took place October 19-21, 2021. For both pilot tests, participants were recruited through Qualtrics Research Services. Analysis of data from the first pilot did not yield an acceptable reliability score for the policy support measure or the Schwartz personal values scale. As a result, the researchers modified the scales and conducted a second pilot test, which took place October 29 to November 1, 2021. A total of 114 complete responses were attained during the second pilot test and acceptable reliability scores were achieved for all measures. The changes made to both the policy measure scale and Schwartz personal values scale are outlined in the measures section below. Data for the study were collected from November 3, 2021, to December 11, 2021.

Participants

The population for this study was Oregon residents. The survey instrument was administered through Qualtrics, a third-party company, that recruited a sample of Oregon residents 18-years or older living in the state during the 2020 wildfire season. Qualtrics Research Services recruited study participants to match established quotas at the cost of \$6.31 per response. To ensure representation most similar to the Oregon population, a quota was established to collect responses from 35% rural residents and 65% suburban/urban residents (Oregon Office of Rural Health, 2021). The quota for gender was approximately 50% males and 50% females. Partial responses were not recorded, and a final sample of 434 responses was obtained.

Procedure

Participants were presented with study information and required to grant consent to participate before starting the survey. In order to meet the study's desired quotas, participants were asked to provide their gender and community type. After granting consent and indicating quota information, study participants were next presented with a brief description of the effects

of the Oregon 2020 wildfire season. The purpose of this description was to trigger their mindset to focus on the specific event and point in time. Oregon experiences a wildfire season annually, but the 2021 season was significantly less damaging than the wildfires of 2020. After being prompted with information about the 2020 wildfire season, the participants were instructed to respond to items regarding prior risk experience based upon their experience during the 2020 season. The following text was used to prompt the participants and introduce the study:

“In the summer of 2020, Oregon wildfires threatened multiple cities, destroyed more than 4,000 homes, killed 11 people, filled the air with smoke for days and burned more than 1 million acres. This was the second-highest one-year total of wildfires in one season in the state’s history. The following questions deal with your experience during the 2020 wildfire season. Please consider your experience with the 2020 wildfire season and respond to the following items based upon your experience. This experience may have happened to you personally, or you may have learned about the experiences of another person or people.”

Measures

Policy Support Toward Climate Change

Policy support toward climate change was measured using 10 items adapted from scales developed by Zhao et al. (2011), Chu and Yang (2020), and Singh et al. (2017). Participants were asked to indicate their degree of support or opposition to proposed climate change policy proposals using a 5-point, Likert-type scale (1 = *Strongly oppose*, 2 = *Oppose*, 3 = *Unsure*, 4 = *Support*, 5 = *Strongly support*). Example statements from this measure included “Fund more research into renewable energy sources” and “Provide tax rebates for people who purchase energy-efficient vehicles or solar panels.” The items for this measure were combined to generate a mean score as an indicator of support for climate change policy. Reliability for this measure was not initially established in a pilot test ($\alpha = .65$). To improve reliability, one item, “Regulate carbon dioxide (the primary greenhouse gas) as a pollutant,” was removed and six new items were added from a scale developed by Singh et al. (2017). A second pilot test yielded an acceptable level of reliability ($\alpha = .90$), *a priori*.

Prior Risk Experience

To measure prior risk experience, a key component of the RISP model, four constructs, risk awareness, risk personalization, impact, and affect (Demuth, 2018), were assessed. Risk awareness was measured using four items adapted from a scale developed by Demuth (2018) and was measured on a 5-point, Likert-type scale (1 = *Very untrue of me*, 5 = *Very true of me*). Participants were asked to indicate the extent to which the statements reflected their perspectives during the 2020 wildfire season. Example statements from this measure included “I paid attention to forecasts and warnings because I knew about the threat of wildfires” and “I was concerned about the threat of wildfires.” A mean score was generated by combining the items for this measure as an indicator of risk awareness. Reliability for this measure was established *a priori* ($\alpha = .90$).

Risk personalization was measured using six items on a 5-point, Likert-type scale (1 = *Very untrue of me*, 5 = *Very true of me*). Example statements used in this measure included “I

tried to take action to protect myself or my loved ones (or vice versa)” and “I tried to get to my loved ones to be with them (or vice versa).” A mean score was generated by combining the items for this measure as an indicator of risk personalization. Reliability for this measure was established *a priori* ($\alpha = .89$).

Impact was measured using four items measured on a 5-point, Likert-type scale (1 = *Very untrue of me*, 5 = *Very true of me*). Statements such as, “People I know had damage to their property” and “People I know lost irreplaceable items” were rated by participants to measure this construct. The items from this measure were combined to generate a mean score as an indicator of impact. Reliability was established *a priori* ($\alpha = .92$).

Emotional affect was measured via four items on a 5-point, bipolar scale for four negative emotions in response to the 2020 wildfires: *Not very concerned/Very concerned*, *Not very fearful/Very fearful*, *Not very anxious/very anxious*, and *Not very worried/Very worried*. The items for this measure were combined to generate a mean score as an indicator of emotional affect, and reliability was established *a priori* ($\alpha = .91$).

Personal Values

Personal values were measured using 10 items adapted from an instrument developed by Schwartz (1992). The Schwartz (1992) Value Survey (SVS) consists of 10 motivationally-distinct values including “power,” “achievement,” “hedonism,” “stimulation,” “self-direction,” “universalism,” “benevolence,” “tradition,” “conformity,” and “security.” Participants rated each value on a scale of zero to eight, with zero = *opposed to my principles* and eight = *of supreme importance* (Schwartz, 1992; Schwartz, 2012). The shortened Schwartz’s Value Survey is widely used across many fields (Kusurker & Croiset, 2015).

Ten items, each representing a different value, were used to determine participants’ levels of importance on each value (Table 2). Reliability for this measure was not initially established using 64 responses collected from a pilot test ($\alpha = .61$). Upon evaluation and analysis of the measure, the researchers determined an error with the accidental omission of two of the 10 items, “stimulation” and “conformity,” from the Schwartz Values scale and assumed the missing items contributed to the low reliability score in the first pilot test. The second pilot test included all 10 items, including the two items that were initially omitted from the first pilot test, and reliability was met ($\alpha = .81$) *a priori*.

Table 2*Schwartz Personal Values Definitions*

Values	Definition
Achievement	Success, capability, ambition, influence on people and events
Benevolence	Helpfulness, honesty, forgiveness, loyalty, responsibility
Conformity	Obedience, honoring parents and elders, self-discipline, politeness
Hedonism	Gratification of desires, enjoyment in life, self-indulgence
Power	Social power, authority, wealth
Security	National security, family security, social order, cleanliness, reciprocation of favors
Self-Direction	Creativity, freedom, curiosity, independence, choosing one's own goals
Stimulation	Daring, a varied and challenging life, an exciting life
Tradition	Respect for tradition, humbleness, accepting one's portion in life, devotion, politeness
Universalism	Broad-mindedness, beauty of nature and arts, social justice, a world at peace, equality, wisdom, unity with nature, environmental protection

Data Analysis

The data were exported from Qualtrics to SPSS Version 28 for analysis. Inferential statistics were used to address the research questions and the study utilized Cronbach's alpha to measure reliability of the scales within the instrument (Ary et al., 2018). Research question one was assessed using a Pearson correlation test after the data were checked to ensure assumptions were met (Field, 2018). Research question two was assessed using a multiple linear regression after verifying four main assumptions, as outlined by Field (2018). Linearity was assessed and confirmed via a scatter plot and a Q-Q plot. The assumption of normality was evaluated via a Shapiro-Wilk test and a Q-Q Plot. Multicollinearity was determined through an inspection of VIF values on a coefficients table and review of correlations. Homoscedasticity was assured via scatter plot.

Results

RQ1: How do values relate to support for climate change policy?

A Pearson correlation revealed significant relationships between support for climate change policy and all personal values except for “hedonism” ($p = .17$), “tradition” ($p = .48$), and “conformity” ($p = .58$). All significant personal values showed positive relationships, which suggests that as the level of importance placed on those personal values increase, support for climate change policy also increases. A significant, substantial association was found between “universalism” ($r = .53, p < .05$) and support for climate change policy (Davis, 1971). “Benevolence” ($r = .29, p < .05$), “self-direction” ($r = .21, p < .05$), “stimulation” ($r = .17, p < .05$), “achievement” ($r = .16, p < .05$), “power” ($r = .14, p < .05$), and “security” ($r = .09, p < .05$), had significant low associations with support for climate change policy (Davis, 1971).

Table 3

Pearson Correlation Coefficients between Personal Values and Climate Policy Support
(N = 434)

Personal Value	Climate Policy Support	
	<i>r</i>	<i>p</i>
Universalism	.53*	<.05
Benevolence	.29*	<.05
Self-Direction	.21*	<.05
Stimulation	.17*	<.05
Achievement	.16*	<.05
Power	.14*	<.05
Security	.09*	<.05
Hedonism	.07	.17
Tradition	.03	.48
Conformity	.03	.58

*Note: $p < .05$

RQ2: How does risk experience predict support for climate change policy?

Participants were asked to indicate the extent to which risk experience was reflective of themselves, which was assessed with support for climate change policy. To attain a more complete understanding of risk experience within the sample, demographic variables including political affiliation, gender, age, and community type were included. The regression model was

found to be significant ($R^2 = .248, p < .05$) and explained 24.8% total variance, a small effect size (Cohen, 1988). Of the predictor variables included for risk experience, only risk awareness ($p < .05$) and impact ($p < .05$) were found to be significant. Used as a control in the study, political affiliation ($p < .05$) was the only significant demographic factor.

Table 4

Regression Model for Prior Risk Experience and Policy Support (N = 434)

Variable	β	Std. Error	t	Std. β	p
Constant	4.00	.40	10.15	-	<.001
Political Affiliation	.25	.03	9.64	.42	<.05
Risk Awareness*	.14	.06	2.37	.12	<.05
Gender	.11	.08	1.43	.06	.15
Risk Personalization*	.09	.06	1.50	.10	.13
Impact*	.08	.04	2.04	.12	<.05
Affect*	.08	.05	1.71	.10	.09
Education	.01	.02	.33	.02	.74
Age	.002	.002	.95	.01	.34
Community Type	.002	.05	.04	.002	.97

*Note: $p < .05$, * indicates risk experience factor

Conclusions & Recommendations

Given the opportunity for potential effects with the role of personal values and risk information seeking and processing (Poortinga et al., 2011; Yang et al., 2014), and the role of experience in support for climate change policy (Fownes & Allred, 2019; Konisky et al., 2016), this study sought to investigate the roles these variables play to further explain both relationships to and predictors of support for climate policy. While this study provides insights to the role of experience and values on support for climate policy, it is not without limitations. The sample, while aligned with demographic characteristics from the U.S. Census Bureau, was attained from

a non-probability, opt-in group of individuals enrolled in panels through Qualtrics Research Services. Therefore, readers should take caution in generalizing the results beyond this sample. Although we took care to adequately trigger participant mindsets to engage with experiences during the 2020 Oregon wildfire season, we acknowledge the passage of more than one year after the state's most severe wildfire events may have an impact on the responses. Despite these limitations, we argue many important conclusions and recommendations for future studies in agricultural and natural resources communication can be drawn.

This study examined the role of factors within the risk experience construct and 10 individual values using a two-pronged approach. As described above, the role of prior disaster experience has been shown to predict climate policy support, but with a range of findings in different contexts (Konisky et al., 2016; Ogunbode et al., 2019; Sisco, 2021; Zanoocco et al., 2018). Values, on the other hand, have been found to be significant factors in understanding attitudes about climate change (O'Brien & Wolf, 2010), but Schwartz Value Structure has not been explored related to climate change policy support. Therefore, in this study we sought to advance understanding on two constructs while recognizing their current place in the literature. In this section, we will discuss the findings associated with each of our research questions as well as the implications of the findings on the purpose of our study and the future direction for this work.

An effect of climate change is more intense and longer fires, which cause destruction, endangerment to the health of humans, animals, the agricultural industry and the environment, and an overall acceleration of additional climate change effects due to increased carbon dioxide release from burning trees (Shaftel et al., 2021). One solution to mitigating and adapting to the effects of climate change can be addressed through public policy (Burstein, 2003). Successful implementation of public policy, however, is reliant on public support and research is needed to better understand public views and perceptions in this area (Burstein, 2003; Rasmussen et al., 2017). This study continues the discussion on perceptions of climate change risk through an exploration of how personal values and prior disaster experience relate to and influence support for climate policy.

Our correlational findings regarding personal values in this study provide some insight on the values that may be key to consider when investigating future predictors of climate policy. Of the 10 values assessed for potential relationships with support for climate policy, all except for three (hedonism, tradition, and conformity) were significant variables. Given the potential of personal values as influences in attitudes and beliefs (Schwartz, 1992), it is not surprising to find the majority of variables presented significant. The three values that did not reveal significant relationships with support for climate change policy (hedonism, tradition, and conformity) are consistent with previous research (Dias et al., 2020; Prati et al., 2018).

Schwartz (2012) argued conformity, tradition, and security are often linked together as values of conservation, which are characterized by emphasis on self-order, resistance to change, and preservation of the past. Conservation has been found in previous studies to be linked to a decreased sense of self responsibility for reducing climate change (Dias et al., 2020; Marshall et al., 2019). It is interesting that two of the three variables associated with conservation were not significant, but one conservation variable proved significant in this study. While the values were defined to participants in the survey instrument, it is possible participant responses were influenced by their own personal understandings and interpretations of the values they were asked to rate. For example, perhaps conservation was conceptualized by some in regard to financial gain and for others it was conceptualized in terms of conserving the environment. At

the same time, it is possible that political ideology, coupled with the potential interpretation of the values discussed above, of participants was correlated with this set of values. Future studies should explore these potential relationships and specifically investigate the role of political ideology as a moderating variable regarding personal values and support for climate change policy. At the same time, personal values should be tested as potential predictors of climate change policy support.

In previous studies, hedonism was found to be a significant variable positively related to support for climate change policy (Prati et al., 2018; Marshall et al., 2019). However, hedonism did not have a significant relationship with support for climate change in this study. Hedonism can be associated with pleasure and self-gratification for oneself, so the lack of significance in this study could come from a variety of factors including the specific conceptualization of the value by the participant, education level, political affiliation, or other factors (Schwartz, 2012). The participants' application of hedonistic values could differ to such a wide degree that the value does not significantly affect support for climate change. While some individuals may derive the most pleasure from enjoying activities in the environment and support policy that would limit climate change's negative effect on it, others may receive pleasure from not limiting their economic gains through pollution. With the potential for a variety of interpretations or conceptions of hedonistic values possible, the lack of significance may be somewhat expected. The issue becomes further complicated when the complex nature of climate change is unpacked. The issue of climate change invokes a multitude of responses and associated is with a variety mixed understandings about its effects and impacts (Dietz, et al., 2007; Dryzek et al., 2012).

In this study, universalism had a significant substantial association and the personal values of power, achievement, stimulation, self-direction, and benevolence had significant low associations with climate change policy support. Previous studies differ on the strengths of associations between these values and attitudes toward climate change (Prati et al., 2018; Marshall et al., 2019). However, one similar study that investigated associations between belief in climate change found significant associations among the same six personal values found in this study (Dias et al., 2020). The inconsistent findings suggest more research should be conducted to determine potential reasons for the mixed results across studies. It is possible personal values may vary by a variety of demographic and other factors.

The values of stimulation, self-direction, benevolence, and universalism can be categorized as anxiety-free values with emphasis on promotion of gain goals, self-expansion, and growth (Schwartz, 2012). With this in mind, it is reasonable to conclude that those who hold greater importance in openness to change and progression would support changing the current economic and social systems by implementing climate change policy (Schwartz, 2012). Additionally, the values of power and achievement are categorized as self-enhancement values that focus on protection against threat and prevention of loss goals (Schwartz, 2012). Therefore, an individual that places importance on these values would likely want to support climate change policy to protect themselves against climate change and prevent loss from its effects. As agricultural and natural resources communicators think about the audiences involved in issues of climate change, from farmers and ranchers to consumers and urban dwellers, an understanding of values held by those we seek to reach will be crucial for crafting effective messages. Specifically, consideration for the roles of factors like personal values and better understandings of values can help agricultural communicators to frame messages about policies to address the effects. If communicators can connect controversial information to audiences through a value-oriented lens, we may be able to connect more deeply with these audiences.

Prior experience with relevant hazards can predispose individuals to seek out and process information in different ways and serves as a contributing element to one of the factors in the RISP model (Griffin et al., 1999). Previous studies that applied the RISP model (Griffin et al., 1999) found information processing influences an individual's support for climate change policy (Yang et al., 2014). While the RISP model includes other factors, this study focused solely on the personal prior risk experience, an individual characteristic (Griffin et al., 1999), to understand any potential predictive power on support for climate change policy. Although this study found risk experience to have a contribution to factors that indicate support for policy, this study revealed that risk experience accounts for only 24.8% total variance of support for climate change policy for Oregon residents. This amount of variance explained is small and accounts for relatively little in the grand scheme of understanding support for climate policy; yet this variance suggests a number of other less powerful factors may contribute to overall variance for this construct. Understanding factors that drive attitudes, beliefs, and support for complex topics such as climate change is a complicated task given the variety of influences in play. Therefore, it is encouraged that future research continue to explore other variables and possible influences as they emerge over time.

One potential explanation of the low overall variance could be associated in part with information and knowledge sufficiency. As previous studies have suggested, despite prior risk experience, some participants have sometimes been unable to form an opinion about support for policy due to a lack of sufficient information (Rose et al., 2017). Additionally, the RISP model identifies information sufficiency as a central variable (Griffin et al., 1999), which may further explain this result. Others have explored how prior perceptions or viewpoints toward a topic are the most significant contributor to support for climate change policy, and that prior risk experience is a small contributor in comparison (Orton et al., 2022). Within risk experience the construct of risk awareness and risk personalization were the most robust, although weak overall, factors in this study. While to a great extent this contribution presents minor explanation overall, added variance is explained. Participants can be aware of the risk, but they may be lacking the personal impacts to be able to form an opinion on support for or have conflicting values that may be more powerful.

Despite the fact that a relatively small amount of total variance is explained in this regression model, the findings in this study make an attempt to begin to explain a complex phenomenon. Support for climate change policy is a complicated matter with many variables and factors in play (Dietz, et al., 2007; Dryzek et al., 2012). While an overall low percentage of variance explained was yielded in this study, revisiting some key information about the population in this study and the nature of the 2020 wildfire season may help paint a clearer picture of the situation. The scales utilized in this study sought to determine the predictive power of risk experience by investigating risk awareness, risk personalization, impact, and emotional affect from the 2020 Oregon wildfires. However, given the extreme nature and far-reaching effects of the 2020 Oregon wildfires, it is reasonable to assume relative homogeneity occurred throughout the sample; every resident of Oregon during the 2020 wildfire would have at least some degree of risk experience in these four areas. The 2020 wildfires resulted in the declaration of a statewide emergency due to extremely poor air quality as hazardous smoke was pushed across the entire state posing a significant risk to residents' health (Peñaloza, 2020) and a range of impacts to the agricultural industry and those involved (Goldberg, 2020; O'Hara, 2021).

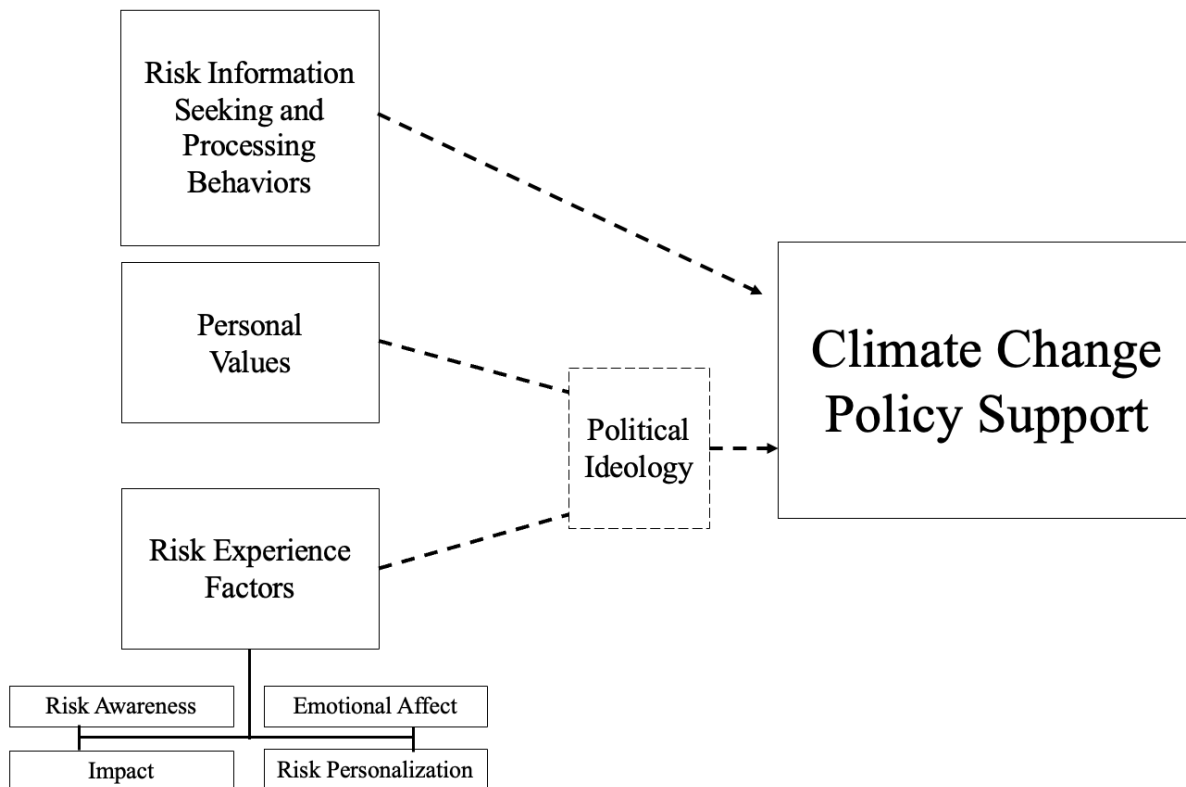
In some ways, the low percentage of total variance explained sheds light on the need to explore other factors for support for climate change policy. Much work also remains in regard to

the remaining components of the RISP model. Given the predictive power of political ideology in the regression model, and the potential relationships associated with certain values, future studies should seek to explicate the roles of values in shaping political ideology. Future studies should explore other factors of the RISP model to determine how individuals seek out and process information for climate change risks. Findings in this study raised many questions about potential relationships with demographic factors and support for climate change policy, so future studies should explore additional factors that might influence and increase overall variance.

Given our findings and discussion above, we offer Figure 2 as a model that outlines potential avenues for future research to better explain climate change policy support. In this model, we propose continued exploration of both personal values and risk experience, and specifically suggest testing the potential moderation effect by political ideology for both factors. As the two factors explored have been shown to play a role in risk information seeking and processing behaviors, we suggest future studies investigate the nuance in how individuals seek and processing information, from either heuristic or systematic routes, and explore how personal values and those behaviors predict support for climate change policy.

Figure 2

Directions for Future Research Related to Personal Values and Impacts of Risk Experience on Climate Change Policy Support



Note: The dashed arrows indicate potential predictive power. The dashed box around political ideology represents a potential moderation effect for both personal values and risk experience on climate change policy support.

As the discussion about climate change issues and how to address the effects continues, it will be important for agricultural communicators to be mindful of perceptions and factors that influence support for policy as there are implications for the agricultural and natural resources industries. This study explored support for climate change policy from a broad perspective. Given the impacts to agriculture, and agriculturalists' roles in addressing climate change, a number of future studies are recommended. Moving forward, agricultural communication practitioners and researchers must be engaged in seeking solutions to the challenges associated climate change.

First, there are a number of avenues to pursue related to personal values. The role of values in communication is an extremely important implication for communication. As researchers, we have the opportunity to continue to investigate how values shape perceptions through a variety of models of theories such as the Elaboration Likelihood Model and Theory of Planned Behavior. The variety of values coupled with contexts, also allow for the exploration of the role of values in other controversial and complex topics such as genetically modified foods, land and water use, and more.

There is also opportunity to explore agricultural producers' perceptions regarding climate change. As farmers and ranchers manage lands and seek to produce food in changing environments, we as agricultural communicators need to understand how their values shape their perceptions of climate change issues in order to address the ongoing challenges and effects. It would also be interesting to learn how publics perceive agricultural producers and practices in regard to both climate change risks and potential solutions.

In this study, we found that risk experience played a small role in predicting support for climate change policy, but other factors need to be explored to more fully understand the complex nature of support for climate change policy. Therefore, future research should be conducted to explore the other factors that lead to support for climate change policy. For agricultural and natural resources communicators who seek to create messages that resonate with varying audiences, the factors underlying attitudes and beliefs about complex issues must be acknowledged.

As agricultural communicators, we are tasked with navigating complex weather patterns and the effects to land, animals, and food production practices. It is important to understand how individuals from varying backgrounds and locations perceive climate change and public policies that might aid in addressing the impacts. Future studies should apply the model we created here to agricultural producers, who likely have varied opinions on climate change and what solutions are appropriate. At the same time, the model we propose here could also be applied to other policy decisions as it relates to risk toward producers.

A variety of factors influence the decision to support or oppose suggested policies. In complex issues like climate change, policy can be a key means of addressing the issue (Cerna, 2013). Therefore, it is reasonable to argue for the importance of information that meets the needs of those who seek to understand the issues and potential solutions. For example, understanding the role of prior experience can help communicators craft messages to encourage positive steps to address complex issues like climate change.

As political administrations enact measures to encourage more sustainability efforts to protect the environment, agricultural and natural resources communicators are tasked with a heavy challenge of communicating with producer groups that likely have varying perspectives. However, the more we understand what motivates people to support policy decisions, the better we can inform communication to enable positive environmental outcomes. This study is

one small piece to help us to understand. By localizing issues and communicating toward these shared values, we may leverage more support for policy initiatives toward environmental issues.

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