Memorable Messages and Wildlife Conservation

by

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ABSTRACT

Wildlife endangerment and extinction is a significant and pressing issue. Environmental research notes that if humans hope to preserve wildlife, change needs to occur within the next decade. Therefore, it is important to understand the kinds of messages young adults are receiving about wildlife. This communication may affect their attitudes, beliefs, and ideals toward nature. Communication and socialization remain significant factors in cultivating environmental values in individuals. Memorable messages remain a socialization tool utilized to promote values in others.

This study explores the kinds of wildlife messages and underlying values individuals receive by asking them to recall a memorable wildlife message. The study analyzed 108 memorable messages from individuals between the ages of 18-35. The study employs a content analysis to examine message content and values. The study employed sensitizing concepts, such as Stern's Value-Belief-Norm theory to examine the messages' underlying values, such as altruism and progressivism. Results indicate messages revolve around themes of preservation, stewardship, sanctity, domestication, and complexity of conservation. Of the 108 messages, 66 messages conveyed altruistic and progressive values as defined by Stern while other messages conveyed appreciation, awareness, and dominative values. Additionally, wildlife messages were received mostly through mediated sources. Implications for parents, the media, and wildlife are explored.

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CHAPTER 1

INTRODUCTION

In recent years, environmental concerns such as pollution, recycling, wildlife extinction, and global warming have become key problems (IUCN, 2015; Hagopian, 2015; Matthies, Selge, & Klockner, 2012; McCarthy, 2011). Politicians, researchers, and educators have declared a need to focus on these issues before severe consequences befall the current and next generations (McCarthy, 2011). As a call to action, a significant amount of research focuses on ways to generate effective pro-environmental messages, behaviors, and attitudes. Pro-environmental behaviors such as recycling (Matthies, Selge, & Klockner, 2012) have been researched heavily. Yet, most recently, wildlife conservation has become a significant concern, as an increased number of species remain threatened, vulnerable, or extinct due to poor environmental choices (IUCN, 2015; McCarthy, 2011; Molnar, Derocher, Thiemann, & Lewis, 2010). When wildlife is not preserved, not only is wildlife threatened, but human life as well, according to Dr. Jane Smart, the IUCN Global Program Director. The International Union of Conservation of Nature (IUCN) holds the most comprehensive information on global conservation statuses concerning animal, plant, and fungi species for the past fifty years (2015). In the past several years, IUCN assessed almost 80,000 animals as near threatened, endangered, or even extinct in their natural habitats. Dr. Smart stresses the important services wildlife gives humans such as insects that pollinate crops, the trees that provide clean air, and various animals that provide medication, clothing, and food.

The services and economic value that species provide are irreplaceable and essential to our well-being. Unless we live within the limits set by nature, and manage our natural resources sustainably, more and more species will be driven towards extinction. If we ignore our responsibility, we will comprise our own survival (IUCN, 2015).

The Global Issues Organization, an independent research outlet, notes wildlife remains threatened due to five reasons: (1) habitat loss and degradation, (2) climate change, (3) excessive nutrient load and pollution, (4) over-exploitation and unsustainable resource use, and (5) invasive alien species (Shah, 2014). Due to these threats, many habitats such as the ocean remain in peril. As of 2011, oceans were facing an unpresented loss of species due to climate warming, water acidification, widespread chemical pollution, and gross overfishing (McCarthy, 2011). These issues have caused 90% of large fish and one-third of coral reefs to disappear (Shah, 2014). Researchers note the ocean's deterioration rate is significantly faster than anyone could have predicted, thus some ocean ecosystems are expected to vanish within a generation if change does not occur soon (McCarthy, 2011). Other species remain threatened as well, such as mammals, birds, and amphibians (Shah, 2014).

In 2005, ten to thirty percent of these animal species remained threatened to the point of extinction; the numbers roughly breakdown to 1 in 8 bird species, 1 in 4 mammal species, and 1 in 3 amphibian species (Shah, 2014). The tiger remains endangered, with only about five to seven thousand existing worldwide, primarily threatened by poaching

(IUCN, 2015). Similarly, Molnar, Derocher, Thiemann, and Lewis (2010) in the journal of *Biological Conservation* established that polar bears are vanishing at devastating rates due to starvation, climate change, pollution, and new diseases. Even, insects are disappearing due to environmental mistreatment. Beekeepers worldwide have witnessed the rapid demise of their bee colonies, with over one-third of commercial honeybees already dead (Hagopaian, 2015). Overall, researchers note that the endangerment and extinction of these species remains in direct correlation to human activity (Shah, 2014). Poor environmental behaviors have begun to destabilize biodiversity causing large-scale problems for humans and wildlife globally such as food and water scarcity (Shah, 2014).

Researchers note that it will take hundreds to thousands of years to undo damage done to the aquatic species, coral reefs, and other habitats, thus rectification of environmental damage must begin immediately (Shah, 2014). Consequently, it is extremely important to understand how young adults and adolescents are socialized to perceive the environment, and behave toward it. Since individuals are not simply predisposed to act pro-environmentally or hold ecological values, communication is a key element to socializing people into these ideals. One way that individuals are socialized into specific beliefs and values is through socialization tools like memorable messages. In 1981, Knapp, Stohl, and Reardon defined memorable messages as interpersonal messages that are remembered for a long time and influence someone's choices. Knapp et al. (1981) articulated that memorable messages remained a way to socialize individuals into specific attitudes, beliefs, and values. Socializing persons into specific values that may

encourage them to act or support ecological causes remains important, especially with the deteriorating wildlife status. According to Stern's value-belief-norm theory (1999), progressive and altruistic values make individuals more receptive and supportive towards environmental causes. Thus, it remains important to see if these particular values are communicated to individuals to understand if the "right messages" that may promote environmental support are conveyed. This study aims to explore what kinds of messages about wildlife conservation are being shared and remembered by individuals, if any, and what values are being emphasized within the reported memorable messages.

The study defines memorable wildlife messages as communication and/or behaviors that one can clearly remember and concerns wild animals, wild plant life, and their natural habitats. Wildlife messages concern animals, plants, and habitats, which are within the wild, not those used for farm livestock, crops, or domesticated. These messages or behaviors may encourage safeguarding animals and their habitats from destruction, poaching, and extreme hunting. However, they might also focus on exploiting wild animals for human benefit, or discourage against changing one's behavior for the sanctity of the environment. By looking at this unexplored research topic, the study hopes to find (1) what individuals are learning about wildlife preservation, and (2) if crucial values as articulated by Stern's value-belief-norm theory (1999) are emphasized.

The researcher has a bias toward pro-environmental attitudes, values, and behaviors. However, the researcher understands other valid environmental biases exist,

and individuals may not hold the same pro-environmental bias as the researcher. Therefore, throughout the study, the researcher intended to remain neutral when attempting to understand the types of wildlife messages people remembered. Furthermore, it is important to recognize that while the study hopes to find ways to promote environmentally conscious behaviors, the researcher understands this area remains contested. Media and interests groups have placed economic development in direct opposition to conservation to serve their own purposes as noted by Redpath, Bhatia, and Young (2015). Along with these researchers, the writer understands economic interests and wildlife conservation must remain balanced for both human and wildlife to thrive. This study merely hopes to help restore the balance between these interests, so wildlife may thrive as well as humans.

In pursuing these research goals, the study extends three research areas. First, despite their potential importance, memorable messages focused on wildlife and the environment in general, remain unexplored. This study seeks to fill this gap in literature. Second, by identifying the values that the memorable wildlife messages are communicating one can determine if important values, as identified by Stern's value-belief-norm theory (1999), are being communicated. This analysis yields insights about messages supporting or promoting environmental attitudes to develop. Finally, this study aims to find if communication about wildlife conservation occurs on an interpersonal level within familial and peer relationships. This insight could bring awareness to the extent which environmental trends are recognized in family discourse.

To begin the study, a review of recent literature regarding socialization into pro-environmental behaviors, memorable messages, and Stern's value-belief-norm theory (1999) follows. Next, a detailed description of the study's methodology including distribution method, sample size, and coding procedures is discussed. Subsequent sections include a detailed description of the study's findings and the discussion section articulating possible implications based on the results. Lastly, the study concludes with future directions, limitations, and final remarks.

CHAPTER 2

REVIEW OF LITERATURE

Socialization

Individuals are socialized into specific values, beliefs, and attitudes about various

topics, such as the environment and wildlife. Although these abstract concepts sound

similar, various social-psychological perspectives agree on distinct definitions for each of

these notions (Stone, Gueutal, Gardner, & McClure, 1983). Rokeach (1968) from his

book, *Beliefs, Attitudes, and Values: A Theory of Organization and Change*, describes

each of these concepts clearly. Attitudes are positive or negative feelings individuals have

toward things, people, and topics. Taking the wildlife topic for example, an individual

may generally like animals (attitude). Beliefs are the perception that something is true

and it exists. Thus, someone might receive knowledge that climate change is a myth, does

not exist, and does not affect wildlife negatively (belief). Finally, values are based on our

beliefs that something is true, but unlike a belief, leads an individual to decide how

he/she should or should not behave. When one holds a value they believe something is

virtuous, important, and worthy of pursuing. For instance, an individual may believe

global warming exists, negatively effects wildlife (belief), and consequently, acts more

ecologically as they believe saving wildlife is important (value). One's beliefs about

wildlife influence individuals to acquire specific values on how they should or should not

act towards nature. Consequently, as wildlife remains the study's focus, it remains

important to understand how individuals are socialized to develop and internalize values about wildlife.

Socialization occurs through various sources. The first and primary source of socialization remains one's parents. According to Thompson (2012) a parent's messages toward a child about morality promotes ethical responses, develops a child's conscience and social mindfulness. Congruently, Bloom (2010) notes that while most infants have a desire to empathize, and act selflessly, these actions are solidified by interacting with others in the world; thus, a parent's feedback remains important to solidifying the "right" behaviors (Piaget, 1932). The parent's communication and feedback to help facilitate growth of ethical behaviors and values remains crucial to help children become good adults who can operate in multiple social systems (Laible & Thompson, 2000). Other authority figures such as spiritual leaders, grandparents, coaches, relatives, and teachers also shape an individual's moral code encouraging established values or invoking new values within the individual (Waldron et al., 2014). However, many of these values that parents and other authority figures socialize individuals into remain widely held social norms, not individualized values (Socha & Ellel, 2015). For example, most individuals are socialized to 'treat others the way you want to be treated.' While it seems like an individualized value, it generally conveys the ideal of fairness in relationships, a well-known social ideal.

However, as a child becomes older, he/she begins to take on the perspectives of others, such as his/her peers or even the media, not just relevant, authority figures (Nucci,

2006). Therefore, these various sources from parents to teachers to peers to media influence one's values, making it likely that different kinds of contradictory values will clash. Thus, he/she must adjust his/her personal values based on the information they have obtained (Piaget, 1932). As the individual encounters different and unfamiliar situations in his/her life, he/she tries to assess how to transfer these established values into their own personal lives, and relationships (Socha & Allel, 2015). As individuals enter emerging adulthood, the period of late adolescent to mid-late twenties, they begin to re-evaluate their moral commitments and determine what values they believe in and what actually works in their life based on the information they have received from their various sources (Arnett, 2007).

Within the past several years, researchers have studied how adolescents and emerging adults are socialized into pro-environmental behaviors and attitudes. Most of this research transpired due to the urgent need to change behaviors toward the environment (Leeuw, Valois, Ajzen, & Schmidt, 2015). As noted by Leeuw and colleagues, researchers focus on adolescents and young adults because they are critical stakeholders for the future environmental status. Michael McCarthy, one of Britain's leading writers on the environmental and natural world states, "Unlike previous generations, we know now what needs to happen. The time to protect the… heart of our planet is now, today, and urgent" (2011). Ultimately, the future of the planet is in the younger generation's hands, so their attitudes count the most.

Pro-Environmental Behavior. Parents socialize their children, in general, to become responsible citizens so they may contribute positively to society (Grounhoj & Thogersen, 2012). Similarly, schools and higher education also contribute to educating young individuals to be accountable for their actions (Gronhoj & Thogersen, 2012). Both sources tend to be strong factors in influencing pro-environmental behaviors and knowledge in young individuals (Gronhoj & Thogersen, 2012). However, while younger generations hold favorable environmental attitudes, they often feel less personal responsibility for the environment, despite parental and educational efforts (Gronhoj & Thogersen, 2012). Most children, adolescents, and young adults do not realize, or understand how their everyday choices affect the environment. Grohoj & Thogersen (2011) conducted a study with 20 Danish families over a five-month period on household energy consumption patterns. Only when parents showed their children how their behaviors contributed to electricity waste, and how it affected the environment, did they alter their behavior. This fact is quite concerning, as Andrew Revkin, an American science and environmental writer from the *New York Times* notes, because climate change solutions will only be achieved through effective communication about environmental issues and individual behavioral changes (2013). As the Danish study indicates, if effective parental communication does not occur, an individual's behavior remains unchanged. An article in the *Journal of Environmental Psychology* by Matthies, Selge, and Klockner (2012) echoed these same conclusions. The researchers surveyed 206 parent-child dyads to find which variables, like parental communication and parental

behaviors, influenced children's behaviors related to recycling and re-use. The researchers found that when the parent modelled ecological behaviors and communicated about environmental problems, like consequences of wasteful practices, children were likely to recycle and re-use. Thus, an awareness of the consequences of one's behavior and a feeling of personal responsibility often leads to concrete action. Additional studies note the importance of socialization practices from parents and other sources so individuals internalize environmental values and belief systems.

As noted by some studies like the ones produced by Reese, Loew, and Steffgen (2014) some ecological behaviors are commonly-held norms, such as reusing hotel towels; however, most studies note parental influence as the most significant factor on pro-environmental attitudes, values, and behaviors in young adults. For instance, Matthies, Selge, and Klockner (2012) concluded in their recycling study, that when children were aware of environmental issues and felt personal responsibility for the situation, they were more likely to recycle. Values of personal responsibility toward the environment and awareness of environmental issues were ingrained in the children due to their social network and communication from significant others, like parents. Similarly, Abrahamese and Steg (2011) found individuals who were socialized into pro-ecological values toward areas like energy conservation were more likely to intentionally reduce their ecological footprint. Additionally, pro-environmental attitudes, values, and behaviors were more prominent when parents socialized their children into ecological values by modelling environmental behavior.

In 2012, Gronhoj and Thogersen surveyed 601 Danish families to see the ways which parents influenced their child's pro-environmental behaviors. Controlling for the child's own attitudes, the researchers found that pro-environmental attitudes remain prominent in children who observe parents' environmental behaviors, have parents who reinforce pro-environmental values, and communicate with their family about ecological issues.

It is significant to note that many studies have determined that communication must be used with modelled behavior. When Yang, Seo, Rickard, and Harris (2015) surveyed college-aged students at two major universities, they found that risk perception, emotion, and knowledge about specific environmental issues impacted the adoption of pro-environmental behaviors. When deliberate, effortful, and fear-inducing communication about environmental policies/issues was utilized, individuals were more likely to adopt pro-environmental attitudes. For instance, when people felt their wellbeing or lives were at risk due to climate change, they were more likely to act ecologically. However, transmitting knowledge was not enough to change the individual's lifestyle or behavioral patterns. The authors note the person must have the ability to act ecologically and have significant others model pro-environmental behavior to build resistant and salient ecological attitudes. These studies demonstrate that communication, modelling behavior, and showing children they can act ecologically daily, builds resilient and prominent attitudes. Cohesion of all the elements gets the best result.

Wildlife Conservation. Significant research has focused on how zoos, aquariums, and other conservational organizations generate supportive attitudes toward wildlife within public domains. Zoos and aquariums are perceived as places of leisure or recreation; however, many zoos have roles in protecting wildlife (Ballantyne, Packer, Hughes, & Dierking, 2007). Zoos have taken on such responsibilities as preserving diversity and long-term survival of rare and endangered species (Ballantyne, Packer, Hughes, & Dierking, 2007). Beyond this, they serve to educate and inspire visitors to take part in conservation efforts (Ballantyne, Packer, Hughes, & Dierking, 2007). Zoos and aquariums encourage visitors to conserve natural resources, maintain local habitats, and participate in community efforts to protect the environment (Ballantyne, Packer, Hughes, & Dierking, 2007). In a previous study, visitors were questioned before and after their zoo visit (Yerke & Burns, 1991). After the visit, 31.6 percent more visitors supported conservational efforts. The authors speculate visitors may have more pro-conservational attitudes after a zoo visit due to educational messages they receive about wildlife matters.

Effective messages about wildlife conservation occur when individuals see animals either in captivity (zoos) or non-captivity (protected on reservations) and are educated on how to help these animals with their everyday behavior (Ballantyne, Packer, Hughes, & Dierking, 2007; Peake, Innes, & Dyer, 2009). Messages are more powerful in changing the public's attitudes when zoo employees or tour guides present the issues as problematic for the animal's survival in the wild (Ballantyne, Packer, Hughes, & Dierking, 2007; Peake, Innes, & Dyer, 2009). Additionally, when conveying issues, zoo

employees need to give visitors reasonable suggestions on how to help save the animals and their natural habitats, for instance, by donating money to an organization (Ballantyne, Packer & Hughes, 2007). Individuals had to be convinced their personal behavior would somehow reverse or halt environmental damage in order to support wildlife ecology (Ballantyne, Packer, Hughes, & Dierking, 2007).

Emotion also plays an important part in an individual's conservational attitudes (Ballantyne, Packer & Hughes, 2007; Peake, Innes, & Dyer, 2009). Depending on one's zoo visit, animals seen, and encounters with the wildlife, emotional bonds with the animals and strong feelings may cause pro-environmental attitudes to develop (Peaker, Innes, Dyer, 2009; Ballantyne, Packer, Hughes, & Dyer, 2007). After a zoo visit or natural sightseeing activity such as whale-watching, visitors who were satisfied with their experience supported conservation efforts more so than those who felt unsatisfied (Peake, Innes, & Dyer, 2009). Additionally, when employees framed animals as individuals rather than objects, it caused visitors to feel more emotional toward the animals and generated positive, ecological attitudes (Ballantyne, Packer, Hughes, & Dyer, 2007). Overall, those who felt some sort of personal connection with the animals, or felt positively due to their wildlife experiences, felt the desire to protect them from harm. A zoo/aquarium's messages may socialize individuals into resilient, wildlife values if the zoo encourages a human-animal bond through close encounters, like giraffe feedings. These encounters may build values and a strong desire to protect animals from harm through an individual's daily behaviors. Thus, zoos and aquariums socialize individuals

into pro-wildlife values and behaviors much like parents who socialize their children into other pro-environmental behaviors like recycling.

However, individual demographics, previous knowledge, motivations, and pre-existing attitudes also play a part in what environmental outlooks one holds. Many people who visit zoos, aquariums, or seek experiences with wild animals, often hold positive environmental attitudes and value wildlife (Peake, Innes, & Dyer, 2009). However, the reason a person pursues wildlife experiences impacts one's environmental outlook as well; individuals who sought wildlife experiences for entertainment were effected by zoo knowledge differently than individuals who desired to be educated by the experiences (Ballantyne, Packer, Hughes, & Dyer, 207). Those motivated by education rather than entertainment were more likely to be swayed by the information and thus adopt more positive, conservational perspectives (Ballantyne, Packer, Hughes, & Dyer, 2007). Consequently, those with positive wildlife outlooks and values tend to be the same individuals who visit zoos and aquariums. This limits the ability of zoos and aquariums to socialize individuals who hold indifferent or negative wildlife values. Therefore, while zoos may socialize some individuals into new pro-wildlife values, their effects may be limited.

Additionally, research shows that one's wildlife attitudes and knowledge depends significantly on his/her gender. An early study by Kellert and Berry (1987) found that males were usually more knowledgeable about wildlife and supported animal conservation organizations more so than females. However, males also tended to have

dominative attitudes and felt great satisfaction from mastering and controlling wildlife. In contrast, females usually were more concerned with animal welfare, and supported welfare organizations more so than males. Kellert and Berry speculated that these differences might be due to different moral socializations. Males are socialized to value work, competition, and sport while women are socialized to value nurturing and caretaking. It may lead one to believe that males and females are socialized differently when it comes to wildlife conservational information, no matter the source; they may be receiving different memorable messages with different underlying values.

Memorable Messages

According to Knapp, Stohl, and Reardon (1981) memorable messages are interpersonal messages that an individual remembers for a long time and influences his/her life (Ellis and Smith, 2004; Stohl, 1986). They note that memorable messages are internalized, taken to heart, and remain meaningful to a person. Memorable messages are unique compared to other interpersonal messages. For instance, memorable messages are often brief, communicated by an authority figure in a private setting, serious in nature, action-oriented, and centered on the receiver's welfare (Knapp, Stohl, & Reardon, 1981; Miczo, Danhour, Lester, & Bryant, 2013; Stohl, 1986).

Although earlier memorable message research indicates that an individual remembers a single message exactly how it was communicated originally, current research indicates these messages are usually not remembered word-for-word. Instead, individuals remember the general ideas, recommended actions, or advice of the

communicated messages. These messages can be remembered in various forms, such as in the form of axioms, modelled behavior, slogans, commands, virtues, or maxims (Waldron et al., 2014).

According to Waldron et al. (2014), memorable messages are believed to be instrumental in the development of one's self-concept and general perspective towards society. As noted, memorable messages usually reiterate some sort of basic social norm throughout the larger society, which may be why it remains particularly memorable to individuals; it is repeated constantly throughout different contexts and by different people (Stohl, 1986). Knapp et al., (1981) note memorable messages are likely an extension, or an additional method to socialize individuals into socially appropriate attitudes, values, and beliefs; Waldron described this as a socialization tool (Waldron et al., 2014). Stohl (1986) noted memorable messages often reflect conservative social values, and embody cultural norms. Whether memorable messages remain unique or repeated, they are known to affect one's behavior in crises and on a day-to-day basis.

An individual may recall memorable messages as crises occur in his/her life (Nazione, LaPlante, Smith, Cornacchione, Russel, & Stohl, 2011; Miczo, Danhour, Lester, & Bryant, 2013; Knapp, Stohl, & Reardon, 1981; Stohl, 1986). They offer guidance on how to behave in new and challenging situations, such as navigating college life (Nazione, LaPlante, Smith, Cornacchione, Russel, & Stohl, 2011), personal morality (Waldron, Kloeber, Goman, Piemonte, Danaher, 2014), and health practices (Miczo, Danhour, Lester, & Bryant, 2013). Individuals noted they remembered and internalized

specific memorable messages more so when transmitted during a difficult time, needed

help, or advice in solving the problem or wanted to understand how to solve the problem

better in the future (Stohl, 1986). Memorable messages generally make sense of the

confusing situation and provide guidelines for action in future situations (Stohl, 1986).

Ellis and Smith (2004) note while memorable messages do help an individual decide how

to act in unexpected situations, these messages may also serve a critical function in

encouraging individuals to act in specific ways in their daily life. Ellis and Smith studied

memorable messages noting most individuals used memorable messages as a way to

assess their past behaviors, and guide their current behavior. Additionally, Ellis and

Smith found most individuals used memorable messages on a daily basis to guide their

personal conduct such as their communication with their significant others and make wise

decisions.

Given the wildlife crises, many people may be more receptive and likely to

internalize memorable wildlife messages as they try to navigate and conduct themselves

wisely among the diminishing environment. Despite the wildlife topic being unexplored

in relation to memorable messages, one can presume that memorable messages may

come from sources that transmit memorable messages about other values.

Sources.   Memorable messages come from various sources. However, individuals

usually remember memorable messages coming from a source they are close to,

frequently see, and someone older and wiser than the receiver; someone deeply

embedded in their social network (Stohl, 1986). Primary sources include individuals,

such as parents, spiritual leaders, teachers, and grandparents (Waldron et al., 2014). Different sources usually convey different types of memorable messages concerning different subjects. Waldron notes that people like grandparents remain a key source. Grandparents help guide and establish their grandchildren's prosocial values and beliefs through explicit, verbal messages and implicit behaviors like modelling. These messages affect many aspects of the next generation's values toward politics, family, and other contexts such as the environment. Ellis and Smith (2004) found similar results noting most sources of memorable messages about kindness, loyalty, and patience were attributed to mothers, fathers, and teachers. Additionally, individuals remembered messages regarding responsibility, hard work, and lawfulness from teachers (Ellis and Smith, 2004). However, as individuals get older and immerse themselves in different contexts, memorable messages come from other sources, such as peers and the media. For example, Stohl (1986) reported as individuals immersed themselves in their careers, memorable messages came from peers and supervisors within their work network.

Memorable message studies indicate that children and young adults tend to get values from authority figures like their parents, teachers, and grandparents. Similarly, environmental research specifies that parents are a prominent source of pro-environmental behaviors (Gronhoj & Thogersen, 2012). Based on this research, memorable wildlife messages are most likely coming from parents and other authority figures like teachers.

Stern's Values-Beliefs-Norm Theory

Stern, Dietz, Abel, Guagnano, & Kalof (1999) developed a theory to decipher what qualities environmental supporters possess. Supporters of the environmental movement did not just believe changes should happen, but were willing to change their behaviors and sacrifice convenience to support the pro-environmental goals. To understand why individuals supported self-sacrificial and altruistic movements such as the environmental movement, Stern combined and refined three theories: norm-activation theory, theory of personal values, and the New Ecological Paradigm hypothesis to develop the Stern's values-beliefs-norm theory.

The theory notes that individuals who possess three qualities are likely to support and behave ecologically. Stern notes the most important quality in environmentally prone individuals is altruistic and progressive values. Stern defines altruistic values as being very giving and caring for the general welfare of others as well as promoting equality among all species (man and animals) (Schwartz, 1992; Abrahamse & Steg, 2011; Oreg & Katz-Gerro, 2006). Furthermore, values that promoted progressivist rather than conservative (traditional) values, such as giving up one's self-interests to better society, led individuals to support environmental causes (Schwartz, 1992). Stern noted the progressive value remained important as the environmental movement encompasses the belief that human activity can harm the environment, and be prevented through human action; this belief goes against traditional social norms where human needs and convenience take precedence over other species' needs. By looking at an individual's

internal values, one can predict whether they would support environmental matters. For example, if one held altruistic values, they would be more likely to support environmental causes as they care for other's welfare as well as their own.

The second quality environmental supporters were likely to hold was the belief and understanding that human action has adverse effects on the Earth (Stern et al., 1999; Oreg & Katz-Gerro, 2006). For instance, an individual understands excessive waste leads to pollution, which ultimately leads to higher temperatures. The third quality environmentally prone people were likely to hold was feelings of responsibility to act in ecological ways. Additionally, they understand how their past behaviors have influenced or contributed to environmental issues. According to Stern, this ascribed responsibility for environmental problems often leads individuals to feel obligated to act ecologically. After an individual feels responsible for their actions due to their ecological awareness and values, they feel obligated to support specific policies, change their behavior, and support environmental goals (Oreg & Katz-Gerro, 2006).

These three variables enable scholars to predict who will usually support ecological causes. These variables, according to Stern et al. (1999), work in correlation with each other with each one causing the next; however, he notes the most important quality is an individual holding progressive/altruistic values. According to Stern, these intrinsic values cause individuals to be more receptive to environmentalist causes. However, an individual adopts these values through communication and socialization; individuals are not simply predisposed to be progressive or altruistic. One way to socialize individuals

into these specific values is through socialization tools like memorable messages.

Memorable messages may embed these values into individuals. If an individual reports a

wildlife memorable message, which emphasizes a specific value, like altruism, perhaps

the individual may be likely to support environmental causes, such as wildlife

preservation. Therefore, this study applies Stern's theory by attempting to identify if

these important values are embedded within the memorable wildlife messages.

Rationale and Research Questions

Ultimately, previous studies noted that conversations about the environment are

rare, however, wildlife preservation is learned more through communication than actual

behavior (Gronhoj & Thogersen, 2012; Ballantyne, Packer, Hughes, & Dierking, 2007;

Peake, Innes, & Dyer, 2009). Communication about wildlife conservation has never been

studied in an interpersonal context, leaving a significant gap in environmental research.

Memorable messages are remembered for a long time and are influential on one's

thoughts, behaviors, and attitudes in particular contexts (Knapp, Stohl, & Reardon, 1981).

For this reason, better understandings of the messages people remember receiving about

wildlife is needed. Research question one guided the exploration on what kinds of

memorable messages are communicated about wildlife conservation.

RQ1: What kinds of memorable messages concerning wildlife preservation do

individuals recollect, if any?

Stern's values-beliefs-norm theory notes that individuals with three distinct qualities

(altruistic/progressive values, belief humans should take steps to prevent harm, and

ascribed responsibility to the problem) can predict who will support ecological goals. Stern notes the most important quality that predicts who will support environmental objectives is altruistic and progressive values. Communication remains a crucial way to instill values into people through socialization tools like memorable messages. Thus, research question two followed.

RQ2: What personal or social values are wildlife memorable messages emphasizing?

Previous research has shown that memorable messages are often shared in a private setting, from an authority figure, and is usually action-oriented (Knapp, Stohl, & Reardon, 1981). As shown by previous research, various factors influence attitudinal and behavioral changes toward the environment (Reese, Loew, & Steffgen, 2014; Gronhoj & Thogersen, 2012; Matthies, Selge, & Klockner, 2012; Ballantyne, Packer, Hughes & Dierking, 2007; Peake, Innes, & Dyer, 2009). Yet, one of the most significant socialization factors in pro-environmental behavior of youth was parents (Matthies, Selge, & Klockner, 2012; Gronhoj & Thogensen, 2012; Yang, Seo, Rickard & Harris, 2015). This research leads to the first hypothesis.

H1: Parents will communicate a majority of the wildlife conservational memorable messages.

CHAPTER 3

METHODOLOGY

After approval by the university internal review board, a mixed methods approach

was employed to collect and analyze the wildlife memorable messages. Although the data

was analyzed both qualitatively and quantitatively, the author focused more on the

qualitative aspects. Reported quantitative data, such as percentages, are not reliable and

only provided as preliminary. As no previous studies have analyzed memorable wildlife

messages, the researcher modelled the study after a well-developed memorable message

study completed by Waldron et al., (2014). To collect this data, a survey with both open-

ended and close-ended questions was distributed.

Much like Waldron et al. (2014), the researcher took a qualitative approach in

order to collect and analyze detailed memorable messages from the respondents. A

content analysis utilizing thematic analysis allowed the researcher to identify themes, and

underlying values throughout the reported wildlife messages. However, the study also

wished to illustrate the sources of the wildlife messages, and frequency of the messages.

This encouraged the employment of a traditional, quantitative content analysis approach.

Participants

Of the 220 people surveyed, 197 individuals (89%) completed the questionnaire.

Of the 197 participants, 78 (39%) individuals reported being male while 118 (60.2%)

reported being female. Within the survey instructions, it was dictated that participants

should be between the ages of 18-35 to be considered a young adult and eligible to

participate in the study; all participants fell within this age range. The mean age reported was 22.8. The survey was distributed mostly via academic settings such as college classrooms, thus most participants reported having completed some college (75%). Others reported having a Bachelor's degree or above (15.3%), a high school diploma (6.1%), or some other degree (3.6%) such as an Associate's degree. Ethnicity of the participants was also collected. A majority reported being Caucasian/White/ European (59.7%). The remainder of the participants reported being Hispanic (23.9%), Black/African American (6.1%), Asian/Pacific Islander (4.6%), Native American (1.5%), or identified as "other" (4.1%) such as being mixed among the different ethnicities listed. Other demographic information collected included religious and political affiliations. About half (51.5%) of participants reported associating with a Christian denomination, while about one quarter (25.5%) reported no religious affiliations whatsoever. The remainder of participants reported Buddhism (2%), Islam (1.5%), Judaism (1%), or other religious philosophies (18.4%) not listed such as Agnostic. Participants were equally divided among political groups. 29.1% defined as an Independent, 26% as a Democrat, 15.3% as a Republican, and 23.5% claimed having no political affiliation. The rest of the participants (6.1%) claimed association with political parties not listed. Lastly, out of the 197 respondents who completed the survey, only 55.4% claimed to remember a wildlife memorable message.

Procedures

    Sampling.   The survey was distributed throughout a southwestern state via a

Qualtrics hyperlink and paper surveys. The research utilized both network and

convenience sampling to collect data. During the first phase of data collection, the

researcher distributed the Qualtrics link throughout her personal network. Individuals

within her network were asked to complete the survey and recruit others to take the

survey from their personal network. Individuals who were recruited via network sampling

were offered no incentive. While network sampling remained the researcher's preferred

method to collect all responses to preserve diversity as much as possible, only 78

responses could be collected via this method. After exhausting this sampling method, the

researcher turned to convenience sampling to collect the remainder of the responses.

    The majority of the responses were collected by utilizing convenience sampling. The

researcher reached out to various professors across two different southwestern colleges

and universities to survey students within their classes. Due to different class structures

and the professor's needs, the survey was distributed to students online by providing

them the Qualtrics link, or by distributing a hard copy of the Qualtrics survey within their

classrooms. The researcher tried to prevent any confusion and ensured the survey

remained ethically sound by attaching the consent form and instructions to the paper

survey. When paper surveys were circulated, they were either distributed, completed, and

returned to the professor at a later time, or the survey was completed during class time.

Most students were given an incentive to complete this survey. Professors often offered a

few points of extra credit. After the students completed the paper surveys, the professors returned the surveys to the researcher, and the researcher entered the data into the Qualtrics system so it could be analyzed. The full survey, including the consent form and instructions is included in this article in Appendix A.

Survey Development Process.   Before designing the final survey, the researcher had semi-structured discussions within her social network to decide if individuals could honestly recall memorable wildlife messages. One important discovery within these discussions allowed the final survey to become clear and understandable. During the semi-structured discussions within the researcher's social network, confusion arose between messages concerning wildlife and livestock as well as domesticated animals. Due to this confusion, the researcher added clarification in the final survey's instructions noting, "For the purposes of this study, wildlife does not concern animals which are considered livestock or domesticated animals."

The final survey contained 42 items. The researcher utilized two surveys, which had been developed and tested for content validity, reliability, and other aspects. The first survey used was one from the memorable message study by Waldron, et al. (2014) where the researchers sought to find and identify the kinds of memorable messages about personal morality. The researcher obtained this survey from the study's principle researcher, and adapted the survey to include only relevant aspects. Relevant aspects of the survey retained for the current survey included (a) demographic information (religious affiliation, age, educational status, etc.) such as "What is your gender?" and

"What is your religious affiliation, if any?" , (b) inquiries about what memorable message was shared, the context surrounding the telling of the memorable message (setting, who said the message, etc.) for example, "Who did you hear this message from?" and, (c) the internalization and acceptance rating scale. Wording was adapted so questions focused around memorable wildlife messages instead of memorable moral messages. For instance, an adapted question included, "In the space below, write the message concerning wildlife that was communicated to you. If you remember the message exactly, please place the words in quotation marks. If not, summarize the message as best you can."

The second part of the survey recorded one's wildlife communication habits. This part of the study's survey was adapted from the environmental communication scale developed by Kassing, Johnson, Kloeber, & Wentzel (2010).This scale was developed in order to assess the degree, which individuals engaged in environmental communication. The 20-item scale assessed environmental communication on three dimensions: practicing, dismissing, and confirming.

The practicing and dismissing dimensions measured how much an individual engaged or avoided communicating about environmental issues. Similarly, the confirming dimension assessed "people's attitudes regarding the importance and necessity of engaging in environmental communication". According to Kassing et al. (2010), the scale could be adapted to specific environmental issues like wildlife. The researcher for this study adapted the wording on the environmental communication scale

to reflect wildlife communication instead of general environmental communication. Although it should be noted, Kassing and colleagues thought such an adaptation to the scale to reflect a specific environmental topic should be checked for validity. The researcher for this study did not take that step.

Specific survey questions were used to answer the research questions and hypothesis. Question 8, "In the space below, write the message concerning wildlife that was communicated to you. If you remember the message exactly, please place the words in quotation marks" was used to answer research question 1 (RQ1) and research question 2 (RQ2). Question 9 (who communicated this message to you) was used to answer the hypothesis (H1).

Coding Procedures

The researcher began the coding process by discussing possible category systems with another researcher. Utilizing previous literature as a sensitizing concept, the author began thematically coding messages employing the Glaser & Strauss's (1967) constant comparative method. The author also allowed themes to emerge from the message content. Additionally, the author analyzed messages for underlying values by applying Stern's Value-Belief-Norm Theory as an informing concept, but allowed other values to surface based on the reported content.

Messages were examined, categories emerged based on the message content, further messages were compared to existing categories, and categories were created as needed until 25% of responses had been categorized. After an initial category system was

created, the author reconvened with the researcher again to obtain insight on the preliminary category system and unitization of the data. After insight and guidance from the researcher, the author unitized responses as well as reorganized and refined the category system.

Some respondent's messages had different kinds of wildlife messages within one single response. Therefore, the researcher separated single responses to be unitized as several, different wildlife messages. After reviewing all messages, the researcher concluded there were 108 total messages; three messages were eliminated because respondents did not follow directions. A second coder unitized 50% of the data. Unitizing reliability was 98%. The one disagreement was resolved by accepting the coding decision of the first author, who was the most familiar with the data. The first author made the remaining unitizing decisions.

The author categorized all 108 messages. During coding, if a message illustrated two different themes, the theme that appeared more prominent in the message's content was selected; thus, no message was placed into more than one category. After completing these procedures, the researcher had created 22 distinct categories. However, after convening with a committee of scholars, the categories were reduced to 5 primary categories with 10 secondary categories.

Categories remained distinct with specific, thorough definitions; however, some categories potentially overlap. For instance, the category of preservation may overlap with obligation to stewardship. Both categories insinuate the need to defend and guard

wildlife ensuring their survival. Yet, while messages in the preservation category insinuate a need for life to be preserved, messages in the obligation for stewardship category insinuated a duty and a need to take physical action to protect them. Thus, the author chose to preserve this diversity in the messages reported.

During coding, the researcher tried to employ Tracy's (2010) criteria for quality qualitative research, specifically the criteria of rich rigor, credibility, and sincerity. The author employed rich rigor in the coding system, by describing each category with accurate definitions and exemplars of each category within the study. The author additionally tried to employ credibility by ensuring that the categories created were reflective of the messages reported and seemed accurate based on prior research reported in the review of literature. Throughout the process, the author employed sincerity in the research by being transparent with her pro-environmental biases, and intentions to remain neutral throughout the study. Additionally, transparency was sought by reporting detailed accounts on how research was collected, the methods used, and comprehensive coding procedures.

CHAPTER 4

RESULTS

Content of Wildlife Messages

With reference to research question one, "What kinds of memorable messages concerning wildlife preservation do individuals recollect, if any?" respondents made 108 references to significant wildlife messages. After coding, five primary categories remained with 10 subcategories. The primary categories were as follows: *preservation, domestication, sanctity, complexity of conservation issues,* and *moral obligation to stewardship/protection.* Appendix B features a table with the categories, categorical definitions, and frequency of each category.

The primary category, preservation, encompassed messages focused on the preservation of wildlife and their habitats. Two subcategories, *habitat* and *life*, emerged from preservation.

Respondent's messages coded within the *habitat* category (5.6%) reported messages about wanting to protect, maintain, or respect wildlife habitats. An example given: "Don't go off the trail while hiking, you're damaging the habitat of everything that lives in the preserve". A theme within the habitat category focused on the encroachment of man-made developments on wild habitats. Respondents specifically noted that man-made developments were intruding on habitats causing critical consequences, such as the endangerment of species. A message articulating this theme noted, "Urbanization and the

building of new developments pushes wildlife away and negatively impacts the environment".

The subcategory of l*ife* (24.2%) included messages that conveyed that wildlife should be preserved, not needlessly killed. These messages were as generalized as, "Don't kill wildlife unless you have to (that includes bugs)." However, some messages conveyed specific ethical practices in a means to preserve life, for example when one hunts. "Not hunting endangered animals or for sport because we are losing entire species of animals." Various messages within the life subcategory exhibited specific themes like scarcity and endangerment and misuse/proper use of resources.

Messages that portrayed scarcity and endangerment noted that wildlife was becoming scarce, endangered, or extinct for various reasons. One example given by a respondent who watched a commercial portrayed this theme, "I [have] seen one about the endangered wolves. It was sad. It talked about how we must work to preserve the species or it will be gone forever." Another message noted wildlife was endangered, specifically, due to climate change. "Climate change will be devastating to ecosystems. Ocean wildlife is particularly at risk. This ranges from coral bleaching to melting ice caps- pH levels are rising simultaneously with rising temperatures." Although climate change remains a significant topic politically and socially, this was the only message reported on climate change.

The other theme found throughout the life category was the misuse/proper use of resources. Messages conveying the mismanagement or proper usage of wildlife resources

noted these actions would have correlating consequences on the wildlife population. One detailed example includes a young man who recalled when his tutor intensely lectured his father when he came home with more than one deer. This message portrayed the ethical use of wildlife. "You have two tags to hunt these deer. Why do you have four deer in the back of your truck?" Other messages conveyed mismanagement of resources by individuals or corporations that caused critical consequences. "The BP oil spill that put over 200 million [gallons] of oil into the ocean. The spill affects every wildlife in the ocean and it causes much harm to them." Other messages focused on the misuse of resources through actions like pollution/littering or using wildlife for food. A few messages addressed on the presence and negative impact of pollution and litter on nature. "We shouldn't litter because trash can pollute the land and ocean causing animals to die." While one message illustrated how one should ethically use wildlife for food. "We do very terrible things to animals just to get food. Why do we have to torture animals just to thrive?"

The next primary category was *obligation to stewardship* (6.5%). This category encompassed messages which described human's obligation to protect wildlife and ensure their survival. One detailed message exemplified this responsibility. "When considering conservation, take time to be thoughtful, open, and compassionate and in the end, try to do the right thing. Know what is at stake and know that we all play a part in conservation, the best choice for the planet, environment etc. may not often be the easy

one, but it is our duty to make it." Two subcategories branched from stewardship: *prevention and conserve* (10.2%) and *human/corporate intervention* (6.5%).

Messages categorized in the subcategory, prevention and conserve, illustrated one's obligation to prevent environmental damage or conserve resources. Examples within this category often included messages from the infamous Smokey the Bear, "Only you can prevent forest fires" and the less prominent Woodsy the Owl, "Give a hoot, don't pollute". The other subcategory branching from stewardship was human/corporate intervention. Messages categorized within this subcategory exhibited human and corporate intervention as a means to protect wildlife or help wildlife crises. Messages articulated the importance of park rangers, organizational intervention, or corporate involvement during wildlife disasters. "The television show 'Whale Wars' has a strong message about wildlife preservation with the view that whales are majestic beings that need human intervention to be saved from extinction."

The third primary category, *sanctity* (4.6%)*,* included messages that conveyed that wildlife was important, purposeful, valuable, and sacred. Messages grouped under this category included those expressing a basic understanding that wildlife was purposeful such as, "Wildlife matters" or "My dad said it was important to understand that God created everything. Every living creature has a purpose." Three subcategories pronged from this main theme of sanctity: *interconnectedness* (4.6%)*, respect* (7.4%)*, and sacredness* (6.5%)*.*

The interconnectedness subcategory encompassed messages about wildlife being a part of a balanced system. Messages often displayed an understanding that if this balance was disrupted, severe consequences will follow. For example, "The wildlife on this planet exists as part of a chain. If one link in that chain is broken the entire chain is damaged." One example displaying this knowledge originated from an unlikely source, the cartoon sitcom *The Simpsons*, where the respondent noted, "When I was a kid, I saw an episode of *The Simpsons* where they went to Australia. By the end of the episode, bullfrogs had been released into the environment and had reproduced enough to the point where they were having a negative impact on the environment. This showed me that ecosystems are very fragile and any alteration to it can have devastating results."

The next subcategory branching from sanctity was respect. Messages in the respect subcategory communicated general feelings of esteem or worthiness toward wildlife. Messages within this category remained conventional such as, "All living creatures regardless of shape, size, species, should be treated with respect". A theme that manifested within the respect category was messages articulating discouragement of abuse, thus promoting respect. For instance, messages noted that one should not hurt or be cruel to wildlife. "Do not hurt wildlife."

The last subcategory from sanctity was sacredness. Messages expressed that wildlife was sacred or God-given, and thus, should be protected. Examples include those from Protestant viewpoints such as, "Nature and wildlife are to be used respectively. God provided for us." As well as those from Native American cultures, "In my culture we

view wildlife as sacred. Ever since I was young my grandmother would tell me that 'Respect mother earth and Father sky', we should give thanks by praying every morning and every night." Messages within the sacred subcategory also exemplified themes of beauty; that wildlife possesses beauty because it is sacred. An example given states, "There's deep beauty that lies within our connection to the environment, if we [are] given the opportunity [it] can speak to us".

The fourth primary category, *domestication* (9.6%)*,* encompassed messages conveying that wild animals should be kept wild, uncaged, and not used for entertainment purposes. *"*I have seen 2 documentaries about the conditions and health of animals kept in captivity in zoos and aquariums. Animals that are supposed to be left in the wild, but are used for entertainment purposes lack in physical, emotional, and mental health causing them to die at early ages, act in ways they wouldn't normally act, and become ill." However, most messages within this theme referenced a "Save the Orcas in captivity" message from the 2013 Blackfish documentary. From the primary domestication category, three subcategories emerged: *equality* (1.9%)*, danger* (3.8%), and *boundaries* (4.6%)*.*

The subcategory equality included wildlife messages, which illustrated that humans and animals are equal; man has no right to rule over wildlife. A powerful example from a respondent noted, "Animals and humans are all equal. We are not a hierarchy; we are all on the same level. We all deserve rights based on existing, not because we are 'smarter' than other animals or not."

The next subcategory based from domestication was boundaries. The boundaries subcategory highlighted messages that man should not interfere, nor disturb animals, but observe them from a distance. One message imparted a story conveying the boundaries theme well.

When I was twelve years old I went to Hawaii to visit my uncle. My uncle and I were out swimming in the ocean and I was fascinated by all the marine life that I was able to see. I continued to swim away from the shore so that I could see more marine life. After some time, I came upon a sea turtle, I reached out to touch it because I have never been that close to a sea turtle in its natural habitat before. Immediately, my uncle pulled me away from the turtle and pushed me back to shore. I was extremely upset with him for not allowing me to touch the turtle, but he then explained that they are endangered and that it is not okay for people to touch them. I did not want to believe my uncle, but since he has a degree in Wildlife Management from the University of Arizona I had no choice but to believe him. Although I was upset, I was glad that my uncle stopped me from touching an animal that is protected and has the right to be free in its natural habitat. From that point on, I made it a point to provide wildlife with its space by viewing it from a distance.

The last subcategory from domestication is danger. The danger category encompassed messages that depicted that wildlife was dangerous or scary. "Wildlife is dangerous." Other messages within the danger category expressed that some animals are

unwanted or unnecessary because they are "scary" or bothersome. "People hate that wolves are being introduced into wildlife poles and killing all the deer and elk."

The last primary category was *complexity of conservation* (1.9%). Messages in this category recognized the idea that conservation of wildlife and the environment remained a convoluted and complex problem. "There are many factors that play a role in conservation. While it is easy to say things like, 'Save the whooping crane,' it is far more complex when human emotion, sacrifice, costs, effects to day-to-day life, and convenience come into play."

Stern's Values-Beliefs-Norm Theory and Memorable Messages

In reference to research question two, "What personal or social values are wildlife memorable messages emphasizing?" over half (66/108) of the reported messages emphasized altruistic and progressive values. According to Stern's values-beliefs-norm theory, messages illustrating altruism, the care for the wellbeing and equality of other species, or progressivism, a willingness to change one's behavior, remains the most important quality when predicting who will support environmental causes. The remaining messages expressed values about awareness, appreciation, and dominance.

Several messages conveyed altruistic values, as defined by Stern et al. (1999). Messages relayed care for the wellbeing of animals. "All animals are to be respected in their own habitat." Other messages displayed altruistic values as well. "We're only here to help those that can't help themselves" and "Nature and wildlife is something to be respected and there's deep beauty that lies within our connection".

Messages also relayed progressivist values as defined by Stern et al. (1999).

Messages illustrated a shift from traditional values like convenience in a means to make the environment better. For example, "When considering conservation, take time to be thoughtful, open, and compassionated and in the end, try to do the right thing. Know that is at stake and know that we all play a part in conservation, the best choice for the planet, environment etc. may not often be the easiest one, but it is our duty to make it."

Another value expressed throughout many messages was an awareness of wildlife issues or situations. For instance, "Salt River Wild horses are going to be captured and relocated for reasons, I don't know, but I know it lit the Internet on fire about relocating wild horses" or "The senseless killing of elephants for their ivory tusks". Messages conveying awareness simply showed mindfulness towards wildlife, but expressed no obligation to protect wildlife, solve the issue, or help in any way.

Other values emerged from the wildlife messages such as appreciation. These messages conveyed appreciation or gratitude toward wildlife. However, these messages differed from those conveying altruism, as messages expressing appreciation did not necessarily care for the wildlife's wellbeing; messages simply showed gratitude toward wildlife's existence due to beauty or other characteristics. For instance "Wildlife is so good, just so good" or "Wildlife is just so amazing."

The last value illustrated throughout the wildlife messages was dominance. Messages conveying the value of dominance illustrated a need to control wildlife to

ensure human safety or eliminate wildlife if bothersome. For instance, "Wildlife is dangerous" or "Bee's suck, they scare me, and we don't need them".

Sources

In reference to hypothesis one: "Parents will communicate a majority of the wildlife conservational messages" most respondents reported they had received their messages from other sources (35.11%) beyond influential or authoritative figures such as their mother or father. Respondents noted they had received their memorable wildlife message from documentaries, social media, television shows, and commercials. Additionally, respondents noted another significant source of wildlife messages was advocacy organizations (17.0%) like the Arizona Wildlife Conservation, Fallen Feathers, and PETA. Teachers/professors (12.8%) and friends (9.6%) also were sources of wildlife information as well as mothers (7.5%) and fathers (7.5%). Other sources of wildlife messages including family members (4.3%) like grandfathers, celebrities (4.3%), religious leaders (1.1%), and mentors (1.1%) were rare. Overall, based on these results, hypothesis one was incorrect as most wildlife message derived from mediated sources.

CHAPTER 5

DISCUSSION

RQ1 yielded 5 primary categories and 10 subcategories concerning the types of wildlife messages individuals could recall. Responses focused on preservation, sanctity, complexity of conservation issues, obligation of stewardship, and domestication. Responses revolved around current issues wildlife faces, such as habitat loss and degradation, climate change, excessive nutrient load and pollution, and unsustainable resource use (Shah, 2014). These results demonstrate that individuals who receive, or at least recall, wildlife messages are generally aware of current wildlife issues. RQ2 yielded insights to the types of values memorable messages portray. Responses conveyed mostly altruistic or progressive values. However, messages also illustrated other values such as awareness, appreciation, and dominance. Lastly, H1 proves incorrect, as most wildlife memorable messages did not derive from parents like other memorable messages. Instead, messages mostly derived from the media or advocacy organizations.

The study's results yield insights on the kinds of wildlife memorable messages individuals recollect, underlying values, as well as the sources of these messages. Several implications arise based on these findings. This study also finds a practical application for Stern's value-belief-norm theory in cohesion with memorable messages in understanding what memorable messages may lead individuals to support pro-environmental causes based upon the messages' underlying values.

Although various memorable messages were reported, only about 55.4% of individuals recalled any memorable messages concerning wildlife topics. Consequently, a little less than half (45.2%) were unable to recall any. Many people may not receive memorable wildlife messages as memorable messages usually concern personal topics like health practices (Miczo, Danhoug, Lester, & Bryant, 2013), personal morality (Waldron et al., 2014), and navigating college life (Nazione et al., 2011). Furthermore, memorable messages usually communicate some sort of social value like kindness, loyalty, patience, responsibility, hard work, and lawfulness (Waldron et al., 2014). In contrast, wildlife preservation is not a social norm, but a progressive norm that is highly contested (Stern et al., 1999). This finding has major implications as memorable messages play a significant role in guiding individuals' decisions (Stohl, 1986). Without guidance from socialization tools like memorable messages, people may not have a way to assess whether their behaviors are good or bad. For instance, Ellis and Smith (2004) concluded that memorable messages serve as a critical tool individuals utilize to assess past behaviors and decide how to act in the future. Without memorable wildlife messages, it leaves individuals' environmental actions "up to chance". This could potentially lead to environmentally neutral or anti-environmental values and behaviors.

However, another explanation for the small amount of messages reported may be that wildlife messages are simply not remembered. According to Stohl (1986), messages remain memorable because they are repeated by several sources in many, different contexts. However, as this study demonstrated, most people are receiving their messages

from similar sources like the media (35.11%) and advocacy organizations (17.0%). Few people reported remembering a wildlife message from other sources. Thus, these messages may not be repeated in enough contexts by different sources to make them memorable. Moreover, these messages may not be repeated by the 'right' people. Stohl (1986) articulates that memorable messages are usually from someone close in an individual's social network, and remains an authority figure like a parent (Socha & Ellel, 2015). However, in the study less than eight percent of individuals received messages from either parent. For individuals who received communication from their parents, these messages were potentially effective as they emphasized personal responsibility and possible consequences of his/her behaviors. These kinds of messages should be catalysts for action according to previous research by Matthies, Selge, and Klockner (2012). Messages such as "Don't go off the trail while hiking, you're damaging the habitat of everything that lives in the preserve" showed consequences to the actions as well as the recipient's personal responsibility to act ethically.

Yang, Seo, Rickard, and Harris (2015) note parental messages could also be effective due to fearful, deliberate communication and modelled behavior. For instance, one individual reported that as she was about to touch a snapping turtle her dad pulled her away and said, "Do not touch or go near the snapping turtle when is laying it's eggs. They bite really hard, and could take your finger off. You have to let nature take its course and let them slowly dig the nest and lay their eggs. Just leave them alone if you see them in the yard." Messages such as these may be more effective as they possess a shock factor

as well as behavioral modelling. This cohesion of modelled behavior and deliberate communication is more likely to cause internalized ecological values.

However, media messages may be effective for similar reasons. Most individuals received their wildlife messages from the media or advocacy organizations. Although this supports evidence reported by Ballantyne et al. (2007) that advocacy organizations like zoos play a large part in educating and encouraging the public to advocate for wildlife, it remains unclear whether these messages are as effective as parents' verbal messages and modelled behavior. Yet, evidence indicates that the media may socialize individuals into resilient pro-environmental values by ways of emotional appeals and fear-inducement. According to Hughes and Dyer (2007) emotional bonds and strong feelings often cause pro-environmental attitudes to occur. Strong feelings illuminated from media messages as this one domestication-themed message, "I just remember watching the documentary 'Blackfish'. I was so emotional watching it and it gave me a different perspective on things." Individuals like this one may be urged toward pro-environmental values through the media's emotional appeal. Others may be influenced to act pro-environmentally due to fear-inducing messages where an individual feels their well-being may be in-danger. For instance, the messages such as "Wildlife is disappearing" or "We are in the sixth mass extinction" may cause the public to act ecologically since they feel fearful about an ominous outcome like extinction or death (Yang, Seo, Rickard, & Harris, 2015).

Overall, most of the messages received conveyed stewardship toward wildlife. This finding implies that the limited sources socializing individuals into belief systems

are encouraging stewardship. For instance, in *Dialogue and Deliberation (*Makau &

Marty, 2013)*,* the authors articulate that belief systems help frame issues in particular

ways, influences how individuals will act in a given context, and determines what values

they will internalize. They identify three predominant belief systems regarding nature. (1)

Communion orientation conveys that all life is sacred and that nature and humans are

intimately interconnected. (2) Stewardship orientation encompasses the belief that the

human and natural world are separate and that man, while powerful, is also morally

obligated to care over the natural world. (3) Domination orientation suggests that nature

is a force that needs to be conquered and controlled so it may serve humanity. Both the

communion and stewardship orientations care for animals beyond one's own self-interest

and suggest a need to protect wildlife in some way. Most messages conveyed these belief

orientations. For instance, messages in the sanctity category demonstrated a communion

orientation where humans and animals are somehow intimately connected. While

messages in the obligation to stewardship category clearly demonstrated the stewardship

orientation where individuals conveyed they felt some sort of obligation to protect

animals.

Only a few messages conveyed a dominion orientation, where wildlife needs to be

conquered or controlled somehow by man. These messages were highlighted in the

danger category. Messages conveyed that man must control or eliminate dangerous

animals in order to keep humans safe or prosperous. This finding indicates most people

who do recall wildlife messages are being socialized into pro-environmental and pro-

conservation values, unlike the few that favor dominion belief systems. However, an alternate explanation for less reported dominative attitudes may have been the relatively small number of males who responded to the survey (39%) compared to females (60.2%). Males, according to Kellert and Berry (1987), are more knowledgeable about wildlife and support conservation more than females; they also tend to have more dominative attitudes focused on sport and competition. While most females tend to be focused on caring about wildlife's welfare and advocacy, since they tend to be socialized into nurturing attitudes. This may also be a reason why more stewardship and communion messages were reported as significantly more females completed the survey.

People who are socialized into stewardship or communion beliefs may often internalize values to act more ecologically, especially when accounting for Stern's value-belief-norm theory's presumptions. Stern's value-belief-norm theory declares that when values, particularly altruism and progressivism, are upheld by an individual, they are more likely to support pro-environmental goals (Stern et al., 1999; Abrahamese & Steg, 2011). Many messages in the study expressed altruistic or progressivism values; consequently, most individuals who reported a wildlife message within the study, according to Stern's predictions, should be supporting environmental causes. However, these findings contradict those of Gronhoj and Thogersen (2012) who noted young adults hold positive attitudes toward the environment, yet do not feel responsible for the environment, nor act pro-environmentally. These findings may be contradictory simply because not enough individuals are receiving wildlife memorable messages.

Other values illustrated throughout messages such as appreciation, awareness, and domination, according to Stern et al. (1999), will not necessarily lead to environmental support. Although conveying wildlife messages with these underlying values remains a better option than ignoring wildlife matters, these messages may lack the potency needed to cause environmentalist perspectives in individuals. If perspectives are not changed toward environmental support, behavioral change is unlikely to occur in the upcoming generation. When the media, advocacy organizations, parents, or teachers address wildlife messages, they should ensure they are conveying these important values throughout their messages, communication, and behaviors.

It also remains concerning that only 1.9% of messages cited an understanding of the complexity of conservation issues. The only message in the complexity category noted, "There are many factors that play a role in conservation. While it is easy to say things like, 'Save the whooping crane,' it is far more complex when human emotion, sacrifice, costs, effects to day-to-day life and convenience come into play." This finding implies that most people continue to see conservation issues as black and white; the orientation of wildlife versus human development, instead of believing there should be some sort of balance between the two goals. Redpath, Bhatia, and Young (2015) noted in previous research that without organizations pursuing balanced goals where wildlife and humans live in balance, there would likely be no solutions. People may be unwilling to sacrifice their interests and needs to pursue a thriving environment, so they will likely act neutral or negatively toward the environment. For example, advocacy organizations may

want to clearly articulate that they will pursue environmental goals while building the economy so humans can thrive as well as animals. Without advocacy organizations pursuing a balanced solution, less people may support environmental goals, as it remains too sacrificial.

Direction for Future Research

This data raised questions that demand further study. For instance, parents, grandparents, and teachers were rarely the sources of wildlife messages. Future studies may want to explore reasons why parents are not talking about wildlife or environmental topics, especially since their communication may mean the difference between their children internalizing pro-environmental values or not (Gronhoj & Thorgersen, 2012). Parents may not be talking about wildlife messages because they hold neutral environmental attitudes or beliefs. However, parents may not talk about messages because they believe other individuals like teachers are socializing children to hold ecological values. Consequently, they neglect the topic.

Additionally, because so many memorable wildlife messages were from the media, future research may want to explore if different kinds of mediated messages effects individuals ecological behaviors differently. For instance, some respondents noted they received their messages from social media like Facebook while others recollected public service announcements received through traditional, television advertisements. Studies should explore which messages make the biggest impact on people's behaviors. Moreover, studies also need to explore if media-based messages are as effective as

parents' messages. Previous research notes that it may be as effective due to fear-inducement and emotional appeals (Yang, Seo, Rickard & Harris, 2015), but this should be verified. If media is effective in changing behaviors, mediated sources like public service announcements may be worth the money in order to continue campaigns like Smokey the Bear. As the study shows, conservative and preventative public service announcements such as Smokey the Bear's "Only you can prevent forest fires" and Woodsy the Owl's "Give a hoot. Don't pollute" were remembered the often (10.2%).

Although many memorable messages came from the media, publicized topics were rarely mentioned. For instance, topics like climate change and corporate damage were mentioned a total of two times. Although media continually pushes information about these 'hot topics' like corporate faults (the BP oil spill) and global warming, many people do not remember these issues when asked to recall memorable wildlife message. Scholars may want to investigate why individuals do not remember these issues immediately as memorable messages when contemplating the environmental realm. Young adults may not remember these messages because they tend to utilize social media more so than traditional media sources like T.V. news stations. 'Hot topics' like global warming may not be prevalent in social media.

Lastly, this study explored if memorable wildlife messages illustrated values that Stern's value-belief-norm theory holds as important for individuals to possess in order to support environmental causes. Future studies should confirm if altruistic and progressive values relayed in memorable wildlife messages truly lead to ecological behavior more so

than when other values like appreciation are conveyed. This study could be taken a further step by utilizing Kassing's et al. (2010) environmental communication scale to check if Stern's value-belief-norm theory makes accurate predictions on specific values leading to, at the least, support for environmental movements through affirmative or dismissive communication. One can make the argument that affirmative environmental communication can lead to pro-ecological behaviors in others (Gronhoj and Thorgensen, 2012). This step would help advance Stern's value-belief-norm theory in applicable ways in the communication field.

Future studies could additionally examine how wildlife and environmental memorable messages reflect prevalent environmental discourses throughout society. Discourse analysis notes that statements articulated within a culture create how the culture understands the topic and what the topic means to them (Stuart, 1997). Thus, memorable messages, which often reflect larger social attitudes and guides how individuals understand topics, could be utilized to understand how the larger culture understands wildlife. Thus, this kind of study could lead to future insights on how the American culture understands and views environmental topics socially, and why they act harmfully. For instance, in examining messages about stewardship, messages may reflect a discourse concerning personal responsibility for wildlife. This may allow one to understand, based on statements pertaining to personal accountability, why many people neglect the environment. Understanding dominant discourses remains critical, if one wishes to change habits within a larger society.

Limitations

This study focused mainly on qualitative aspects, like the content of the wildlife messages. Although, frequency counts were reported, this quantitative data may be premature. Inter-coder reliability should be employed to ensure the author's coding process is replicable and frequency counts are accurate. Although the author did make her biases transparent and attempted to stay neutral throughout the study, the categorical system's objectivity could be verified with additional coders.

Further limitations included the distribution method utilized to disperse the surveys. Data was collected through network and convenience sampling. Although sampling from convenient contexts and the author's personal network generated somewhat diverse responses, diversity was limited. Most individuals either were in college, or potentially had similar ecological viewpoints as the author as they were within her social network. Furthermore, on average most participants were quite young, 22.4, considering the age range for the survey (18-35). This may have skewed responses toward younger adults' attitudes. Those who are in the 25-35 age range may hold different attitudes or values. A median age like 25-28 may have derived responses that were more diverse. Furthermore, while open-ended surveys collected a broad-spectrum of answers, more in-depth responses could have been captured using a different method. For instance, in-depth interviews could capture details about reported memorable messages. If interviews had been utilized, more participants may have remembered a wildlife memorable message. Participants may not have 'remembered' a wildlife message

because they needed clarity or prompting. These limitations could have skewed the

results as well as the kinds of messages reported by participants.

CHAPTER 6

CONCLUSION

This was the first study to explore memorable messages about wildlife. Although wildlife preservation is often a subject in public dialogue, it remains rarely talked about in interpersonal contexts compared to personal topics like morality, health, and relationship practices. It is urgent that environmental and wildlife matters continue to be studied, especially in interpersonal contexts considering the importance and potential influence interpersonal communication can have on a person's ecological values and behavior. Without changes in personal accountability, values, and individual behavior, current environmental problems like climate change, threatened and endangered animals, diminished natural resources, and deteriorating circumstances will only get worse. With assistance from the communication field, insights can be gained so large environmental changes can be made.

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APPENDIX A

WILDLIFE MEMORABLE MESSAGE SURVEY

Consent: Memorable Messages about Wildlife Conservation

My name is Tiffany Mays. I am a graduate student under the direction of Dr. Vince Waldron in the Department of Social and Behavioral Sciences at Arizona State University. I am conducting a research study to find what kinds of memorable messages are shared about wildlife conservation from various sources.

I am inviting your participation, which will involve 10-15 minutes of your time to complete an online survey describing a message you remember about wildlife conservation, if any. You have the right not to answer any question, and to stop participation at any time. No identifying information such as your name, or contact information is collected. In order to keep all information completely anonymous it is recommended you avoid using the names of individuals in your responses.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. In order to complete this survey, you must be between the ages of 18-35.

Your given responses will be used for a Master's thesis, and possible journal publication. There are no foreseeable risks or discomforts to your participation.

If you have any questions concerning the research study, please contact the research team: Vince Waldron – Principal Investigator at (Vincent.waldron@asu.edu) or (602)543-6643. You may also contact Tiffany Mays – Co-Investigator at (tamays@asu.edu) or (602) 334-8116. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.   By completing the survey, you are agreeing to be part of the study.

Instructions

Recall a message that you received that makes a difference in how you view, act, behave, think about, or feel toward wildlife. These messages could be positive or negative in nature.

It is important to note that animals, plants, and habitats which are not wild, such as pets, livestock, or domesticated animals do not count as wildlife for the purpose of this study. The study also excludes messages about plants that are farmed.

The message should be one you remember clearly. It could have been communicated in words or through other kinds of behaviors. It could have been directly stated or implied, intentional or unintentional. The message could have been communicated by parents, educators, friends, mentors, religious leaders, the mass media, or some other source. For the purposes of the study, it does not matter whether you agreed or disagreed with the message. You simply need to know that it concerned a matter pertaining to wildlife.

For the remainder of this survey, please focus only on the time when you received this wildlife message. Try to remember, as best you can, all of the details of this one communication situation.

To take this survey, you need to be 18-35 years of age. Most people will complete this survey in 10-15 minutes.

Section 1: Background Information
These questions ask for information about yourself.

Q1 What is your gender?
Male (1)
Female (2)

Q2 Your age now? _____

Q3 Education level as of now (select one):
High school diploma (1)
Some college (2)
Bachelor's' degree or above (3)
Other (4) _____

Q4 Check the category that best describes your ethnicity or cultural background:
Asian/Pacific Islander (1)
African American/Black (2)
Caucasian/White/European (3)
Hispanic (4)
Native American (5)
Other (6) _____

Q5 What is your religious affiliation, if any?
Christianity (1)
Judaism (2)
Islam (3)
Buddhism (4)
Hinduism (5)
Other (6) _____
None (7)

Q6 What is your political affiliation?
Republican (1)
Democrat (2)
Independent (3)
Other (4) _____
None (5)

Section 2: The Message
These questions concern the nature of the message and your reaction to it.

Q7 Have you received a memorable message concerning wildlife?
Yes (1)
No (2)
If No Is Selected, Then Skip To Q19

Q8 In the space below, write the message concerning wildlife that was communicated to you. If you remember exactly, please place the worlds in quotation marks. If not, summarize the message as best you can.

Q9 Who did you hear this message from?
Mother (1)
Father (2)
Other family member (3)
Religious leader (4)
Teacher/Professor (5)
Mentor (6)
Celebrity (7)
Friends (8)
Advocacy organization (9) _____
Other (10) _____

Q10 In which medium did you receive the message?
Face to face (1)
Social Media (2)
Mass Media (3)
Other (4) _____

Q11 How was the message communicated to you? Provide a detailed description of the verbal and nonverbal behaviors that were used during this incident.

Q12 Your age at the time that this wildlife message was communicated to you?___

Q13 Describe the location where the wildlife message was communicated. For example, the location could be in your room at home, in the car on vacation, or while attending an event of some kind.

Q14 Was this communication event planned in advance, or did it just occur spontaneously?
Spontaneous (1)
Planned (2)

Q15 Why did the individual communicate the message to you? Describe their reasons or motives.

Q16 Why do you think you remember this message?

Q17 Did you find the message convincing? Please explain your answer.
Yes (1) _____
No (2) _____

Q18 The following questions ask you to think about the present as well as the past. How do you think about the wildlife message now that you look back on it? For each statement below, indicate your level of agreement on the scale provided.

	Strongly Agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)
At the time it was communicated, I agreed with the wildlife message. (1)					

At the present time, I agree with the wildlife message. (2)					
At the time it was communicated, the message influenced my behavior. (3)					
At the present time, the message influences my behavior. (4)					
At the present time, I have a clear memory of the wildlife message. (5)					

Q19 Indicate on the scale provided how much you agree/disagree with each statement. Please answer the questions based on what you normally do.

	Strongly agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)
I enjoy listening to discussions about wildlife. (1)					
I ignore people who talk about wildlife. (2)					

Discussing wildlife is important. (3)				
Listening to discussions about wildlife issues energizes me. (4)				
I skip over news stories about wildlife. (5)				
It is necessary to discuss wildlife issues. (6)				
I make it a point to discuss wildlife concerns. (7)				
It bores me to hear others discuss wildlife issues. (8)				
Conversations about wildlife issues can make a difference. (9)				
I change the channel when a story about wildlife airs. (10)				

I find myself regularly discussing wildlife. (11)					
I usually learn something when I listen to others talk about wildlife. (12)					
I ignore online stories about wildlife issues. (13)					
I enjoy discussing wildlife. (14)					
Talking about wildlife concerns is important to our future. (15)					
I attend to televised news reports about wildlife issues. (16)					

Talking about wildlife is unimportant. (17)					
I like to get people talking about wildlife concerns. (18)					
I disregard news reports about wildlife concerns. (19)					
I start discussions about wildlife issues (20)					

APPENDIX B

CATEGORY TABLE

Category	Frequency	Definition
Preservation	*0%*	Desire to preserve both wildlife and/or habits
Habitat	*5.6%*	Want to protect/respect habitats
Life	*24.2%*	Lives of animals/bugs should be preserved and not killed unnecessarily
Moral Obligation to stewardship	*6.5%*	Moral obligation as humans to protect wildlife/habitats
Prevention and Conserve	*10.2%*	Obligation to prevent environmental damage and conserve
Human/Corporate Intervention	*6.5%*	Corporate/human intervention as a means of protection or assistance
Sanctity	*4.6%*	Wildlife is important/purposeful, valued, or scared
Interconnectedness	*4.6%*	Interconnected into a larger system. Part of delicate balance
Respect	*7.4%*	General esteem, honor or worth towards nature
Wildlife is sacred	*6.5%*	Wildlife is sacred or God-given
Domestication	*9.6%*	Wild animals should be wild, not confined or used for entertainment
Equality	*1.9%*	Men and animals are equally important. Men should not rule over animals
Danger	*3.8%*	Wildlife is dangerous or scary
Boundaries	*4.6%*	Do not interfere or disturb wildlife. Only observe.
Complexity of Conservation	*1.9%*	Conservation is a complex issue