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The Struggle Itself toward the Heights Is Enough to Fill a Man's Heart: Calling, Moral
Duty, Meaningfulness and Existential Self of Zookeepers.

by

Luisa Gabriela Allen

A Thesis Presented to the Graduate Faculty of the College of Liberal Arts in Partial
Fulfillment

of the Requirements for the Degree of

Master of Arts in Interdisciplinary Studies

with a Concentration in Sociology

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The Struggle Itself toward the Heights Is Enough to Fill a Man's Heart: Calling,
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May 2015

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my finishing of this thesis so that I could return to the role of “mom.” I hope they understand that the reason for my many absences as their mother was ultimately for them.

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ABSTRACT

Applying Existential Sociology (Douglas & Johnson 1977, Manning 1973, Lyman and Scott 1989, Kotarba and Fontana 1984) as a theoretical foundation, this thesis endeavors to formulate first-order experiential understanding of zookeepers. Utilized is a mixed method approach comprising the survey and interview methods to explore zookeeper sense of calling as a moral duty, meaningfulness of work, and the possible connections formed with animals under their care (Bunderson & Thompson 2009, Spreitzer 1995, Wrzesnesweki et al 1997, and Pratt and Ashforth 2003, Hosey & Melfi 2010). Thirty zookeepers completed questionnaires containing measures of sense of calling, moral duty, work meaningfulness and human-animal bonds. Fifteen zookeepers submitted to semi-structured interviews. Results revealed high sense of calling and moral duty among zookeepers. Quantitative analysis of the study variables revealed a moderate positive association between zookeeper sense of calling and sense of perceived moral duty. Sense of calling for the occupation of zookeeper and work meaningfulness were not statistically related ($r_s(28) = .541, p < .122$). Human-animal bond (Hosey and Melfi 2010) was found among zookeepers. Zookeeper connections made with animals under their care were profound and meaningful. This study helps unravel the complexities of sensing a calling to an occupation and the interrelationship between occupationally-based sense of moral duty and perceived work meaningfulness.

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CHAPTER 1: INTRODUCTION

Despite the “Jack Hannas” of the world, the life of a “typical” zookeeper is not glamorous. The majority of the zookeepers go through a daily routine of caring for animals and would rather go unnoticed while working their true calling behind the scenes. The typical zookeeper commitment to the animals under their care comes from a sense of self which necessitates their existence.

Several empirical questions relating to zookeepers require answers. Why do persons seek this type of work? If anything, what calls persons to devote themselves to zookeeping? Do persons sense a transcendent summons and feel they have been “called” to zookeeping?

Numerous definitions of calling can be found in sociological literature. A single, universal definition has yet to be formulated. Definitional variations are due to the divergent ways calling is conceptualized across the social sciences, philosophical writings, and religious works. Among the diversity of definitions some commonalities exist and may help to yield an understanding and wide conceptualization of the concept.

Calling may be defined as the overwhelming summons, either externally or internally, toward a job that is morally, socially, spiritually and personally significant (Bellah et al. 1985; Wrzesniewski et al. 2009). Sense of calling is unique to each individual and it is fulfilled through the activities the individual feels will give purpose in life and this in turn helps one to find a true self (Bunderson & Thompson, 2009; Wrzesniewski et al. 1997). Work as a calling may not be done merely as a means to an end,

but rather to obtain some inner directed goal (Wrzesniewski et al. 1997). Zookeeping is potentially an example of work as a calling.

The work of a typical zookeeper is not easy and individuals seeking this type of work must be relatively physically fit to adequately perform the associated work. They must also be astute and observant, able to use common sense, and have superb communication and observational skills. The range of work of a zookeeper includes feeding the animals once or several times per day, cleaning enclosures, fixing exhibits, cleaning animals, observation of animal behavior, maintaining records, educating the public, communicating with superiors, and making sure the life of the animals is enriched to prevent unwanted physical or psychological distress. The work may be experienced as drudgery, but nonetheless done on a daily basis with a sense of fulfillment and satisfaction.

Purpose of Study

The sense of calling for and zookeeping as intrinsically meaningful work has not been a common topic of empirical research. The study of the feelings and emotions that motivate individuals to seek zookeeping as a type of employment is limited in the social scientific literature. A “gap” or absence of research, whether empirical or qualitative, dealing with a particular phenomenon has been termed a research “lacuna” by Reid, Epstein, and Benson (1994). This thesis serves as the first systematic effort at filling the research lacuna related to zookeeping and a sense of calling for the occupation.

CHAPTER 2: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Theoretical Framework

The theoretical foundation of this thesis is the micro-subjective theoretical framework termed existential sociology. Existential sociology was originally articulated by sociologists working on the West Coast of the United States, particularly in California. The principal proponents of existential sociology are Jack D. Douglas & John M. Johnson (1977), Peter K. Manning (1973), Stanford M. Lyman and Marvin B. Scott (1989), Joseph A. Kotarba and Andrea Fontana (1984). Many of these scholars worked in conjunction to formulate and expand existential sociology. In the text, *Existential Sociology*, Douglas (1977) writes:

Existential sociology originated from the attempts to make sense out of, to understand adequately, to analyze or explain problems we encountered in working with concrete phenomena we experienced in everyday life, either in our own commonsense activities or in our research. When we relate our work to the ideas of philosophers, we generally, though not always, did so after the fact of empirical work as a way of clarifying or systematizing what we were doing for readers and, perhaps sometimes, as a way of further legitimizing what we did or simply showing how it fit into the bigger intellectual scene (296).

Existential sociology does not hold rigidly fixed assertions in the explanation of human behavior. Proponents of existential sociology describe this approach as *the study of human experience-in-the-world (or existence) in all its forms* (Douglas and Johnson 1977). This definition is purposely left open to allow for the interpretation of the researcher looking at human experience.

The existential theoretical perspective aims at understanding human behavior as it is found in everyday life. The supporters posit that people possess the freedom to

construct realities and take action. People do so by relating to their feelings and emotions as they think and act through a vast number of momentary experiences (Johnson & Melnikov 2008). Thus, feelings and emotions are central in their own right to existential sociologists. This is eloquently stated by Andrea Fontana (1984), “To paint a picture of human beings without considering their feelings and emotions is like making a painting of a peacock’s tail in black and white” (4).

Existential sociologists look at human experience as it is found in its natural setting. Focus is on the personal in-depth understanding of the individual’s unique experiences and life history, thus making existential sociology idiographic (Robinson 2011). This is best appreciated in the following passage found in the work of Jack D. Douglas and John M. Johnson (1977) *Existential Sociology*:

Any sociology that seeks to remain faithful to the entire gamut of human experience must not begin by narrow preconceived goals, clearly defined boundaries or absolutist concepts of methodological propriety. (vii)

Maintaining the integrity of the subject’s experience is thus paramount to existential sociologists and this is accomplished by immersion into the subject’s world, thus fostering empathy and in-depth understanding of his/her reality. It is through reflection of their own life experiences and the experiences gained during participation in formal research that the existential sociologist understands the reality of the world under study (Douglas and Johnson 1977). Unlike conventional sociological research which casts experience into a pre-established models through experimental and hypothetical methods, existential sociology begins with the world of the subject’s experience and holds it as THE reality (Douglas and Johnson 1977). This necessitates research of first-

order experiential constructs as these are defined and given meaning by the persons being researched.

Existential Creation of the Self

Brute Being

Jack D. Douglas refers to the brute being as “the man-of-flesh-and-bone-in-the world” (Douglas and Johnson 1977, p.3). Brute being is a concept borrowed from Merleau-Ponty (1968) and refers to that innermost feeling of the self, the being in the world. This incorporates the feelings and perceptions that come prior to rationality and interpretation of symbols. It is the search for authenticity without allowing external forces and social institutions to dictate sense of self.

Existential Self

The proponents of existential sociology refer to the self as a tool for exploring the actualization of freedom or agency individuals possess in everyday life. The existential self functions as a platform for framing and conducting systematic research on everyday life in the postmodern world (Kotarba and Johnson 2002). The definition of the existential self is left open to allow that each individual experiences life differently, even when experience derives from similarly situated social contexts, “*The existential self refers to an individual’s unique experience of being within the context of contemporary social conditions, an experience most notably marked by an incessant sense of becoming and an active participation in social change*” (Kotarba and Fontana 1984; Kotarba and Johnson 2002). This view portrays individuals as “becoming” or continually finding novel ways to express how they feel about themselves.

There are a number of elements that constitute the existential self. The sense of becoming is important in the creation of the existential self. Sartre (1943) in his philosophical writings argues that “man is condemned to be free”, meaning that humans are condemned to make choices in the creation of the self in that existence is inherently devoid of meaning. Merleau-Ponty (1968) takes a more modern approach to this point and insists that individual becoming is grounded in the social world. The existential self is reflexive in the “brute reality” of life which encourages individuals to choose an expression of being that will foster self-actualization with a reflection of the future in mind. Freedom is met by how individuals are able to control their future and by expressing themselves in order to achieve basic needs and desires. The existential self is constantly changing and being reinvented as a form of adaptation to new situations and opportunities for self-growth (Kotarba and Fontana 1984; Kotarba and Johnson 2002).

Inner Self

The inner self is “the highest-order centrally integrating sense that our mind has of our overall being-in-the-world” (Douglas 1984:69). The inner self is the secure sense of self that orients the individuals to a more meaningful life. The inner self, as Douglas (1984) defines it, is “a vastly complex, open-ended, slowly evolving set of intuitive senses that our mind has about our entire being-in-the-world” (95). The self is therefore how our emotions and values are related to the experiences of past, present, and future situations. The sense of self, according to Douglas (1984) in “The Emergence, Security, and Growth of the Sense of Self” is:

“Our sense of self is, then, our set of guidelines for integrating any specific actions into our whole life-situation (past, present, and future) so as to fulfill and

enhance ourselves... the sense of self orients us toward building, expanding, and enhancing the self-in-the-world.”(97)

Inner knowledge is vital to how we adjust toward the world and trust who we are in the world, in order to fulfill and enhance how we think and feel about ourselves (Douglas 1984).

Literature Review

The concept of meaningful work as a sense of calling has been subject of research across the social science disciplines. Yet the concept is not new, calling has been defined and redefined through the years and there exists currently no unified definition (Weber 1930; Bellah et al. 1985; Stone 2009; Myer 2014). Bunderson and Thompson (2009) conducted a study to understand the sense of calling using zookeepers. The researchers used zookeeping as an exemplary profession to study calling. As previously stated, the job of a zookeeper is difficult and often tedious and is done in a routine manner. Once the job is complete, zookeepers must return the next day to do it all over again.

Unlike traditional zookeepers, the typical zookeeper today is female and relatively educated with many holding a Bachelor’s degree or higher (Bunderson & Thompson 2005). The opportunities for employment and career advancement in the zoological field are becoming practically nonexistent. Obtaining work as a zookeeper is thus highly competitive and necessitates the aspiring person to get a “foot-in-the-door” by first volunteering (working while not monetarily compensated) in this capacity (Crosby 2001). Furthermore, zookeeping mandates innovative observational and communication skills. People skills are also necessary for effectively communicating with supervisors, other zookeepers, visitors, and the cared-for animals (Carlstead 2009).

The Bureau of Labor Statistics states that animal caretakers, including individuals caring for animals at zoos and aquariums, earn an average of \$19,690 annually (BLS, 2014). The America Association of Zoos Keepers (AAZK) states that there are approximately 355 zoos and aquariums in the United States. The AAZK, after conducting a member survey, concluded that the average zookeeper earned between \$15,000 and \$30,000 in the year 2000 (Bunderson & Thompson 2005). Despite the lack of economic and status advancement within the zookeeper occupation, many individuals seeking these positions claim a deep connection with the animals and desire to perform zookeeper duties.

Sense of Calling, Work Meaningfulness and Moral Duty

Calling

The majority of individuals working at zoos do so not solely for monetary gain and career advancement, but to achieve a meaningful purpose to life. A love for animals is often an initial motivating drive for zookeepers and they typically derive a sense of purpose from zookeeping work (Bunderson & Thompson 2009). Zookeepers often claim to have a calling and a sense of being 'predisposed' to the occupation.

The concept of calling has multiple varied definitions in the social science literature. Dik and Duffy (2009) describe calling as the work of an individual aligning with a sense of personal meaning motivated by pro-social values that arise in response to a transcendent summons. Alternatively, calling may also be construed as a job that provides personal meaning /purpose and is used to serve others (ibid.).

Bunderson and Thompson (2009) conducted qualitative and quantitative research exploring calling among zookeepers. The authors developed and applied the *Calling*

Scale, Moral Duty Scale and the *Work Meaningfulness Scale*. These scales are based on the work of Spreitzer (1995), Wrzesniewski et al. (1997), and Pratt and Ashforth (2003) and are applied in effort to discern how zookeepers understood the concept of calling. Findings indicated that zookeepers conceptualize calling as a duty to society. This is sense of calling is closer to the neoclassical conception of calling and diverges from the more modern conceptualization that tends to be self-focused and emphasizes duty to oneself, self-knowledge, identity, self-fulfillment, and the pursuit of personal happiness. The researchers found that zookeepers have a sense of destiny that has been “hardwired” into their sense of being and this predisposes them for a career involving working with animals. The sense of predisposition is so strong that some zookeepers claim to relate better to animals than they do people (ibid.).

There are positive and negative consequences to this sense of predestination. On the positive end, zookeepers gain a sense of moral identity, occupational identification, transcendent meaning, occupational importance, and meaningfulness of the work. The negative consequences include a sense of never ending duty and willingness to make personal sacrifices for the sake of the occupation and associated work.

Work Meaningfulness

Work meaningfulness is referred to as the significance people receive from their work (Ross et al. 2000; Pratt & Ashforth 2003). Significance varies from person to person as each individual will experience work differently. Work meaningfulness comes from the individual’s sense of self, the relation to other persons, the actual work context, and spiritual life (Ross et al. 2000). When perceiving work as meaningful, the individual

reflects on their sense of self as they tap into their values, motivations and beliefs about work which is focused on growth and purpose to a greater good rather than pleasure driven (Stegar et al. 2000).

Moral Duty

Moral duty is the obligation that arises out of the ethical motives one has (Myers 2014). The occupation of zookeeper may be more than a simple calling. It may also be a the obligation that arises out of the ethical motives one has (Myers 2014).. Zookeepers often feel obliged to use their talents to create a more meaningful job environment. Moral duty fulfills the sense of calling and also involves suffering and sacrifice (ibid.). This sense of duty arises from a moral identity which helps zookeepers deal with the negative effects of work because of a calling. Moral identity is developed and grows from the associations with others sharing a similar moral compass. Zookeeper sense of moral duty is derived from formal and informal education, socialization with others, and the constant challenges faced in everyday zookeeping work (Damon 1999).

Human-Animal Relationship and Human-Animal Bond

Zookeepers often empathize with and connect at a deep level with the animals they care for. This heightened level of connection is necessary for zookeepers to do their tasks associated with the occupation well. One of the most important roles of a zookeeper is that of an interpreter of information between the animal and other personnel at the zoo (i.e., veterinarians, management, curators, etc.). The interpreter role is necessary to ensure that the animals get the best care possible (Markowitz 1982). Zookeepers engage

in routine jobs and are responsible for the daily care of the same animals. Caring for the same animals on a daily basis provides the necessary continuity in animal care and the understanding of the animal's normal behavior (Whitham & Wielebnowski 2009).

Zookeepers also must have a deep connection with their cared for animals in order to differentiate the “normal” from the “abnormal” in the animal's mental and physical states (Markowitz 1982). It has also been found that the cared for animals potentially develop a deep reciprocal connection to the keepers. Correspondingly, research demonstrates evidence of negative changes in animal behavior in response to unfamiliar animal caretakers (Szoklski et al. 2013).

Recent research on the relationship between humans and animals reveals that empathy is often present in persons who interact with animals on a daily basis (Carlstead 2009). Individuals working closely with animals typically define them as possessing feelings and emotions. This anthropomorphic-based perception impacts the way the animals are treated (Arluke & Sanders 1996; Ettorre 1995). It is through close relationships with animals that zookeepers create necessary bonds with the animals under their care. Human-animal bonds (HAB) facilitate the care of animals and fosters a more pleasant and enriched environment for the animals (Hosey 2007).

The extension of the self can be appreciated in the manner by which zookeepers empathize and connect with their cared for animals. Sanders (1990) in “The Animal ‘Other’: Self Definition, Social Identity and Companion Animals”, explains how a sense of self is created through the possessions that people have, including companion animals. In the case of zookeepers, though they do not own the cared for animals per se, there exists a sense of deep connection (ibid.).

Research also reveals differentiation in the prestige one is accorded when caring for dissimilar species of animals. For example, “cat keepers” are attributed more prestige than are “small mammal” keepers. In addition, there is interaction between the zookeeper and the animal based on the zookeeper’s knowledge of the animal’s unique personal characteristics. These characteristics tend to reflect back on the zookeeper’s self-concept (Arluke & Sanders 1996).

Environmental Enrichment

Animal enrichment is a relatively new concept found in zoos and aquariums around the world. Animal enrichment is defined as an improvement on the biological functioning of captive animals as the result of modifications to their environment. This is evidenced by the tendency for animals to have an increased lifespan when in captivity and more successful reproduction. Animal enrichment also eliminates or greatly reduces abnormal behaviors and negative emotional states. It also manifest in the improved physical fitness of the animals (Newberry 1995).

The demand to introduce environmental enrichment into the lives of animals living in captivity has ignited a surge of emotions that deepens the sense of moral duty among zookeepers. Animal enrichment, as a new concept, focuses on making the lives of the animals in captivity more meaningful. It does so by introducing temporary novelties into the environment and thus eliciting natural behaviors that otherwise would not occur in captivity. One example is hiding food and placing it in difficult to get to locations.

Environmental enrichment is a relatively new task added to the already lengthy list of activities engaged by zookeepers. It requires zookeepers to become more mindful

of the animals under their care (Hosey 2007). It almost demands that zookeepers interpret living through the eyes of their cared for animals.

Environmental enrichment may potentially aid in the development of the moral identity of the zookeeper. By continually expanding knowledge of the species under their care, identifying the needs of their specific animals, and critically thinking about how to provide the best care, zookeepers develop and grow their moral identity. They also enhance their sense of moral duty as they invest time into introducing environmental enrichment to their animals.

Research Questions

The following research questions are based on the assumption that those who participate in the occupation of zookeeping do so because they feel a strong summons to engage this kind of work (Dik & Duffy 2009). It is also assumed that the feelings and emotions attached to zookeeping work is the driving force behind commitment to the profession.

Zookeepers have a strong sense of commitment to the animals they care for and see their work as a contribution to a much greater good. This strong “sense of calling” to work as zookeepers and the commitment to their vision as stewards of endangered and fragile species is linked to the human-animal bonds made with animals under their care. Given the previous theoretical discussion of existential sociology and its depiction of the origins of self, as well as the concepts of calling, moral duty and meaningfulness work and human-animal bonds, this thesis examines the existential self and related substantive issues of zookeepers by exploring the following research questions:

- (1) Is a sense of calling as a form of destiny found among zookeepers?
- (2) Are levels of sense of calling associated with zookeeper feelings toward their work as a moral duty?
- (3) Are zookeeper feelings about work as meaningful associated with levels of sense of calling?
- (4) If any, what level of human-animal bond is present between zookeepers and the animals they care for?

CHAPTER 3: DESIGN AND PROCEDURES OF THE STUDY

Methods

Sample

Data collection was conducted at a leading public zoo located in the Southcentral region of the United States. The sample comprised zookeepers who were employed or volunteered their time and service at the zoological park. Respondents either worked full or part-time for the zoo and received monetary compensation or volunteered their time and services and received no monetary compensation.

Mixed Methods Approach

As delineated in the theory section, the central aims of existential sociology are gaining in-depth understanding of person's feelings and emotions, their sense of self, the processes involved in the search for meaningful identities, and explanation of these through the use of "thick description" (Cresswell 2003; King 2010).

In order to yield "thick description" (Denzin [1989]1991) in the context of this thesis, a "mix methods" approach was adopted. That is, two methodological techniques were utilized to foster "thick" or in-depth description of the feelings and emotions used in the creation of the existential self of zookeepers. In the context of this thesis, the mix methods approach consisted of the survey and semi-structured interview methods (Denzin [1989]1991).

Distribution Procedures

The gatekeeper to the research site was the zoo director. An informal interview took place between the researcher and the zoo director in order to secure requisite permission to collect data from respondents working (full or part-time or volunteer) at the zoo. The gatekeeper granted permission for data collection after the purpose and sociological orientation of the study was explained in detail.

It was agreed that the initial phase of the data collection would be conducted by the zoo director. The zoo director provided a copy of the consent form, invitation for participation and the questionnaires to each employee classified as a “zookeeper”. The definition of zookeeper, as explained by the director, included employees who directly dealt with the everyday care of the animals housed at the different areas of the zoo. It also included persons in higher positions at the zoo who had minimal contact with the animals, but nonetheless self-identified as zookeepers. This initial method of data collection resulted in minimal participation and permission to do additional data collection was granted. Additional data collection was done by the researcher at a regularly schedule zookeeper’s meeting. During the meeting, the researcher offered an open-invitation to participate in the study. Potential respondents were given a packet containing the informed consent form (see Appendix A) and the questionnaire (see Appendixes B-F).

These techniques resulted in a total of thirty eight zookeepers participating in the study. At the time of data collection, the zoo had approximately forty six employees classified as zookeepers and, of those, a total of thirty (N=30) completed the questionnaire resulting in a response rate of sixty five percent (65%).

A significant issue arose when conducting the survey section of this study. Some of the potential participants did not fully understand written English and the interpreter used during regular zookeeper meetings assisted the potential participants by verbally translating the questionnaires from English into Spanish. A number of these instruments were discarded (N=8) as some were incomplete or the required consent form was not signed.

Of the thirty zookeepers that participated in the survey section of the study, fifteen (N=15) agreed to be interviewed and audio-recorded. The collection of the semi-structured interviews were conducted while the zookeepers engaged in their daily work such as cleaning enclosures, preparing diets and feeding animals, or during observations after implementing environmental enrichment. This interview procedure was adopted so as to secure participation of as many respondents as possible. It was assumed that scheduling a specific block of time for face-to-face interviews, either before or after work or during a break, would yield a much lower response rate. The researcher observed that most zookeepers arrived only a few minutes before their shift began and left directly after.

In order to secure necessary access to the zookeepers, the zoo director allocated the researcher a volunteer assignment. This assignment allowed her to be present on zoo grounds on a daily basis for a period of three months. The researcher worked side-by-side with the zookeepers as the audio recorded interviews were conducted. The zookeepers were aware that the interviews were audio recorded and all interviews were conducted away from other zoo personnel or visitors to the zoo.

Survey Instruments

Data for this research was gathered using an instrument drawn from the work of Bunderson and Thompson (2009); Spreitzer (1995); Wrzesniewski et al., (1997); Pratt and Ashforth, (2003), and Hosey and Melfi (2010), primarily using standardized scales measuring the major concepts employed. Semi-structured, audio recorded interviews were also utilized. The scales measuring the major study variables are contained in separate appendices and discussed below. Additional data were gathered on the demographic characteristics of the participants including age, gender, place of residence, race/ethnicity, marital status, number of children, level of education, income, number of pets at home, employment status, number of hours working with animals, volunteer work as a zookeeper/animal caretaker, number of years working as a zookeeper/animal caretaker, length of time working at current position, how often respondents have contact with the animal(s) under their care, kinds of animals respondents worked with at the current zoo, and the kind of animal with which respondents have the most experience.

Calling

Calling and Moral Duty measures were originally designed by Bunderson & Thompson (2009). Bunderson & Thompson used the “neoclassical” form of calling to develop a scale that measured the sense of calling and moral duty of zookeepers. The scales were developed to tap into the complex relationship developed between the individual and their work by looking at identification, meaning and significance as well as duty, sacrifice and vigilance (ibid.). The *Calling* scale taps into destiny, niche in life, passion and sense of calling. This form of calling was measured by a six-item scale in

Likert-format with seven response-choices ranging from “strongly disagree” to “strongly agree.” The scale revealed high reliability with a Cronbach’s alpha of .903.

Calling was also measured with phenomenological questions such as, “working with animals feels like my calling in life” and “working with animals feels like my niche in life.” These questions examine the sense of destiny respondents perceive they possess or not toward the role of zookeeper/animal caretaker.

Moral Duty

Moral duty was measured by an instrument that assesses moral obligation of care, having a solemn oath, and a sacred duty and trust. The instrument consisted of a four-item scale in Likert-format with seven response-choices ranging from “strongly disagree” to “strongly agree.” The scale revealed high reliability with a Cronbach’s alpha of .901. Items such as “I have a moral obligation to give my animals the best possible care” and “I consider it my sacred duty to do all I can for my animals” assessed the moral sensibilities of zookeepers and the sense of duty to their work.

Work Meaningfulness

Work meaningfulness was measured using a scale based on the works of Spreitzer (1995), Wrzesnesweki et al (1997), and Pratt and Ashforth (2003). The scale assesses the importance and moral obligation of work, the meaningfulness of the work, and the perceived difference one makes in the world. *Meaningfulness* was measured with a five-item scale in Likert-format with seven response-choices ranging from “strongly disagree” to “strongly agree” with a Cronbach’s alpha of .803. The scaled contained items such as,

“The work that I do as a zookeeper/animal caretaker is important” and “I have a meaningful job as a zookeeper/animal caretaker.”

Human-Animal Bond

Human-Animal bond was measured using an instrument developed by Hosey and Melfi (2010) to measure the attitudes that zoo professionals held toward the development of a human-animal bond with the animals under their care. Hosey and Melfi developed the scale following the criteria given by Russow (2002) but defined Human-Animal Bond (HAB) as the positive form of Human-Animal Relationship (HAR).

Russow’s criteria is as follows: HAB involves a relationship between a human and an individual animal; the HAB is reciprocal and persistent; and the HAB tends to promote an increase in well-being for both the person and the animal (Hosey and Melfi 2010). The instrument consisted of a five-item scale in Likert-format with seven response-choices ranging from “strongly disagree” to “strongly agree”. The scale contained items such as, “the relationship I have with the animals under my care provides me with special insight into their needs” and “I feel that my colleagues as zookeepers/animal caretakers have developed bonds with the animals under their care.” The scale revealed a moderate level of reliability with a Cronbach’s alpha of .546.²

² Cronbach’s alpha reliability coefficient normally ranges between 0 and 1. However, there is actually no lower limit to the coefficient. The closer Cronbach’s alpha coefficient is to 1.0 the greater the internal consistency (reliability) of the items in the scale.

_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – Unacceptable.

Semi-structured Interviews

Semi-structured interviews (see Appendix G) were conducted to explore the perceptions, emotions, and opinions of the respondents as well as the sensitive issues surrounding the work of zookeepers. Semi-structured interviews allowed the researcher to gain insight into zookeeper experiences, probe for additional information not previously considered, and request clarification when necessary (Barriball & While 1994). To prevent social desirability responses and foster rapport, the researcher worked side-by-side with the zookeepers and engaged in everyday conversation.

Once necessary rapport was established, the researcher conducted the interviews while the zookeepers engaged in their work. Zookeepers were made aware of the interview process and that conversations would be audio-recorded. Those deciding to participate had previously agreed to the interview by signing the informed consent form completing the questionnaire component of the study.

Interviews were conducted approximately six months after the zookeepers had completed the questionnaire section. The time delay between the questionnaire and interview component of the study was necessary to minimize the possibility of response bias. That is, recalling responses to questionnaire items and this influencing answers to interview questions. The interviews averaged thirty to forty-five minutes in length and were each transcribed verbatim using a word processor. They were then coded according to the guiding framework of Interpretive Interactionism.

Interpretive Interactionism

Interpretive Interactionism was used as the guiding framework for the qualitative component of the study. Utilizing interpretive interactionism as a methodological guide, the researcher seeks to highlight the lived experiences of persons through careful identification of the subjective meanings (Boydell et al. 2010). The goal of interpretive interactionism is to stimulate “thick description” on the part of the respondents in the study in order to develop “thick interpretation.” Thick description needs to be rich in detail to capture the interpretation of the respondents as they describe their lived experiences. Denzin (1989) maintains that researchers should develop personal rapport with the persons in the study so as to enhance the process of thick interpretation. Interpretive interactionism, as a method, consists of six distinct phases which include (phase one) the framing of the research question(s) that will identify the phenomenon of interest; followed by deconstruction (phase two) which consists of literature review that identifies possible questions gone unanswered by previous research. Capturing the phenomenon is the third phase and entails the gathering of “thick description”, which in the context of the present study, is the interview process.

The fourth phase is bracketing, which consist of reduction of the text into smaller units. In this step the gathered “thick description” is processed through intensive, informed examination and then placed in categories that fit the initial questions. Denzin described bracketing as locating and isolating key phrases found in the transcribed text and interpreting what these phrases mean. It also involves extracting the interpretation of the participant to arrive at a tentative definition of the phenomenon as it was repetitively found in the analyzed texts.

The fifth phase is the classification and ordering of the key concepts which are organized in a way that is easy to comprehend and understand by others. The fifth phase is where the process of “thick interpretation” of the findings begins.

The sixth phase is contextualization. The “thick interpretation” of the analyzed text is relocated to the lives of the persons in the study. It is also relocated to the social environments where the phenomena being studied is originally found. The final presentation includes relevant contextual material from the gathered narratives.

Analysis

The quantitative data (demographic and major study variables) obtained via the survey method were analyzed relative to the study research questions using descriptive and inferential statistics. Reliability analysis was used to assess the degree to which the adapted scales are reliable. Principal components factor analysis was used to determine whether the items in each scale represent a single dimension. Results, using Varimax rotation, indicated whether the posited number of factors were present. A Spearman’s rank-order correlation was used to assess the relationship between the variables.

The qualitative interview data gathered via the interview method was analyzed relative to the study hypotheses using Denzin’s (1989) Interpretive Interactionism method for data analysis. The interpretive process begins by transcribing the interviews verbatim followed by “dissecting” the text and inspecting key elements and structures of phenomena. The text was then reviewed for key words, phrases, or statements directly or indirectly relating to the study research questions. These elements were then labeled topically. Subsequently, the narrative data was examined line-by-line and important

phrases were categorized according to emerging and recurring themes and these related to the study research questions. Data were also gathered on various demographic characteristics of the sample.

CHAPTER 4: RESULTS OF THE STUDY

Demographic data for the samples is reported. Demographic characteristics included age, gender, race/ethnicity, residence, level of education, income, marital status, number of children, number of pets owned at home, hours at work, time of current employment, overall time as a zookeeper, volunteer work, type of animals under their care, type of animals they have more experience, contact with animals in the form of visual contact, feeding, talking, moving, physical, and cleaning and the frequency of each contact.

Principal component factor analyses for the measures and resulting factor loadings are offered in the analysis. Findings from the inferential and correlational analysis are introduced for each of the study hypotheses.

Demographics

A total of thirty zookeepers completed the questionnaire (N=30). This sample revealed the following demographic characteristics: Age of respondents ranged from twenty-two to sixty-six years of age with a mean of forty two point sixty (42.60). The sample consisted of eight females (n=8; 26.7%) and twenty two males (n=22; 73.3%). Twenty respondents (n=20; 66.7%) self-identified as Hispanics, nine (n=9; 30.0%) self-identified as White, and one (n=1; 3.3%) respondent self-identified as “other”. All respondents (n=30; 100%) resided in the United States.

The level of education among the respondents ranged from less than high school education to completing a college degree or higher. One (n=1; 3.3%) respondent had less than high school education, eleven (n=11; 36.7%) completed high school, thirteen (n=13;

43.3%) completed some college, and five (n=5; 16.7%) completed a college education or higher.

The range of income of respondents ranged from less than \$10,000.00 to earning between \$40,001.00 and \$50,000.00. One (n=1; 3.3%) respondent earned less than \$10,000.00, nine (n=9; 30.0%) between \$10,001.00 and \$15,000.00, nine (n=9; 30.0%) between \$15,001.00 and \$20,000.00, six (n=6; 20.0%) between \$20,001.00 and \$25,000.00, one (n=1; 3.3%) between \$25,001.00 and \$30,000.00, one (n=1; 3.3%) between \$30,001.00 and \$40,000.00, and one (n=1; 3.3%) between \$40,001.00 and \$50,000.00.

In terms of marital status, eight respondents (n=8; 26.7%) had never been married, nine (n=9; 30.0%) were currently married, eight (n=8; 26.7%) currently divorced, 3 (n=3; 10.0%) currently separated from their spouse, and two (n=2; 6.7%) “other” marital status.

Seventeen (n=17; 56.7%) respondents reported having children and thirteen (n=13; 43.3%) reported not having any children. There was a combined total of thirty three children among the seventeen respondents. The ages of the children ranged from two to thirty-six years of age. Seventeen (n=17; 51.5%) were between the ages of two and eighteen and sixteen (n=16; 48.5%) were between the ages of nineteen and thirty-six.

Nine (n=9; 32.1%) of the respondents reported not currently owning a pet at home. Twenty one (n=21; 67.9%) had at least one pet at home. The number of pets owned ranged between one and one hundred and thirty seven.

Employment status ranged between working part-time (less than 34 hours) to full-time (35 or more hours). Three (n=3; 10%) of the respondents reported working part-time

and twenty seven (n=27; 90%) worked full-time. Time of employment at the current zoo ranged from less than a year to forty two and a half years. Four (n=4; 13.3%) of the participants reported that they have been working at current zoo for less than a year, seventeen (n=17; 56.7%) from one to twelve years, three (n=3; 10.0%) from twenty to twenty five years, and six (n=6; 20.0%) from thirty one years to over forty two years.

The overall time spent as a zookeeper ranged from less than a year to forty two and a half years. One (n=1; 3.4%) respondent reported having been a zookeeper for less than a year. Nineteen (n=19; 65.7%) of the respondents reported having been a zookeeper for over one year to twenty years, six (n=6; 20.7%) having been a zookeeper for twenty one to thirty seven years, and three (n=3; 10.2%) having been a zookeeper for forty one to forty two and a half years.

Volunteer work by the zookeepers ranged from half a year to three years. Seventeen (17; 56.7%) reported having never volunteered their services as a zookeeper, and thirteen (n=13; 43.3%) had volunteered services as a zookeeper. Of the thirteen participants who reported having volunteered their services as zookeepers, the range of time volunteering ranged from half a year to up to three years.

Data revealed a diverse range of the kinds of animals zookeepers care for. The question assessing this variable was open-ended and numerous kinds of animals were often offered. In order to organize the data in an understandable manner, the different types of animals were placed in one of eight categories. The categories consisted of reptiles, ungulates, apes, insects, aquatic species, small mammals, birds, and primates (See Table 1).

Table 1
Type of Animal Zookeepers Currently Care For

Type of animals under zookeepers' care					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Reptiles	5	10.4	15.2	15.2
	Ungulates	7	14.6	21.2	36.4
	Apes	2	4.2	6.1	42.4
	Insects	1	2.1	3.0	45.5
	Aquatic Species	2	4.2	6.1	51.5
	Small Mammals	13	27.1	39.4	90.9
	Birds	2	4.2	6.1	97.0
	Primates	1	2.1	3.0	100.0
	Total	33	68.8	100.0	
Missing	System	15	31.3		
Total		48	100.0		

The kind of animals the zookeepers had experience with also revealed variation. Kind of animal was an open-ended measure. The range of answers were placed in eight categories that included reptiles, ungulates, apes, insects, aquatic species, small mammals, birds, and primates. In general, the sample of zookeepers had more experience with small mammals (n=26; 32.1%), followed by experience with ungulates (n=20; 24.7%), reptiles (n=10; 12.3%), apes (n=7; 8.6%), primates (n=7; 8.6%), birds (n=6; 4.4%), aquatic species (n=4; 4.9%), and insects (n=1; 1.2%) (see Table 2).

Table 2
Type of Animal Zookeeper had more experience

Type of animal-experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Reptiles	10	12.3	12.3	12.3
	Ungulates	20	24.7	24.7	37.0
	Apes	7	8.6	8.6	45.7
	Insects	1	1.2	1.2	46.9

Aquatic Species	4	4.9	4.9	51.9
Small Mammals	26	32.1	32.1	84.0
Birds	6	7.4	7.4	91.4
Primates	7	8.6	8.6	100.0
Total	81	100.0	100.0	

Zookeepers reported having contact with the animals under their care in the form of visual contact two to thirty times per week with a mean of twelve point zero seven (12.07). Zookeepers also reported having contact with the animals under their care in the form of feeding two to twenty times per week with a mean of eight point one (8.10), contact in the form of talking to the animals under their care ranged from zero to twenty five times per week with a mean of eight point one seven (8.17), contact as in the form of moving the animals from one place to another ranged from zero to twenty times per week with a mean of five point four (5.40), contact in the form of having physical contact (including moving animals from one place to another) ranged from zero to twenty times per week with a mean of five point nine three (5.93), contact as in the form of cleaning (includes the animal and enclosure) ranged from two to thirty times per week with a mean of nine (9.0).

Statistical Analysis: Measures

Three of the four scales utilized for this study were combined to run a principal components factor analysis (PCA). The PCA of the combined scales consisted of a fourteen-item questionnaire that measured calling, moral duty, and work as meaningful of thirty (N=30) zookeepers. The suitability of PCA was assessed prior to analysis.

Inspection of the correlation matrix revealed thirteen out of the fourteen variables had at least one correlation coefficient greater than 0.3. One variable with a correlation coefficient of less than 0.3, measuring .025 was removed. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.79 with individual KMO measures all greater than 0.6, classifications of 'miserable' to 'mediocre' according to Kaiser (1974). Bartlett's Test of Sphericity was statistically significant ($p < .0005$), indicating that the data was likely factorizable.

PCA revealed three components that had eigenvalues greater than one which explained 49.2 percent, 17.2 percent, and 10.7 percent of the total variance respectively. Visual inspection of the scree plot indicated that three components should be retained (Cattell, 1966). In addition, a three-component solution met the interpretability criterion. As such, three components were retained.

The three-component solution explained 77.49 percent of the total variance. A Varimax orthogonal rotation was employed to aid interpretability. The rotated solution exhibited a 'simple structure' (Thurstone, 1947). The interpretation of the data was consistent with the attributes the questionnaire was designed to measure with strong loadings of Moral Duty items on Component 1, Calling items loaded on Component 2, and Work Meaningfulness items loaded on Component 3. Component loadings and communalities of the rotated solution are presented in Table 3.

Table 3

Rotated Component Matrix for Calling, Moral Duty and Work Meaningfulness

Rotated Component Matrix ^a			
	Component		
	1	2	3
Calling Q1	.226	.867	.339
Calling Q2	.279	.881	-.056
Calling Q3	.038	.744	.427
Calling Q5	.184	.840	.310
Calling Q6	.087	.823	-.162
Moral Duty Q1	.477	.397	.150
Moral Duty Q2	.915	.226	.136
Moral Duty Q3	.952	.179	.077
Moral Duty Q4	.912	.263	.102
Work Meaningfulness Q3	.253	.167	.855
Work Meaningfulness Q4	.267	.111	.912
Work Meaningfulness Q5	.241	-.008	.750
Work Meaningfulness Q1	.458	.170	.661
Work Meaningfulness Q2	.429	.105	.608

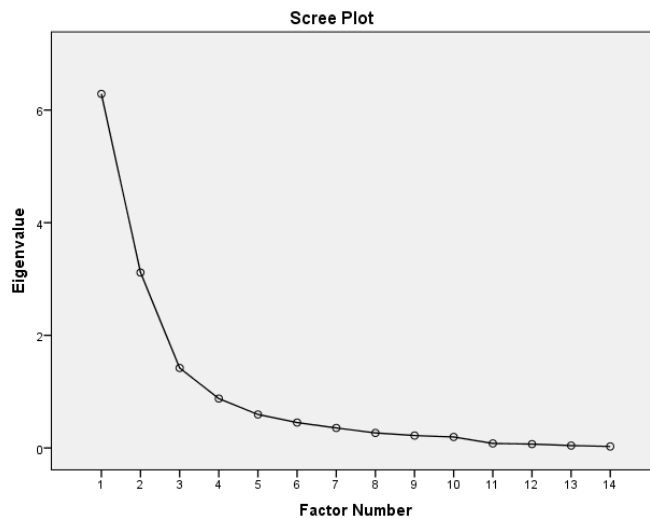
Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 5 iterations.

Figure 1

Moral Duty, Calling & Work Meaningfulness



Moral Duty, Calling & Work Meaningfulness

Moral Duty was measured using Bunderson & Thompson's moral duty scale. The scale consisted of four questions which all loaded on one factor. The four questions used had possible response items such as "Strongly Disagree", "Disagree", "Somewhat Disagree", "Neither Disagree or Agree", "Somewhat Agree", "Agree", "Strongly Agree". Numeric values were assigned to each response from 1 to 7.

Reliability for the moral duty scale was assessed using Cronbach's alpha, Kaiser-Meyer-Olkin (KMO), and the Bartlett test of Sphericity. Cronbach's alpha for the four item scale for moral duty extracted after factor analysis was = .847, indicating a good reliability. "Sampling adequacy" for the factor analysis was measured by the KMO test which resulted in a "middling" to "mediocre" adequacy at a value of .718. Additionally, the Bartlett test for Sphericity indicated a reliable measure (chi-square= 83.841, $df=6$, $p < .0005$). The total variance explained by the four determinants of the scale is 49.2 percent. All four components loaded on Factor 1.

Factor 1: *Moral Duty* "I have a moral obligation to give the animals under my care the best possible care", "If I did not give the animals under my care the best possible care, I would feel like I was breaking a solemn oath", "I consider it my sacred duty to do all I can for the animals under my care", and "Caring for the animals under my care is like a sacred trust to me."

Calling was measured using Bunderson & Thompson's calling scale. The original scale consisted of six items. After conducting a component factor analysis and visual inspection of the correlation matrix, it was determined that question four "I am definitely an animal person" (Calling Q4) did not have at least one correlation coefficient greater than 0.3, and it was therefore omitted. The remaining five items loaded on one factor.

The five items had possible response choices of “Strongly Disagree”, “Disagree”, “Somewhat Disagree”, “Neither Disagree or Agree”, “Somewhat Agree”, “Agree”, “Strongly Agree”. Numeric values were assigned to each response from 1 to 7 accordingly.

Reliability for the calling scale was assessed using Cronbach’s alpha, Kaiser-Meyer-Olkin (KMO), and the Bartlett test of Sphericity. Cronbach’s alpha for the 5-item scale for calling extracted after factor analysis was = .939, indicating excellent reliability. “Sampling adequacy” for the factor analysis was measured by the KMO test which resulted in a “meritorious” to “middling” adequacy at a value of .806. Additionally, the Bartlett test for Sphericity indicated a reliable measure (chi-square= 140.962, $df=10$, $p < .0005$). The total variance explained by the five determinants of the scale is 17.2 percent. All five components loaded on Factor 2.

Factor 2: *Calling* “Working with animals feels like my calling in life”, “It sometimes feels like I was destined to work with animals”, “Working with animals feels like my niche in life”, “I was meant to work with animals” and “My passion for animals goes back to my childhood.”

Work Meaningfulness was measured using the Spreitzer, Wrzesnesweki and Ashforth scale. All items subsequently loaded on one factor. The five items had possible response choices of “Strongly Disagree”, “Disagree”, “Somewhat Disagree”, “Neither Disagree or Agree”, “Somewhat Agree”, “Agree”, “Strongly Agree.” Numeric values were assigned to each response from 1 to 7 respectively.

Reliability for the moral duty scale was assessed using Cronbach’s alpha, Kaiser-Meyer-Olkin (KMO), and the Bartlett test of Sphericity. Cronbach’s alpha for the five-item scale for moral duty extracted after factor analysis was = .851, indicating good reliability. “Sampling adequacy” for the factor analysis was measured by the KMO test which resulted in a “middling” to “mediocre” adequacy at a value of .728. Additionally, the Bartlett test for Sphericity indicated a reliable measure (chi-square= 74.107, $df=10$, $p < .0005$). The total variance explained by the five determinants of the scale is 10.7 percent. All five components loaded on Factor 3.

Factor 3: “The work that I do as an animal caretaker/zookeeper is important”, “I have a meaningful job as an animal caretaker/zookeeper”, “The work that I do as an animal caretaker/zookeeper makes the world a better place”, “The work that I do as an animal caretaker/zookeeper makes a difference in the world”, and “The work that I do as an animal caretaker/zookeeper is meaningful.”

Human-Animal Bond (HAB)

A principal component analysis was conducted for the Human-Animal Bond scale that consisted of five items that measured the level of human-animal bond found among the sample of thirty (N=30) zookeepers. HAB was measured using the Hosey and Melfi's Human-Animal Scale. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.448 thus yielding a classification of 'unacceptable' (Kaiser 1974). The scale consisted of the following statements “An emotional relationship between myself and zoo animals can impair my ability to put their welfare first”, “Animal care/management courses I have taken have not considered the human-animal relationship (HAR)”, “Animal caretaker/zookeepers are too busy to develop a bond with the animals under their care”, “The relationship I have with the animals under my care provides me with special insight into their needs”, “I feel that my colleagues as a zookeeper/animal care taker have developed bonds with the animals under their care.” The five items had possible response choices of “Strongly Disagree”, “Disagree”, “Somewhat Disagree”, “Neither Disagree or Agree”, “Somewhat Agree”, “Agree”, “Strongly Agree”. Numeric values were assigned to each response from 1 to 7 respectively.

Cronbach's alpha for the 5-item scale for human-animal bond extracted after factor analysis was = .546, indicating miserable reliability. “Sampling adequacy” for the factor analysis was measured by the KMO test which resulted in an “unacceptable” adequacy at a value of .448. Additionally, the Bartlett test for Sphericity was not significantly statistic (chi-square= 19.394, df =10, p <.036). The poor reliability results of the scale could be due to the small sample size.

Statistical Analysis: Research Questions

Computing median and correlations

The posited research questions are theoretically derived from the scales for Calling, Moral Duty, Work Meaningfulness, and Human-Animal Bond.

1. Is a sense of calling as a form of destiny found among zookeepers?;
2. Are levels of sense of calling associated with zookeeper feelings toward their work as a moral duty?;
3. Are zookeeper feelings about work as meaningful associated with levels of sense of calling?;
4. If any, what level of human-animal bond is present between zookeepers and the animals they care for?

In order to test the hypotheses and run descriptive statistics for the sense of calling scale, moral duty scale, work meaningfulness scales, and human-animal bond, the scores of each scale were added to create a new variable that corresponded to each scale. Descriptive statistics and measures of association were conducted as necessitated by each question.

Question 1

Question one asked whether sense of calling as a form of destiny is exhibited by zookeepers. The *calling* scale consisted of six items assessing the sense of calling: “Working with animals feels like my calling in life”, “It sometimes feels like I was destined to work with animals”, “Working with animals feels like my niche in life”, “I am definitely an animal person”, “I was meant to work with animals” and “My passion

for animals goes back to my childhood”. The scale was coded in Likert-format comprising seven response-choices (coded 1-7 respectively): Strongly Disagree (coded 1), Disagree (coded 2), Somewhat Disagree (coded 3), Neither Disagree or Agree (coded 4), Somewhat Agree (coded 5), Agree (coded 6), and Strongly Agree (coded 7). The resulting scale values ranged from 6 to 42. The resulting sense of calling scale comprised three ordinal descriptors - High Sense of Calling (values ranging from 42-31), Moderate Sense of Calling (values ranging from 30-19), and Low Sense of Calling (values ranging from 18-6).

A "high" sense of calling was found among respondent zookeepers. The modal value for respondents (N=23, 77%) was a “high” level of calling for the occupation of zookeeper (Mdn=36.5, IQR=11). Inspection of Table 4 and Figure 2, indicates that two (N=2) respondents report a “low” level of sense of calling for the occupation of zookeeper, five (N=5) respondents a “moderate” level of sense of calling for the occupation of zookeeper, and twenty three (N=23) “high” level of sense of calling for the occupation of zookeeper. The data thus indicate that zookeepers have a “high” level of sense of calling as a form of destiny for the occupation of zookeeping.

Figure 2
Calling IQR Graph

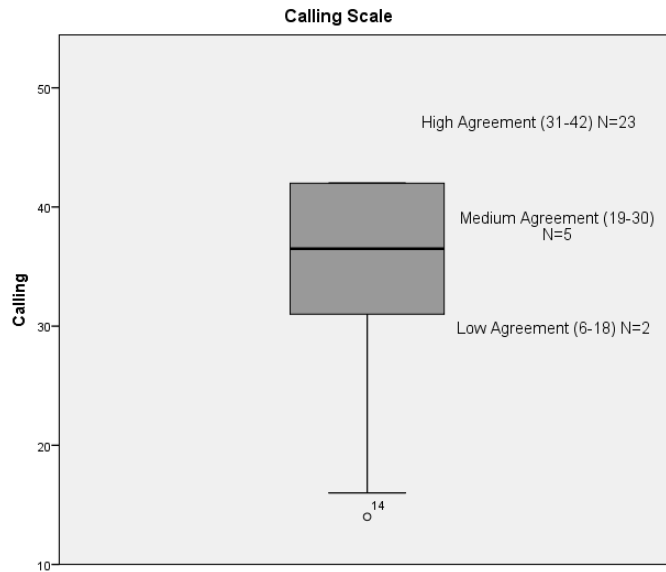


Table 4
Calling Distribution of Scores

Calling Scale		
Level of Agreement	Scores	No. Participants
Low	(18-6)	2
Moderate	(30-19)	5
High	(42-31)	23

Question 2

Question two asked whether levels of sense of calling is associated with zookeeper feelings toward their work as a moral duty. The *moral duty* scale consisted of four items assessing the sense of moral duty: “I have a moral obligation to give the animals under my care the best possible care”, “If I did not give the animals under my care the best possible care, I would feel like I was breaking a solemn oath”, “I consider it my sacred duty to do all I can for the animals under my care”, “Caring for the animals under my

care is like a sacred trust to me”. The scale was coded in Likert-format comprising seven response-choices (coded 1-7 respectively): Strongly Disagree (coded 1), Disagree (coded 2), Somewhat Disagree (coded 3), Neither Disagree or Agree (coded 4), Somewhat Agree (coded 5), Agree (coded 6), and Strongly Agree (coded 7). The resulting scale values ranged from 4 to 28. The resulting moral duty scale comprised three ordinal descriptors - High Moral Duty (values ranging from 28-21), Moderate Moral Duty (values ranging from 20-12), and Low Moral Duty (values ranging from 11-4).

A "high" level of moral duty was found among respondent zookeepers. The modal value for respondents (N=28, 93%) was a “high” level of moral duty for the occupation of zookeeper (Mdn=26, IQR=4). Inspection of Table 5 and Figure 4, reveals one (N=1) respondents report a “low” level of moral duty for the occupation of zookeeper, one (N=1) respondents a “moderate” level of moral duty for the occupation of zookeeper, and twenty eight (N=28) “high” level of moral duty for the occupation of zookeeper. The data thus indicate that zookeepers have a “high” level of moral duty toward the work performed for the occupation of zookeeping.

A Spearman’s rank-order correlation was run to assess the relationship between the sense of calling and the sense of moral duty among respondent zookeepers. Preliminary analysis revealed the relationship to be monotonic as assessed by visual inspection of scatterplot (see figure 3). There was a moderate positive correlation between zookeeper sense of calling and the sense of moral duty perceived, $r_s(28) = .541, p < .001$. Thus, levels of sense of calling is moderately associated with zookeeper feelings toward their work as a moral duty (see Table 8).

Figure 3

Calling & Moral Duty

Scatterplot

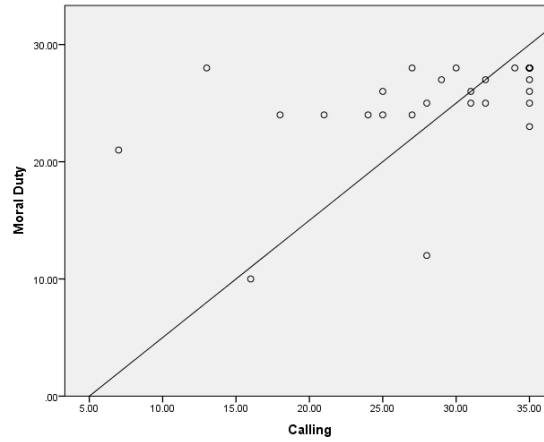


Figure 4

Moral Duty IQR Graph

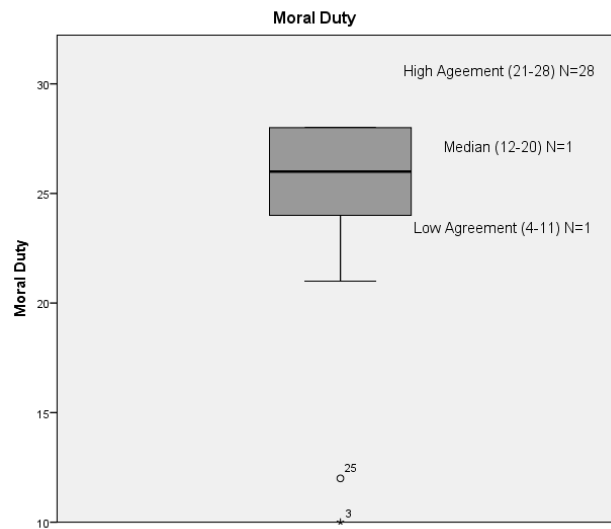


Table 5

Moral Duty Distribution of Scores

Moral Duty Scale		
Level of Agreement	Scores	No. Participants
Low	(11-4)	1
Moderate	(20-12)	1
High	(28-21)	28

Question 3

Question three asked whether zookeeper feelings about work as meaningful was associated with levels of sense of calling. The *work meaningfulness* scale consisted of five items assessing the sense of work meaningfulness: “The work that I do as an animal caretaker/zookeeper is important”, “I have a meaningful job as an animal caretaker/zookeeper”, “The work that I do as an animal caretaker/zookeeper makes the world a better place”, “The work that I do as an animal caretaker/zookeeper makes a difference in the world”, “The work that I do as an animal caretaker/zookeeper is meaningful.” The scale was coded in Likert-format comprising seven response-choices (coded 1-7 respectively): Strongly Disagree (coded 1), Disagree (coded 2), Somewhat Disagree (coded 3), Neither Disagree or Agree (coded 4), Somewhat Agree (coded 5), Agree (coded 6), and Strongly Agree (coded 7). The resulting scale values ranged from 5 to 35. The resulting work meaningfulness scale comprised three ordinal descriptors - High Work Meaningfulness (values ranging from 35-26), Moderate Work Meaningfulness (values ranging from 25-16), and Low Work Meaningfulness (values ranging from 15-5).

A “High” level of work meaningfulness was found among respondent zookeepers. The modal value for respondents (N=28, 93%) was a “high” level of work meaningfulness for the occupation of zookeeper (Mdn=33, IQR=5). Inspection of Table 6 and Figure 6 reveals zero (N=0) respondents reported a “low” level of work meaningfulness for the occupation of zookeeper, two (N=2) respondents a “moderate” level of work meaningfulness for the occupation of zookeeper, and twenty eight (N=28) “high” level of work meaningfulness for the occupation of zookeeper. The data thus

indicate that zookeepers have a “high” level of work meaningfulness toward the work performed for the occupation of zookeeping.

A Spearman’s rank-order correlation was run to assess the relationship between the sense of calling and work meaningfulness among respondent zookeepers. Preliminary analysis showed the relationship to be monotonic as assessed by visual inspection of scatterplot (see figure 5). Revealed was a weak positive correlation between zookeeper sense of calling and the sense of moral duty perceived, $r_s(28) = .541$, $p < .122$, but the association was not significant. The data thus indicate that zookeeper feelings about work as meaningful are not associated with levels of sense of calling (see Table 8).

Figure 5

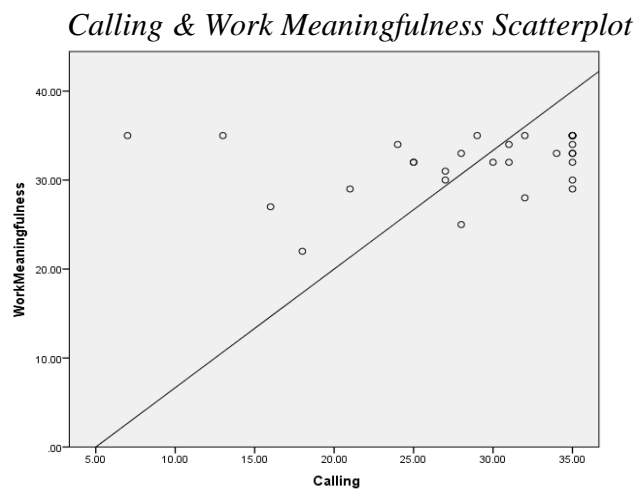


Figure 6
Work Meaningfulness IQR Graph

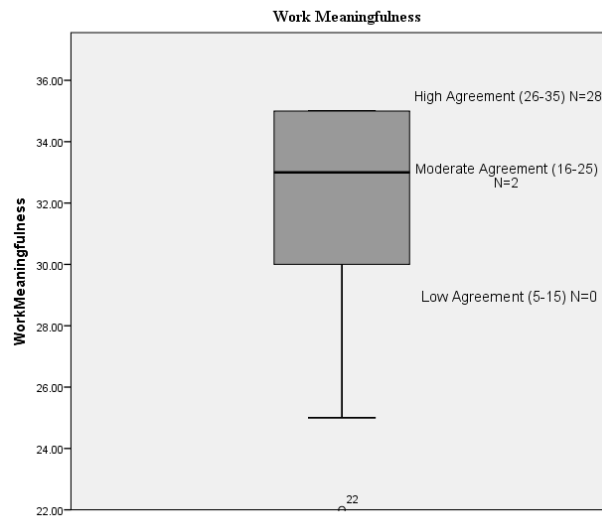


Table 6
Work Meaningfulness Distribution of Scores

Work Meaningfulness Scale		
Level of Agreement	Scores	No. Participants
Low	(15-5)	0
Moderate	(25-16)	2
High	(35-26)	28

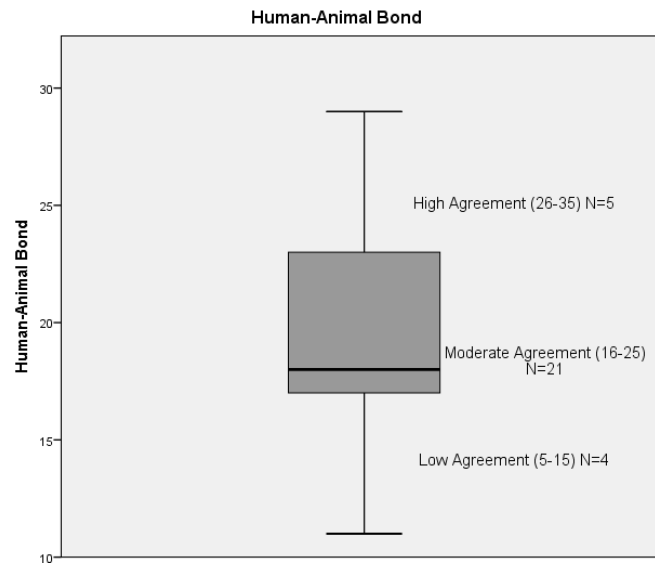
Question 4

Question four asked what level of human-animal bond is present, if any, between zookeepers and the animals they care for. The *Human-Animal Bond* scale consisted of five items assessing the level of human-animal bond found among zookeepers and the animals under their care. Items one and two were reverse coded: “An emotional relationship between myself and zoo animals can impair my ability to put their welfare first” (R), “Animal care/management courses I have taken have not considered the human-animal relationship (HAR)” (R), “Animal caretaker/zookeepers are too busy to develop a bond with the animals under their care”, “The relationship I have with the

animals under my care provides me with special insight into their needs”, “I feel that my colleagues as a zookeeper/animal care taker have developed bonds with the animals under their care.”

The scale was coded in Likert-format comprising seven response-choices (coded 1-7 respectively): Strongly Disagree (coded 1), Disagree (coded 2), Somewhat Disagree (coded 3), Neither Disagree or Agree (coded 4), Somewhat Agree (coded 5), Agree (coded 6), and Strongly Agree (coded 7). The resulting scale values ranged from 5 to 35. The resulting human-animal bond scale comprised three ordinal descriptors - High level of Human-Animal Bond (values ranging from 35-26), Moderate level of Human-Animal Bond (values ranging from 25-16), and Low level of Human-Animal Bond (values ranging from 15-5).

A "moderate" level of Human-Animal Bond was found among respondent zookeepers. The modal value for respondents (N=21, 93%) was a “moderate” level of human-animal bond for the occupation of zookeeper (Mdn=18, IQR=6). Inspection of Table 7 and Figure 7 reveals four (N=4) respondents report a “low” level of human-animal bond for the occupation of zookeeper, twenty one (N=21) respondents a “moderate” level of human-animal bond for the occupation of zookeeper, and five (N=5) “high” level of human-animal bond for the occupation of zookeeper. The data thus indicate that zookeepers have a “moderate” level of human-animal bond with animal(s) under their care.

Figure 7**Human-Animal Bond IQR Graph****Table 7****Human-Animal Bond Distribution of Scores**

Human-Animal Bond Scale		
Level of Agreement	Scores	No. Participants
Low	(15-5)	4
Moderate	(25-16)	21
High	(35-26)	5

Table 8*Scales Descriptive Statistics and Correlations*

Descriptive Statistics and Correlations							
				Total Sum Calling	Total Sum Moral Duty	Human- Animal Bond	Work Meaningfulness
	Mean	SD					
Calling	28.76	7.44	Correlation Coefficient	1.000			
			Sig. (2-tailed)	.			

			N	30			
Moral Duty	25.10	4.28	Correlation Coefficient	.541**	1.000		
			Sig. (2-tailed)	.002	.		
			N	30	30		
Human -Animal Bond	32.00	3.29	Correlation Coefficient	.177	-.100	1.000	
			Sig. (2-tailed)	.349	.600	.	
			N	30	30	30	
Work Meaningfulness	17.11	4.69	Correlation Coefficient	.289	.468**	.027	1.000
			Sig. (2-tailed)	.122	.009	.887	.
			N	30	30	30	30
**. Correlation is significant at the 0.01 level (2-tailed). Cronbach’s alpha for multi-item scales are shown in bold on the diagonal							

Interviews

Three emerging themes were found in the analysis of the transcribed interviews. A responsibility to the animals as a sense of moral duty was the most coded category found in the phrases of the zookeepers interviewed. Key phrases such as “I have to do my best so the animals don’t suffer” and “I have to make sure that they (animals) live fulfilling lives, as best as it can be done in captivity, so they can go on and do what they are supposed to do...which is go reproduce”, “it is my job to make sure that the animals are taken care of and they do not stress...or worse, die.” This theme was coded on thirteen of the fifteen transcribed interviews (86%).

A sense of calling was the second most coded theme. The sense of calling as a destination in life was found in phrases such as “I’ve always been attracted to animals so it was natural for me to work at a zoo”, “I was fascinated by the zoo life since I was a

child. I grew up at a time when the life of the zookeeper was glamourized and I always felt this would be me one day.”

Other phrases described a sense of calling to work around animals in general. “I come from *el rancho*. I grew up among animals and I find it easy to work with them. Since I was a small child, I was never afraid to be near the animals...I’m a natural.” This theme was coded twelve out of the fifteen transcribed interviews (80%).

The last emerging theme was a sense of connection with the animals under their care. The human-animal bond was found among these phrases: “I can spot him [lemur]³ out of the group right away, he lets me hold him and that is good because when we need to give medications it is easy to do so” and “I know my animals very well and I can tell right away when something is wrong, kind of like my kids when they don’t feel good...they show it in their eyes.” This category was coded in ten of the fifteen transcribed interviews (66%).

Moral Duty

The idea of moral duty as a sense of responsibility to the animals was well expressed by the zookeepers. Moral duty, the obligation one has to do what is right for the greater good, demands of the zookeepers to develop a moral identity and thus a sense of moral duty to their animals. Zookeepers expressed a sense of responsibility that exceeded just doing their job. It also involved doing their job well for the benefit of the animals under their care. This sense of duty goes beyond everyday duties and responsibilities assigned by supervisors.

³In that the sample comprising this study was culled from a relatively small local population, the specific species of animals have been modified or omitted to ensure requisite anonymity of the respondents.

An interesting phenomenon occurs among the zookeepers at this zoo in that the vast majority of the zookeepers have not attained any formal education dealing with animal husbandry. Knowledge and sense of duty to the animals developed through the many years the zookeepers have worked with the same animals. The bond formed with the animals they care for ultimately translated into a sense of moral duty. The zookeepers expressed this by making comments such as “I have to make sure my job is done well, if not they (the animals) are the ones who suffer, not me” and “some of these animals are the last of their species and it is up to me to make sure they survive.”

The zookeepers at this midsized zoological park perceive their occupation as important. The survival of the animals was the most important aspect of their job as some of the species found at this zoo are the only specimens found outside of the animals’ natural environment. This sense of duty is tied to the relationship they have formed with the animals throughout the years. Some zookeepers, through their tenure at the zoo, have seen animals from birth, to maturity, to reproduction, and eventually death. Some of the keepers that were originally hired when the zoo first opened are still caring for the same animals today.

Zookeepers at the zoo were not hired for their knowledge of animal husbandry. Rather, they were typically hired solely for ability to do the labor associated with caring for the animals. The sense of responsibility to the animals developed as the zookeepers became aware of the importance of the tasks engaged for care of the animals. That is, the zookeepers developed a sense of moral duty to the animals as they came to know the animals over time. This is well expressed in the following shared stories:

When I first started working here I had no idea what to do, I didn’t know anything about the animals, all I knew was that they [zoo directors] needed help and I needed a job. But being here just about every day, for as many years as I’ve been, is like...you kind of get

attached to the animals and, I know that they know me because I see them every day. If I get sick or something like that, I try not to miss because who knows what kind of job someone else will do if I'm not here, I can get better when I get home.

My most important duty at the zoo is the welfare of the animals, so I am always having to...it's a real hard balancing act of basically staying ahead of any kind of trouble or disaster always keeping a handle of what people are doing what, when and where and how it would affect the [animals]⁴...I know this is the right thing to do.

As someone taking care of animals you have to everyday make sure that you are giving them (animals) your best care possible.

My most important job here is to make sure the animals are taken care of and that they are not harmed with what I'm doing. Sometimes I'm told that one of my animals will be taken out to the clinic and my job is to make sure that animal comes back the same, I'm the one responsible for that.

These stories reflect the deep level of responsibility zookeepers have toward their occupation. This suggests that individuals who enter into zookeeping become emotionally invested and develop a sense of moral duty to do what is best for the animals under their care. This may occur even when it was not originally demanded as part of their job.

These additional stories reflect how zookeepers developed moral identity and sense of moral duty as they worked with the animals:

When I first got the job I thought that all I had to do was clean cages and feed the animals, how much more do you need to know to do that? But then I kind of figure out that the animals needed more than just that. I feel for them...they are caged all the time, even when they go outside they are always in the same place...every day. I always try to do something special to make them feel better.

Before they started doing all this enrichment stuff...I knew the bears needed help. I see them get frustrated and sad. *Pobre animales*⁵...I know where they come from and I am sure they miss their previous life. Sometimes I bring them treats and I give it to them when they go in for the night, just to make them feel better...someone has to do it.

⁴ The specific species of animal has been omitted to ensure the requisite anonymity of the respondent.

⁵ Spanish meaning "poor animals."

I try to finish my job on time to go home, but if something happens and I need to stay, I do it. Especially when there is an emergency or one of my animals gets sick. I know my animals better than any of the clinic staff and I need to be here for the animals.

The sense of moral duty has implications to both the zookeeper's work and personal life outside of work. Being a zookeeper does not only imply an obligation to the animals worked with, but also an obligation to the environment, animals in the wild and the society itself. The zookeepers often realize that they are the stewards of species that might not survive if it were not for their work and dedication.

With responsibility comes sacrifice. One such sacrifice comes in the form of low wages. Zookeepers at this zoological park earned, on average, \$17,000.00 per year or approximately \$8.00 an hour. Almost half of the zookeepers interviewed (43.3%) had no children and, of those who did, the average number of children was two (2). This could indicate that family is not a priority and they are willing to sacrifice having a family for their job. Of the respondents who reported having children, the majority of the children listed were of adult age. The ages of the adult children ranged from 19 to 36 years of age, which indicated that the zookeepers were not totally financially responsible for their children. This demonstrates the level of commitment and sense of moral duty zookeepers have to their job. Zookeepers expressed this well in the following passages:

...I don't get paid much but I do love what I do, that keeps me coming back every day.

I live on a budget. Money has to last until the end of the month and sometimes I have expenses I did not expect...just this week I had to order a book on [specific species]⁶ husbandry...I am not very familiar with [specific species]³ and I need to learn more about them, how to take care of them...this will cut me short for some payments but I can make it up come next check (ah-ha-ha) that is something I am really good at.

The director wants us to do enrichment for the animals and that is fine...but when I request supplies to do it and I have to wait for a long time or I never get it. I rather go on my day off and buy stuff with my own money...I go to auctions and buy firefighter hoses

⁶ The specific species has been omitted to secure requisite anonymity of the respondent.

and other stuff to make things for the animals...I even got an old TV for the [large mammal]³.

...I buy more for the animals here at the zoo than I do for my kids. That is why I don't let them have pets...animals need more than just a roof over their heads and food to eat.

The occupation of zookeeper encompasses not only financial sacrifice, but also life outside of the zoo. Personal relationships may prove difficult as zookeepers feel morally obligated to the occupation and associated responsibilities. The following narratives exemplify:

I was married before I got here, my then husband and I were working together at another zoo. Even though we were there together we rarely saw each other. We had lunch once in a while but we were at different parts of the zoo and that made it difficult. We were so busy that we just drifted apart. That kind of didn't help and we ended up getting divorced...we still talk and we are friends but, when the position opened here, I moved here and he stayed at my previous zoo.

I would like to have a family at one point in the future but right now my work is my life.

I hang around other people that work here at the zoo. I do not relate that well to others that don't understand this job, this job is my life.

These passages describe the level of moral duty zookeepers feel toward their occupation.

Zookeepers are willing to sacrifice earnings and personal relationships in order to do the job well.

Many zookeepers developed a sense of moral obligation to the occupation as they realized the impact their work was having on the animals under their care.

Calling

Calling, as defined by Myers (2014), is the feeling of engaging in a type of work that is inherently rewarding as it aligns with the person's passions, interests, and abilities and is subsequently perceived as a form of destiny. Many zookeepers interviewed for this study expressed a passion for their work and viewed their job as a form of destiny. This is evident in the following passages:

I always wanted to work with animals. If I wasn't going to get a job as a zookeeper I was going to get a job that had to do with caring for animals. I even got some classes on how to groom dogs.

Zookeeping is my life. I know that it is not very glamorous and that I will never make a fortune, but knowing that I'm making a difference in the lives of the animals and that makes it all worth it.

I know that what I do is important for the survival of the animals and I feel like this is what I was meant to do in life.

Max Weber (1930), in *The Protestant Ethic and the Spirit of Capitalism*, feared that society was focused more on the rationality of doing a job that leads to inherent rewards and personal gratification. The rationalization of working to attain a goal without consideration of the consequences to others would lead to the degeneration of societal values as individuals would turn into *specialist without spirit*.

Zookeeping as a form of calling goes beyond the concept of zookeepers doing their job for personal satisfaction. The perceived obligation zookeepers have to do their job, not for their own benefit but for the benefit of others, is synonymous with the Calvinist concept of calling to a vocation where individuals had an obligation to use their God given gifts and talents to benefit a greater good (Stone 2009). The zookeepers interviewed for this research demonstrated this form of calling:

I'm a jack of all trades, I don't just do the cleaning and feeding of my animals...(phss) that's nothing...I also have to do their diets if the dietician is not around...I need to make sure they get the right food. I also do some wood work and build the enclosures on the islands...the ones where the [an animal species]⁷ are. I work with cement when the exhibits need repairs. (ha) I didn't know how to do that before I started working here...but I learned how and now is like second nature. If it is needed for my animals I will figure out how to do it.

I know that whatever little I do here, for the animals, it makes a difference. I try to make sure that, regardless of what they [supervisors] ask me to do, the animals come first. These animals are here for a reason and it is my job that they are okay....not the people. If my animals are stressed or they will hurt themselves or others in their group, it is my job to prevent that and not making sure the enclosure looks pretty for the visitors.

⁷The specific species has been omitted to ensure requisite anonymity of the respondent.

We have been able to successfully breed some of the animals that are endangered and that is huge...there are many people that come to this zoo from all over the world just because we have very special animals and it is my job to make sure they are fine.

I started working here many years ago and then I left for a better paying job. I was miserable there so I came back and now I'm doing what I like...it's not easy but I really love what I do.

Calling was not found in all interview transcripts as a number of the participating zookeepers did not initially attained employment at the zoo for the sake of the animals. The cited narratives allow for the appreciation that some zookeepers did indeed feel a calling to work with animals. It is possible that this sense of calling could have been discovered as zookeepers developed a moral identity and realization of the importance of their occupation.

Human-Animal Bond

Zookeepers undeniably have a relationship with the animals under their care. The daily routine of animal management constitutes a form of human-animal relationship (HAR), a human-animal bond (HAB) goes beyond everyday interaction. In order to perceive a human-animal interaction as a human-animal bond, three conditions must be met: (1) A form of relationship has been formed with one animal regardless of number of members in a specific group. Being fond of a particular species does not constitute a HAB; (2) The relationship between the human and animal has to be positive and reciprocal. No matter how fond the zookeeper is of a specific animal, if the animal does not recognize the keeper and does not react in a trusting manner, a bond has not been established. Also, no bond is present if the zookeeper is unable to differentiate one animal from another. Recognition is developed through a number of different interactions with

the specific animal. It is through multiple interactions that animals expressed an increased level of trust toward the keeper. The keeper then develops an increased sense of caring and understanding for the animal; (3) The human-animal bond increases the level of wellbeing for both parties. Both the animal and the keeper benefit from this relationship. Keepers need to make sure that this special connection, and thus treatment of the animal, does not hinder the care of others in the animal group (Russow 2012).

Following the three criteria discussed above, the interviews were analyzed to determine whether any level of human-animal bond was found among zookeepers. The following narratives reflect a form of human-animal bond:

I know I have a connection with her [infant animal]⁸ and I know that she knows me and vocalizes when I'm near, she comes to me and sits and then I pick her up and we cuddle.

I get really excited when he [large mammal]⁸ sees me and gets close so I can scratch him. I know he likes it because when I move away he follows me.

I know them all since they were babies [female mammal]⁸. I used to go in the nursery and would talk to them for hours. Now she [female mammal]⁸ is having babies of her own and she lets me get close to them.

He is special to me [mammal]⁸. He was born here and we had to make sure he was safe at all times. He is so used to me that I can get close to him and do a checkup without him getting stress.

This one [reptile]⁸ has a special story and I feel for him. I had to work really hard at gaining his trust since he did not like people but now we are buddies.

The narratives each demonstrate a level of human-animal bond found among zookeepers and the animals under their care. It is through these bonds that much learning about specific species is accomplished. These connections are essential to the survival of many of the species and they should be encouraged by the zoo.

⁸ The specific species has been omitted to ensure the requisite anonymity of the respondent.

Several zookeepers at the zoo were reluctant to accept that they had formed a human-animal bond with the animals under their care. These zookeepers perceived any type of connection as an unwanted consequence of the kind of work they engage in the course of the duties associated with the occupation. The following narratives demonstrate:

I don't really want anyone to know that I have trained them [species]⁹ to trust me. I'm afraid that if they ever trade any of my birds they might not make it wherever they go. I know is not something that is encouraged here.

We need to realize that they are still wild animals and getting them used to dealing with humans is not a good thing...not if eventually we want to reintroduce the animals to the wild.

...if they only knew that I give them treats they would get after me.

The interaction that occurs between the zookeepers and the animals under their care is important. Both humans and non-human animals benefit from these relationships and this behavior should be fostered to create a more pleasant environment for the various species housed at the zoo (Hosey & Melfi 2012). These relationships are necessary for successful reproduction of species that are in danger of extinction and to foster an enriched environment that facilitates normal behavior and development of the animals (Mellen 1991).

⁹ The specific species has been omitted to ensure the requisite anonymity of the respondent.

CHAPTER 5: DISCUSSION AND CONCLUSION

Discussion

This study focused on the existential self of zookeepers by examining whether and to what extent feelings and emotions played a role in how zookeepers perceive their occupation as a calling, develop a sense of moral duty, perceive their work as meaningful, and create meaningful connections with animals under their care. A mixed methods approach was used to explore the theoretically derived hypotheses and research questions. Four hypotheses were posited and both quantitative and qualitative methods were utilized.

Question 1

Question one explored the sense of calling among zookeepers. The question asked whether a sense of calling was found among zookeepers comprising the sample. Previous studies to assess the sense of calling have been conducted with zookeepers as subjects. These studies looked at calling among zookeepers by sampling zookeepers from all over the United States (Bunderson & Thompson 2009). The present study focused on zookeepers from one zoological park. The historical antecedents of the zoo played a role in the type of individuals working as zookeepers and thus the participants of this study. Unlike the traditional zoological parks which hire individuals based on formal education and knowledge of animal husbandry, this zoological park, required only a willingness to work and ability to perform occupationally related tasks. Many of the zookeepers originally hired when the zoo opened remain employed at the zoo.

Results of the quantitative analysis of the calling scale revealed a high level of sense of calling found among the respondent zookeepers. Fifty percent of the participants scored between 29 and 35, indicative of the participants perceiving their work as a calling. For some, the reason for becoming a zookeeper was understood as fulfilling their calling. The zookeepers who felt this way were, for the most part, representative of the younger generation of keepers who entered the occupation the traditional way (education and training).

The statistical results were partially supported by the findings of the qualitative (interview) component of this study. Calling was found in the transcribed interviews, but was only the second-most coded concept of the interviews conducted. The calling theme was coded in twelve out of the fifteen interviews conducted. Based on the qualitative analysis, it is determined that a sense of calling was found among only some of the zookeepers. Also, sense of calling was not the most important reason why zookeepers exhibited a strong connection to the occupation. A sense of calling was found through retrospection and served as a confirmation or justification of why zookeepers engage the occupation.

For most of the interviewed zookeepers, a sense of calling was not the driving force behind persistence and commitment to the occupation. Existential sociology explains that the inner self is the secure sense of self that orients the individual to a more meaningful life by aligning the emotions and values of the individual (Douglas 1984). For this group of zookeepers, the inner self did not develop from a need to become a zookeeper, or sense of calling. Instead, the sense of self as zookeeper was developed as

the zookeepers conceptualized the importance of their work by aligning their emotions and values.

Question 2

Question two explored the connection between a sense of calling and a sense of moral duty found among zookeepers. Moral duty is the sense of obligation to work that arises out of the ethical motives one has (Myers 2014). Moral duty goes beyond the sense of seeking a job that feels like a calling to a profession and toward doing what is right and ethical. While a sense of calling is a drive to do the job a person feels that he or she was “made to do”, moral duty is the sense of doing what is right. The theoretical question becomes whether or not a sense of calling is associated with a sense of moral duty. This study provided an answer via quantitative and qualitative analyses.

Results of the sense of calling and sense of moral duty quantitative analysis revealed a moderate positive association between zookeeper sense of calling and sense of moral duty perceived. That is, as zookeeper’s sense of calling increased, the sense of moral duty also increased.

The relationship between sense of calling and sense of moral duty was also confirmed by the results of the qualitative interview component of the study. Moral duty was the most coded theme found in the transcribed interviews as it was coded in thirteen of the fifteen interviews. The interviews thus revealed high levels of moral duty among the zookeepers. Qualitative data revealed that zookeepers tend to feel a strong sense of duty to their occupation, but do not always see it as a calling.

Some zookeepers did not initially define themselves as zookeepers, but merely as workers serving personal needs (i.e., income). A sense of moral duty developed as the zookeepers realized the importance of the occupation to not only the animals cared for, but also for the species in general. The zookeepers interviewed demonstrated a high sense of moral duty that went beyond what was expected and often made sacrifices to do what was right for the animals.

Zookeepers expressed that personal relationships were affected due to a moral duty to the occupation. Nine (n=9) of the zookeepers were married. Nineteen (n=19) were either “never married”, “divorced” or “separated.” Half of the zookeepers (n=15) had only one child. The average age of their children was seventeen and over half were adult age (19-36 years). This may reflect how a sense of moral duty to the occupation influenced their lives outside of work.

Zookeepers also expressed that they were willing to survive on limited income and volunteer their time and money to make the lives of the animals under their care better. This reflects that zookeeper sense of moral duty goes beyond commitment their employer and to a greater good - the ultimate care of the animals and the survival of the species. That is, zookeepers often developed empathy toward the animals and defined their work as influencing the survival of the animals and the species in general.

Question 3

Question three looked at the connection between calling and seeing work as meaningful. As previously discussed, calling is the overwhelming transcendent summons, either internally or externally, to a specific type of work (Wrzesniewski et al. 2009). Work

meaningfulness is the value given to work based on the sense of self and the values, motivations and beliefs about work (Ross et al. 2010).

This study found no association between level of calling and the sense of work as meaningful. Notwithstanding the fact that zookeepers scored high on the level of work as meaningful, work meaningfulness was not a theme found among the transcribed interviews. A possible explanation could be the language barrier and zookeepers conceptualizing moral duty and work meaningfulness as the same.

Question 4

Question four focused on the human-animal bond (HAB) among zookeepers and the animals under their care. Quantitative analysis revealed that a human-animal bond was found among zookeepers participating in the study. Forty percent of the participants scored between 29 and 34 points (out of possible 35) on the HAB scale. This is indicative of a high level of HAB between the zookeepers and one or more animals under their care. HAB goes beyond the regular day to day interaction that the keepers have with the animals they care for. In order to have a genuine HAB, both the zookeeper and the animal need identify with each other as an entity that can be trusted. This connection is beneficial to both the keeper and the animal.

The interviews confirmed the presence of HAB among the zookeepers. The theme of human-animal bond was coded in ten out of the fifteen interviews conducted. The narratives offered by the zookeepers revealed that the connections made with the animals are profound and meaningful. Some narratives, however, reflected an unwillingness to define a bond as having been created with the cared for animals. For some zookeepers,

this may serve as a safety mechanism to prevent the emotional investment that comes with forming relationships.

Study Limitations

The present study was faced with a number of limitations. The mixed methods approach of collecting and analyzing data is, by definition, time-intensive (Denscombe 2010). In the context of the present study, only one researcher was responsible for collecting data via the survey and interview methods. Ideally a research team would be employed so that more than a single zoo may be sampled. Multiple researchers would also yield a larger sample size.

Securing access to the population proved more difficult than originally anticipated. The zoo constituted a closed or guarded research site. That is, the zoo, as the data collection point, was difficult to access and permission to enter the site and collect data highly problematic. The gatekeeper (the zoo director) dictated the initial method of collecting data by stipulating that the researcher become part of the daily routine of the potential participants. This made collecting data in the form of questionnaires and interviews extremely time consuming. For a single researcher, this procedure was especially problematic.

An additional limitation was the language barrier encountered during the quantitative component of the study. Many of the potential respondents were not proficient in the English language. This resulted in many incomplete questionnaires.¹⁰

¹⁰ The response rate of this sample was 65%.

The language barrier thus partially accounts for the small sample size. Another limitation of the study is inherent in the voluntary nature of the data collection methods utilized. It is not possible to determine whether or not persons who were willing to participate are somehow be different than those unwilling to participate.

Study Contributions

This study contributes to the growing body of scientific inquiry related to the study of calling, sense of moral duty to occupation, the meaningfulness attributed to work and the intricate connections made with others regardless of species. The results of this study help to understand the complexities of sensing a calling and how it may affect person's relationship to their work.

The sense of calling was not the most salient motive for engaging zookeeping as an occupation. A sense of moral duty among zookeepers served as the force to do what was right for the cared for animals regardless of the sacrifice required.

An additional contribution of this study is the understanding of how human-animal bonds are important the zookeeping work environment. The empathy that takes place between the zookeeper and the cared for animal is central to understanding the occupation.

Most of the research found on HAB is focused on people and their companion or service animals. The current study contributes to the understanding of the HAB relative to the zoo setting in which humans interact with the animals as part of normal duties. It thus opens the door for future research on zoos and zookeepers relative to HAB.

Future research is necessary to further understand how HAB impact the manner by which zookeeping is conducted. Exploration of the feeling and emotions which take place when the HAB is formed and how both humans and animals benefit should be the focus of future work.

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APPENDIX A



COLLEGE OF LIBERAL ARTS – Department of Behavioral Sciences

The University of Texas at Brownsville

INVITATION TO PARTICIPATE

I am conducting research on zookeepers/animal caretakers through the University of Texas at Brownsville. The purpose of the research is to further understanding of how zookeepers/animal caretakers feel about their job and the animals they care for. Your participation in this research will help to increase both public and social scientific knowledge about how zookeepers/animal caretakers define and see themselves.

The methods used to achieve this purpose include questionnaires and one-on-one interviews.

Your participation is completely voluntary. Should you decide not to participate, you will not be subject to penalty of any kind. If you choose to participate, you have the right to cease participation at any time without adverse consequence or penalty. In the event you choose to cease participation all information you provide (including audio tapes) will be destroyed and omitted from the final paper.

It should take only a few minutes to complete the questionnaire section of this study. The interview will be audio taped in order to accurately capture your insights in your own words. The tapes will only be heard by the principal investigator and will only be used for the purpose of this study. If you feel uncomfortable being audio recorded, you may ask that it be turned off at any time. The audio tapes will be transcribed and coded for recurring themes and key words. Though direct quotes from you may be used in the paper, your name and other identifying information will be kept anonymous.

There are no known risks associated with participation and you are assured of complete confidentiality as responses are anonymous. No direct identifiers will be collected and your name is not to be included anywhere on the questionnaire or interview section of this study. The questionnaires do not contain markings of any kind that could in some way identify you. Questionnaires, audio tapes, and transcribed notes will be kept in a locked filing cabinet for a period of no less than three years and while the research is active. Only the primary investigator will have access to the tapes and corresponding

materials. Data, audio tapes, transcribed notes and consent forms will be destroyed by shredding once the research is concluded.

This research project has been approved by the University of Texas at Brownsville. If you have questions concerning the rights of research subjects, contact the Chairperson of the UTB Human Subject Research Review Committee (HSRRC), Dr. Matthew Johnson at (956) 882-8888 or the Research Integrity and Compliance Office, Lynne Depeault at (956) 882-7731. You may request the results of this study or additional information by contacting Scott A. Reid, Ph.D. The University of Texas at Brownsville, Behavioral Science Department 80 Fort Brown, Brownsville, Texas 78521 (956)882-8821 or by email, Scott.Reid@utb.edu

By signing this document, you are agreeing to be part of the study. Again, your participation in this research is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You will be given a copy of this document for your records and one copy will be kept with the study records. Be sure that questions you have about the study have been answered and that you understand what you are being asked to do. You may contact the researcher if you think of a question later.

❖ I agree to participate in the study.

Signature

Date

❖ I agree to be audio taped as part of the study.

Signature

Date

Gabriela Allen
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UTB IRB-HS Approval Stamp
2013-055-IRB Allen
Approval Date 07/18/2013
Expiration Date 07/17/2014



APPENDIX B

Instructions: Please do NOT write your name anywhere on this questionnaire. Write your answers directly onto this form and attempt to answer all questions as honestly as possible. Remember that your answers are completely anonymous. Your time and effort are greatly appreciated.

**An Animal caretaker/Zookeeper is defined as an individual whose duties include (but may not be limited to) caring for, feeding, cleaning, and ensuring the overall wellbeing of animals (or a single animal) in a zoo or zoo-like setting.*

1. Age (in years): _____
2. . What is your gender?
Female_____ Male_____ Other_____
3. Do you currently reside in the United States? Yes____ No____ (if not U.S., specify)_____
4. What is your Race? Black____ White____ Hispanic____ American Indian____ Other_____
5. What is your current Marital Status?
Never Married____ Married____ Divorced____ Separated____
Widowed____ Other_____
6. Do you have any children? Yes____ No____
If Yes, What are their ages? _____
7. What is the highest level of education you have completed? (circle one)
Less than high school High school Some college Completed college
Some graduate work M.A./M.S. degree Ph.D. Other (specify) _____
8. What was your approximate before tax (gross) income last year (*if married, this refers to your "combined" gross income*)

_____ Under \$10,000	_____ \$30,001--\$40,000
_____ \$10,001--\$15,000	_____ \$40,001--\$50,000
_____ \$15,001--\$20,000	_____ \$50,001--\$60,000
_____ \$20,001--\$25,000	_____ \$60,001--\$70,000
_____ \$25,001--\$30,000	_____ Over \$70,001

9. Do you have pets/other animals at home? Yes____ No _____

If Yes, How many? _____

10. How many hours do you work as an animal caretaker/zookeeper?
Please specify total hours

Part-time (less than 20) _____ Full-time (39 or more) _____ Volunteer _____

11. Have you ever volunteered as an animal caretaker/zookeeper?
Yes____ No_____ if yes, for how long? (years & months)_____

12. How long have you been working as an animal caretaker/zookeeper?

(In years and months)_____

13. How long have you been working at this zoo as an animal caretaker/zookeeper?

(In years and months)_____

14. How often do you have contact with the animal(s) under your care?

Once a day_____ More than once per day(specify)_____ Never_____

15. What kind of animals do you currently work with as an animal caretaker/zookeeper?

(List all that apply)_____

16. What kind of animal(s) do you have the most experience with as an animal caretaker/zookeeper?

(List all that apply)_____

17. On average, for these tasks, how many times per week do you have contact with the animals you care for? (if zero, write "0")

Visual Inspection # of times per week_____

Feeding # of times per week_____

Talking to them # of times per week_____

Moving them # of times per week_____

Physical Contact # of times per week_____

Cleaning # of times per week_____

APPENDIX C

Calling Scale Please indicate how much you agree or disagree with the following statements regarding your feelings toward working with animals as a zookeeper/animal caretaker. Place an “X” in the appropriate box below the selected answer.

Please try to answer as honestly as possible.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Agree	Strongly Agree
1. Working with animals feels like my calling in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. It sometimes feels like I was destined to work with animals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Working with animals feels like my niche in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I am definitely an animal person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I was meant to work with animals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. My passion for animals goes back to my childhood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX D

Moral Duty Please indicate your level of agreement with the following statements regarding how you feel about your commitment to the animals you care for by placing an “X” in the box below the selected answer.

Please try to answer as honestly as possible.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Agree	Strongly Agree
1. I have a moral obligation to give the animals under my care the best possible care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. If I did not give the animals under my care the best possible care, I would feel like I was breaking a solemn oath.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I consider it my sacred duty to do all I can for the animals under my care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Caring for the animals under my care is like a sacred trust to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX E

Work Meaningfulness Please indicate how well you agree or disagree with the following statements regarding how you feel about your work as an animal caretaker/zookeeper. Place an “X” in the appropriate box below the selected answer.
Please try to answer as honestly as possible.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Agree	Strongly Agree
1. The work that I do as an animal caretaker/zookeeper is important.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have a meaningful job as an animal caretaker/zookeeper.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The work that I do as an animal caretaker/zookeeper makes the world a better place.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The work that I do as an animal caretaker/zookeeper makes a difference in the world.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The work that I do as an animal caretaker/zookeeper is meaningful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX F

Human Animal Bond Please indicate how well you agree or disagree with the following statements regarding the relationship between humans and animals. Place and “X” in the appropriate box below the selected answer.

Please try to answer as honestly as possible

	Strongly Disagree	Disagree	Somewha t Disagree	Neither Agree or Disagree	Somewhat Agree	Agree	Strongly Agree
1. An emotional relationship between myself and zoo animals can impair my ability to put their welfare first.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Animal care/management courses I have taken have not considered the human-animal relationship (HAR).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Animal caretaker/zookeepers are too busy to develop a bond with the animals under their care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The relationship I have with the animals under my care provides me with special insight into their needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I feel that my colleagues as a zookeeper/animal care taker have developed bonds with the animals under their care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX G

Interview Guide for Zookeepers

Introductory script: Thank you for meeting with me. The purpose of this interview is to understand how you think and feel about (1) being a zookeeper (calling and meaningfulness); (2) your commitment to your job as a zookeeper (moral duty); (3) and the animals under your care as a zookeeper (human animal bond).

I would like to remind you that this interview is voluntary and you have the right to decline to answer any question(s). In addition to answering the questions I pose, you also may bring up topics for discussion that you feel might be important to this researcher.

I. I would like to start by asking general questions about being a zookeeper.

a. How did you get into zoo keeping?

i. Can you describe your job as a zookeeper?

ii. If you are currently a paid zookeeper, did you
volunteer as a zookeeper prior to becoming a paid
one?

iii. If so, for how long did you volunteer as a
zookeeper?

b. What are your most important duties as zookeeper?

i. How do you feel about your job as a zookeeper?

ii. Do you find a sense of meaning in your job as a
zookeeper?

1. (if yes) Can you describe how?

2. (if no) why not?

iii. Do you feel you make a difference by working as a
zookeeper?

II. Now, I would like to ask you questions about the commitment to your job as a zookeeper.

a. How important it is to you to do well at your job as a zookeeper?

i. Do you feel that your job is vital to the survival of the animals under your care?

ii. Do you feel a commitment to the zoo?

a. To the individual animals you care for?

b. To the species of animal you care for?

III. At this time, I would like to ask you about your connection with the animals you care for.

a. Can you describe how well you know the animals you care for?

b. Do you feel you are connected to the animals you care for?

1. (if yes) Can you describe how?

2. (if no) why not?

IV. Finally, I would like to ask you about your sense of self as a zookeeper.

Expanding

Past

Do you feel your sense of who you are has changed since you began working as a zookeeper?

1. Why or why not and if so, how?

Explain

i. Was it important for you to become a zookeeper? Why or why not? Explain

Present

Building

Is your job as zookeeper currently important to your sense of self?

1 Why or why not and if so, how?
Explain

- i. Do you feel working as a zookeeper currently improves who you feel you are as a person? Why or why not and if so, how? Explain.

Future

Enhancing

In the near future, do you feel working as a zookeeper will affect how you feel as a person within the zoo setting?

1. Why or why not and if so, how?
Explain

- i. In the near future, do you feel working as a zookeeper will affect who feel you are as a person outside of work?

1. Why or why not and if so, how? Explain

****NOTE:** In that the methodology employed is that of semi-structured interview, questions contained on the interview schedule are not necessarily read 'verbatim' to each respondent. Rather, the overall general themes are conveyed while question wording may be modified to fit the experience of those interviewed and/or the interview situation.