

A PSYCHOBIOGRAPHICAL STUDY OF TEMPLE GRANDIN

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ABSTRACT

Psychobiographical researchers methodically formulate life histories and interpret them by means of psychological theories. The research typically focuses on exemplary and completed lives. The cases that are studied are usually of individuals who are of particular interest to society as a result of excelling in their particular fields, be they to benefit or detriment of society. Temple Grandin was chosen for this study using purposive sampling as she meets the psychobiographical requirement of being an extraordinary individual. As an individual with autism Grandin faced many challenges growing up. Despite a difficult and absent beginning, Grandin developed into a stable and scientifically creative adult who contributes to society. She excels as an animal scientist and designer of humane livestock handling facilities and has an international reputation for her contribution to the livestock industry and animal welfare. The primary aim of this study is to describe and interpret the life of Temple Grandin through Erikson's (1950/1973) theory of psychosocial development. A mixed method approach (Yin, 2006) was employed for the conduction of this study. The overarching data processing and analysis guidelines for this study were provided by Miles and Huberman (1994, 2002a, 2002b). The conduction of the processing and analysis of data was aided by Alexander's (1988, 1990) method of asking the data questions as well as an integration of Yin's (2014) time series analysis with Erikson's (1950/1973) *triple bookkeeping approach*. This study contributes to the development of psychobiographical research in South Africa as well as to personality and developmental theory.

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For Haggis, Kipper, and Hawk

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CHAPTER 1

INTRODUCTION

*I, a stranger and afraid
In a world I never made.*
(A. E. Housman)

1.1 Chapter preview

This chapter provides a general orientation to this psychobiographical study including an introduction to the research subject, Temple Grandin. The aim of the study is presented as well as a description of the context of this study which deals with the psychobiographical approach and theoretical framework. Lastly an overview of the chapters of the manuscript is presented.

1.2 Subject

Temple Grandin was chosen as the subject of this research by means of purposive sampling (Durrheim & Painter, 2006). Grandin was chosen as the subject as she is a successful and internationally recognised scientist, author, and activist in spite of struggling with autism. She is also purposively sampled as she may be classified as an individual who meets the general characteristics of a subject for psychobiographical research (McAdams, 1988a).

Grandin, who was named one of *TIME Magazine's 100 Most Influential People* in 2010 (Rafols, 2012), has been described as a modern *Dr Dolittle* (Baron-Cohen, 2005). In 1984, at the age of 36, she received her first award for *Meritorious Service* from the Livestock Conservation Institute (now known as the National Institute of Animal Agriculture) (“Temple Grandin Ph.D Professional Resume”, 2016). Grandin has subsequently received several honorary doctorates as well as many accolades for her contribution to both the fields of animal science and autism. These include the *President's Award* from the National Institute of Animal Agriculture, the *Animal Welfare Award* from the British Society of Animal Science, the *Industry Advancement Award* from the American Meat Institute as well as the *Brownlee Award for International Leadership in Scientific Publication, Promoting Respect for Animals, their Nature and Welfare* from the Animal Welfare Foundation of Canada, to name but a few (“Temple Grandin Ph.D Professional Resume”, 2016). In addition to the recognition Grandin has received for the

advancement of animal science and humane livestock handling, she has also received numerous awards for her autism activism such as, the *Double Helix Medal* for communication with the public on autism from the Cold Spring Laboratory, the *Lifetime Achievement Award* from the Florida Centre for Autism, the *Promoting the Power of Education Award* from the Arapahoe Community College, as well as the *Founder's Award* from the Autism Society of America (“Temple Grandin Ph.D Professional Resume”, 2016).

The choice of Grandin as a research subject was also influenced by the researcher's interest in her inspirational life story, as well as a question posed by Fellman (1986) with regard to psychobiographical research. Fellman (1986) questioned the purpose of psychobiographies that are done on individuals merely because they are interesting. According to Fellman the discipline of psychology has greater relevance when focused on attempting to lessen distress and “solve real human problems” (1986, p. 193) and that this should be incorporated into psychobiographical research. Although Fellman posed this argument in 1986, it is still relevant to psychobiographical research today. The reason that follows as to the choice of Grandin as a research subject provides an answer to Fellman's (1986) question with regard to this particular research. This reason for researching Grandin's life relates to her development as an individual living with autism. Grandin's early life was characterised by significant challenges (Grandin & Johnson, 2005; Grandin & Scariano, 1986/2005; O'Haire, 2013a; Rafols, 2012). She was born at a time when little was known about autism. As a toddler she was diagnosed with infantile schizophrenia and her parents were advised to have her institutionalised (Cutler, 2004). This diagnosis was later altered to severe autism.

At the age of five, Grandin's only means of communicating were screaming, spitting, humming, and throwing tantrums (Cutler, 2004; Grandin & Scariano, 1986/2005). Her mother acquired the help of psychologists, doctors, a speech therapist and a nanny, many of whom frightened Grandin in order to correct her behaviour (Cutler, 2004; Grandin & Scariano, 1986/2005). This merely traumatised Grandin. After years of tutoring and various therapies, Grandin's parents enrolled her in a main stream high school (Grandin & Scariano, 1986/2005). Grandin struggled both academically and socially. She was teased for her peculiar way of walking, her mannerisms, and inability to speak normally (Grandin & Scariano, 1986/2005). As a result, Grandin got

involved in fights and was eventually expelled from school. She was then enrolled in a special needs school, but still struggled (Cutler, 2004; Grandin & Scariano, 1986/2005).

According to Grandin animals enabled her to cope from an early age (Grandin & Johnson, 2005; Grandin & Scariano, 1986/2005). After witnessing cattle relaxing when being held in squeeze chutes to receive their vaccinations, she designed and built her own squeeze machine (Grandin & Scariano, 1986/2005). The doctors and psychologists working with Grandin viewed this as a manifestation of her illness and recommended that it be taken away from her (Grandin & Scariano, 1986/2005). Grandin's science teacher saw the value of her ease around animals and fascination with inventions (Carlock, 1986/2005; Rafols, 2012). He not only allowed her to use her squeeze machine while in his class, but also encouraged her to pursue a career in animal science (Carlock, 1986/2005; Grandin & Scariano, 1986/2005; Grandin & Johnson, 2005, 2009; Rafols, 2012). Grandin's motivation to combine her affection for animals with her fascination for inventing things led to her receiving her PhD in Animal Science as well as transforming the livestock industry (Grandin & Johnson, 2005, 2009; Grandin & Panek, 2013; Montgomery, 2012). She has an international reputation for having a "magical connection to animals" (Grandin & Johnson, 2005, p. 24). Grandin is currently a professor at the Colorado State University and owner of a company which designs humane cattle handling facilities ("Biography: Temple Grandin, Ph.D", 2016). Grandin's designs, research on reducing stress in animals, as well as the scoring systems she has developed to measure stress in animals are used in countries world-wide (Klaaste, 2014; Montgomery, 2012; Sutton, 2006).

With regard to Fellman's (1986) suggestion, Grandin was chosen for the purposes of this research as she struggled with autism while growing up, but developed into a productive adult. Researching Grandin's life may provide further insight into, (a) how her personality developed, (b) how she resolved developmental crises while struggling with autism, (c) the role that animals and her creativity played in her development and healing, as well as (d) other key factors that facilitated ego synthesis.

1.3 Aims of the study

There are three main objectives to this study. The primary aim is to describe and interpret the life of Temple Grandin through the use of Erikson's theory of psychosocial development (Erikson, 1950/1973). Secondly, the researcher aims to assess the suitability and usefulness of Erikson's theory (1950/1973), and thirdly, to make a contribution to the growing academic field of psychobiography. The researcher anticipates that the achievement of these objectives will (a) make a contribution to psychological knowledge and understanding of the development of extraordinary individuals (Kóváry, 2011), (b) contribute to the refinement of Erikson's developmental theory through analytical generalisation (Denzin, 1990; Irvine, 2013; Roberts, 2002; Syed & Seiffge-Krenke, 2013; Yin, 2014), (c) provide insight into the psychological development of persons with autism (O'Haire, 2013a, 2013b), (iv) contribute psychological knowledge to the emerging field of human-animal interaction (Griffin, McCune, Maholmes, & Hurley, 2011), as well as (d) contribute to the growing body of psychobiographical research in South Africa (Fouché & van Niekerk, 2010).

1.4 Context of the study

1.4.1 Research design

This study takes the form of a psychobiographical case study (McAdams, 1988a, 2009). This study employs a single-case research design which can be described as qualitative and morphogenic in nature (Runyan, 1982; Terre Blanche & Durrheim, 2006). This design allows for in-depth description and analysis of personal phenomena and also takes into consideration historical, societal, and political influences (Elms, 1994; Manganyi, 1983, 2013). This investigation will be conducted within the interpretive qualitative paradigm (Durrheim, 2006; Terre Blanche & Durrheim, 2006) as it attempts to portray and analyse the life history and psychological growth of Temple Grandin through Erikson's (1950/1973) theory of psychosocial development.

1.4.2 The psychobiographical approach

The purpose of psychobiographical research is to systematically formulate life histories and interpret them by means of psychological theories (Fouché & Van Niekerk, 2010; McAdams,

1988a). The research typically focuses on exemplary and completed lives (Carlson, 1988) and aims “to discern, discover or formulate the central story of the entire life, a story structured according to psychological theory” (McAdams, 1994, p. 12). The cases that are studied are usually of individuals who are of particular interest to society as a result of excelling in their particular fields, be they to the benefit or detriment of society (Fouché & Van Niekerk, 2010; McAdams, 1988a). The psychobiographical approach also enables researchers to examine the influence of historical, societal, and political factors on the development of extraordinary individuals (Clark, 2007; Manganyi, 2013; McAdams, 1988a; Ponterotto, 2013; Runyan, 2006).

During the last century psychobiography has established itself as a particular research genre and research methodology. In most instances it is qualitative, done through an interpretive paradigm, and takes the form of a single case study (Kóváry, 2011; Schultz, 2005a). With regard to knowledge generation at the level of the individual, the psychobiographical case study method is suited to research as it is idiographic and more specifically morphogenic in nature (Allport, 1962; Runyan, 1982). This approach takes a holistic view to researching the relationship between the components making up the individual as well as how the components or characteristics are structured (Allport, 1962; Lee & Tracey, 2005; Luthans & Davis, 1982).

1.4.3 Theoretical framework

This study employs Erikson’s theory of psychosocial development (Erikson, 1950/1973; McAdams, 2009; Miller, 2010) to offer a description and interpretation of Grandin’s personality development. Erikson’s theory is suitable for this study as it (a) offers sufficient structure for the morphogenic nature of psychobiography (Runyan, 1982), (b) provides a theoretical basis for the entire lifespan, (c) provides a possible explanation for ego failure or autism, (d) is relevant to current research (Irvine, 2013; Syed & Seiffge-Krenke, 2013; Trzebinski & Zieba, 2013), as well as (e) being particularly relevant to the illumination of Grandin’s development as a result of the theory encompassing elements on creativity and play, animals and nature, and the development of extraordinary ability (Erikson, 1956, 1964a, 1968a, 1969, 1977).

According to Erikson (Erikson, 1963a, 1964a; Miller, 2010) both genetic variables and the social environment influence the development of personality. Erikson viewed development throughout

the entire lifespan, in which individuals face eight critical developmental crises that need to be resolved, as being important (Erikson, 1950/1973; Miller, 2010). The outcome of each developmental crisis has the possibility for positive or negative effects on development (Erikson, 1950/1973; Miller, 2010). If a stage is successfully completed an ego strength develops (Erikson, 1950/1973; Monte, 1999). However, if the crisis of a certain stage is not resolved, complications are experienced during later stages (Erikson, 1950/1973; McAdams, 2009; Miller, 2010). Erikson was of the view that earlier developmental crises may still be resolved at any later stage (Erikson, 1950/1973; Miller, 2010). It is important to note that no stage may ever be resolved completely and that the major crisis of a particular stage is also present in some way in all other stages (Van Manen & Whitbourne, 1997). Erikson's (1950/1973) eight stages of psychosocial development along with his theories on creativity, animals and nature, and extraordinary individuals will be used to describe and interpret Grandin's development and the possible positive or negative effects on her personality and ego identity, which occurred at each psychosocial stage.

1.5 Overview of chapters

This study consists of five chapters. The first being this introductory chapter. Chapter 2 focuses on Erikson's psychosocial theory of personality development, critical concepts, his influence on psychobiographical studies, as well as the use of his theory in recent research. A theoretical overview of the psychobiographical approach as well as the research design and methodology are dealt with in Chapter 3. Previously many psychobiographies have included a *preliminary methodological considerations* section or chapter. While methodological considerations are necessary, this form of chapter has at times come across as yet another defense of psychobiography. Therefore, for this study the methodological considerations have been integrated into the research design and methodology chapter. The findings of this study as well as discussion thereof are presented in Chapter 4. Lastly Chapter 5 concludes this study by discussing the value and limitations of this research as well as providing future recommendations.

1.6 Chapter summary

This chapter has provided an overview of this study by introducing the reader to the research subject, Temple Grandin, outlining the aims of this study, as well as providing a brief preface to the psychobiographical method and the theoretical framework. Lastly an overview of the chapters that are to follow was presented.

CHAPTER 2

PSYCHOSOCIAL PERSONALITY DEVELOPMENT

Look deep into nature, and then you will understand everything better.
(Albert Einstein)

2.1. Chapter preview

This chapter provides an overview of personality and developmental theory as well as Erikson's (1950/1973) theory of psychosocial development which will be used to interpret Grandin's life. This will include a description of critical concepts and each psychosocial stage, as well as a discussion on Erikson's influence on psychobiographical studies. Lastly the use of Erikson's (1950/1973) psychosocial theory in current research as well as a critique of Erikson's (1950/1973) theory will be addressed.

2.2 Overview of Erikson's theoretical framework

This study employs Erikson's theory of psychosocial development (Erikson, 1950/1973; McAdams, 2009; Miller, 2010) to offer a description and interpretation of Grandin's development. It is important at the outset of this chapter to mention that psychosocial theory provides one possible framework for the interpretation of a life, as there is no single personality or developmental theory that can encompass the entirety of a life or all possible perspectives (Fancher, 2006). As psychosocial theory is the personality and developmental framework of choice for this research, reasons for this option will be provided.

Erikson's work grew out of the psychoanalytic tradition (Monte, 1999). He was influenced by Sigmund as well as Anna Freud, who trained him (Sollod, Wilson, & Monte, 2009). While Erikson was influenced by his predecessors in psychoanalysis he departed conceptually on many levels. His psychosocial theory developed a new way of thinking about people within the world that had not been previously recognised or researched (Erikson, 1963a; Sollod et al., 2009). An integral difference in Erikson's psychosocial theory was his emphasis on healthy development (Erikson, 1958a, 1958b, 1950/1973; Hoare, 2005). He theorised what form healthy development may take (Erikson, 1950/1973, 1975). Erikson believed that individuals, whether perceived as

psychologically ill or healthy, could move forward and develop a more integrated ego and sense of self (Erikson, 1975; Hoare, 2005).

In what may have been viewed as a drastic delineation at the time, Erikson's (1950/1973, 1958a) view of the libido was not merely sexual in nature. It also encompassed instinctual and motivational drives (Erikson, 1950/1973, 1958a). Although Erikson (1950/1973) recognised the influence of libidinal forces on development, his view was less deterministic than Freud's (Hoare, 2005). He acknowledged the person's perception and development of the self within family and society (Erikson, 1963a; Sollod et al., 2009). According to Erikson (1950/1973, 1975) individuals are active agents in the development of their egos as well as potential, which continues throughout the lifespan (Peedicayil, 2012; Sarason & Sarason, 2004). His (Erikson, 1950/1973, 1958b) outlook on morality and faith in adulthood also differed from Freud's views. According to Erikson, Freud took morality "for granted" (Erikson, 1964a, p. 145). Erikson (1950/1973, 1975) held the position that in the event of a constructive developmental outcome, adults would integrate the subsumed parental morality of childhood with the ideology of adolescence. In realising the aforementioned, individuals using the lessons and increasing maturity of adulthood may become ethically aware in thought and behaviour (Erikson, 1950/1973, 1975). Unlike Freud, Erikson acknowledged people's need for faith in themselves, society, and possibly a higher power (Erikson, 1950/1973, 1958b; Hoare, 2005). This faith may potentially be experienced through religion and/or spirituality (Erikson, 1950/1973, 1958b; Hoare, 2005). Erikson's departure from traditional psycho-analytical perception is of value as it allows for a more holistic view of possible factors influencing development to be considered.

Erikson's theory views personality from a lifespan developmental perspective. According to Runyan (1982) the development of personality is an ongoing process. Experiences and environments which people are exposed to influence the developing personality, which in turn influences which experiences and environments people will seek out (Runyan, 1982). Therefore there is an "interactive cycle" (Runyan, 1982, p. 212) between the person, family, society, and personality. McAdams (2006) defines personality as the "*patterning of dispositional traits, characteristic adaptations, and integrative life stories set in culture and shaped by human nature*" (p. xvii). The developmental perspective is concerned with age related behavioural and

psychological changes that take place across the lifespan (Runyan, 1988b; Santrock, 2014). For the above-mentioned reasons Runyan (1982) suggests that personality psychology - from a developmental perspective - is particularly relevant to psychobiographical research. Runyan's (1982) suggestion is strengthened by researchers (Roberts & Caspi, 2003; Smith 2005; Syed & Seiffge-Krenke, 2013; Thorne, 2004) who recommend that there be more integration of personality and developmental psychology and a greater focus on why changes in personality occur across the lifespan (McAdams & Olson, 2010; Syed & Seiffge-Krenke, 2013). Syed and Seiffge-Krenke (2013) propose that such research be conducted from an individual approach. This may not only provide explanations for changes in personality development, but also of what significance these changes are to the individual (Syed & Seiffge-Krenke, 2013).

According to Erikson (Erikson, 1963a, 1964a; Miller, 2010) both genetic variables and the social environment influence the development of personality. Erikson viewed development throughout the entire lifespan, in which individuals face eight critical developmental crises that need to be resolved, as being important (Erikson, 1950/1973; Miller, 2010). These stages are summarised in Table 2.1. The outcome of each developmental crisis has the possibility for positive or negative effects on development (Erikson, 1950/1973; Miller, 2010). If a stage is successfully completed an ego strength develops (Erikson, 1950/1973; Monte, 1999). However, if the crisis of a certain stage is not resolved, complications are experienced during later stages (Erikson, 1950/1973; McAdams, 2009; Miller, 2010). Erikson was of the view that earlier developmental crises may still be resolved at any later stage (Erikson, 1950/1973; Miller, 2010). It is important to note that no stage may ever be resolved completely and that the major crisis of a particular stage is also present in some way in all other stages (Van Manen & Whitbourne, 1997).

Erikson (1950/1973, 1964a, 1968a, 1968b, 1977) maintained that the historical time of an individual's birth, as well as the history of the particular culture and society cannot be separated from the individual's psychological development. Erikson developed this line of thought in his eight stages of the life cycle and elaborated on it in his psychobiographies of extraordinary individuals (Erikson, 1958b, 1969; Kóváry, 2011; Mazlish, 1976). He was one of forefathers of psychobiography and still influences the development of psychobiography as well as personality psychology (Denzin, 1989; Fouché & Van Niekerk, 2010; Sollod et al., 2009). While Levinson

Table 2.1: Erikson's eight stages of psychosocial development

Age	Psychosexual stage (Freud)	Psychosocial issue	Central Question	Associated virtue
Infancy	Oral	Trust vs. mistrust	How can I be secure?	Hope
Early childhood	Anal	Autonomy vs. shame & doubt	How can I be independent?	Will
Childhood (play age)	Oedipal	Initiative vs. guilt	How can I be powerful?	Purpose
Childhood (school age)	Latency	Industry vs. inferiority	How can I be good?	Competence
Adolescence and young adulthood	Genital	Identity vs. role confusion	Who am I? How do I fit into the adult world?	Fidelity
Young adulthood		Intimacy vs. isolation	How can I love?	Love
Mature adulthood		Generativity vs. stagnation	How can I fashion a "gift"?	Care
Old age		Ego integrity vs. despair	How can I receive a "gift"? (gift of life)	Wisdom

Adapted from McAdams (2001).

has been the favoured theorist in South African psychobiographical studies (Fouché & Van Niekerk, 2010), Erikson's (1950/1973) theory of psychosocial development has also been used and shown to be relevant in many varying contexts (Fouché & Van Niekerk, 2010; Sollod et al., 2009). Erikson's place in the history and development of psychobiography will be discussed in section 2.10.

According to Elms (2005) psychobiographical studies seldom include an explanation as to why the researcher chose a particular theoretical framework, even though such discussions may aid researchers with future theoretical selections. For this research Erikson's theory will be used as it (a) offers sufficient structure for the morphogenic nature of psychobiography (Runyan, 1982), (b) provides a theoretical basis for the entire lifespan, (c) provides a possible explanation for ego failure or autism, (d) is relevant to current research (Irvine, 2013; Syed & Seiffge-Krenke, 2013; Trzebinski & Zieba, 2013), as well as (e) being particularly relevant to the illumination of Grandin's development as a result of the theory encompassing elements on creativity and play, animals and nature, and the development of extraordinary ability (Erikson, 1964a, 1956, 1968a, 1969, 1977).

Côté and Levine (1987, 1988) and more recently Côté (2006) and Hoare (2013) have observed that when Eriksonian terminology is used critical concepts are often diminished or disregarded. Brandell (2010) furthers this by stating that some reviewers tend to “misinterpret and oversimplify” (p. 148) the complexity of Erikson’s developmental theory. This may lead to a disintegrated version of psychosocial theory (Erikson, 1950/1973) being applied to a life history. It is intended that this chapter will clarify Eriksonian terminology, methodology, and the theory of psychosocial development. Specific Eriksonian concepts that have been particularly ignored or used out of context will be dealt with in the following sections (2.3.-2.8). These sections will therefore provide descriptions of concepts that are integral to Erikson’s (1950/1973) psychosocial theory in general and more specifically to the eight stages of the life cycle. These concepts are Erikson’s *triple bookkeeping approach*, theory of the ego, *epigenetic principle* and the life cycle, ego failure or autism, play, as well as animals and nature. Ego failure, play, and relationships between humans and animals are pertinent themes that run throughout Erikson’s work. However, they have received little attention in the literature regarding Erikson’s work and therefore have also been included for discussion. These particular concepts have also been included as they will be useful for the interpretation of Grandin’s life. As an individual with autism her psychosocial development was facilitated by her artistic abilities, interactions with animals in general, and more specifically her work as an animal scientist (Erikson, 1950/1973; Grandin & Johnson, 2005; Grandin & Scariano, 1986/2005).

2.3 Triple bookkeeping approach

Erikson’s triple bookkeeping approach (Erikson, 1950/1973) has been suggested for employment in the design of qualitative studies (Johnson-Bailey, 2004) as well as the methodology of psychobiographical studies (Belzen, 1997; McAdams, 1988a). Erikson (1950/1973), however, intended it as a general approach to all life data whether in the therapy setting, clinical training, or in the research process. The approach provides an empathetic stance and aids the objectivity of the data selection and/or analysis, as it attempts to take the ‘whole’ person into account (Erikson, 1950/1973; McAdams, 1988a).

This approach engages the researcher or therapist with three processes of the “human life” (Erikson, 1950/1973, p. 33) that influence one another and exist on a continuum. These are the

individual's (a) physical and mental faculties, (b) ego development and ways of dealing with situations and emotions that arise, and (c) development within a particular society and family at a certain time in history (Erikson, 1950/1973, 1964b; McAdams, 1988a). All three processes are inter-related and should not be analysed in isolation (Erikson, 1950/1973, 1964b). Any item, whether data in the research process or a symptom in the therapy setting, that may appear to be from one segment of the "trichotomy" (Erikson, 1950/1973, p. 32), is relevant and significant in relation to the other two segments. This triple bookkeeping approach (Erikson, 1950/1973) may be considered a hermeneutic circle of individual life data. According to Erikson (1950/1973) such an approach may not lead to a succinct pathological diagnosis, but it should lead to a more in-depth understanding of the individual.

2.4 Theory of the ego

Erikson (1950/1973, 1964a, 1968a) theorised that the ego was not an inactive agent or "pathetic compromiser" (Erikson, 1964a, p. 147) caught between the forces of the id and superego. The ego which is partly unconscious and predominantly conscious has adaptive, defensive, protective, and balancing properties (Erikson, 1950/1973, 1964a; Feist & Feist, 2013). Erikson (1950/1973) viewed the ego as an "inner institution" (p. 188) that maintains the necessary inner order of individuals so that individuals may function in the outer order of the immediate environment and society at large (Feist & Feist, 2013). While the ego does not constitute the individual, it may be viewed as the "guardian" of "individuality" (Erikson, 1964a, p. 148). The ego with its selective, synthesising, and integrative functions is essential to personality formation. It maintains individuals' coherence in time and space, while transforming potential and experience (Erikson, 1950/1973, 1964a; Syed & Seiffge-Krenke, 2013). The ego therefore provides unity and understanding of the self as a bodily and emotional being that interacts with and is influenced by environment, society, and historical time (Erikson, 1950/1973, 1964a, 1968a). People in the individual's environment may facilitate or hinder the growth, potential and strengthening of the ego as it encounters eight critical crises in the life cycle (Erikson, 1950/1973, 1964a, 1968a). The founding of hope and will in early development are fundamental to the ego remaining "intact" (Erikson, 1964a, p. 118) and being able to provide a synthesising function. While the ego may be supported or hindered at any stage, Erikson maintained that the ego has surprising "powers of recovery" (Erikson, 1958b, p. 8).

When children are young the immature ego is vulnerable and may be dominated by the superego (Côté & Levine, 1987; Erikson, 1968a; Hoare 2013). The ego's relationship to the superego and id transforms in adolescence when individuals become physically and mentally more mature (Côté & Levine, 1987; Erikson, 1968a). A desirable outcome of adolescence is an ego-dominated personality (Côté & Levine, 1987; Erikson, 1968a). This will enable individuals, who encompass a greater sense of self and orientation to reality, to facilitate progression and synthesis throughout the stages of adulthood (Côté & Levine, 1987; Erikson, 1968a; Sollod et al., 2009).

According to Erikson (1968a) the ego is constituted of three interrelated parts which co-ordinate balance or psychological homeostasis. These are the body ego, ego ideal, and ego identity (Erikson, 1968a). The body ego encompasses people's perception of their bodies as well as experiences of and with their bodies in time and space (Erikson, 1968a; Feist & Feist, 2013). The body ego allows people to physically differentiate themselves from each other and objects in the world (Erikson, 1968a; Feist & Feist, 2013).

The second part, the ego ideal is related to the ideals of a particular era (Erikson, 1968a). It provides a comparison point for individuals of who they are and who they wish to be (Erikson, 1968a; Feist & Feist, 2013). Ego ideals may be represented in people individuals admire or in mythical and fictional heroes (Erikson, 1968a). The ego ideal manifests itself as a challenge as individuals continuously strive to attain certain goals or perceptions of the self but never quite reach them (Erikson, 1964a, 1968a). According to Erikson the nature of a belief in deities or a God may be viewed as a necessary projection of an ego ideal "onto a super-human agency" (Erikson, 1964a, p. 132) who individuals may revere and try to emulate but may never transcend.

The third part of the ego is ego identity (Erikson, 1968a). Ego identity is the core of selfhood that is maintained within and in spite of social reality (Erikson, 1968a; Feist & Feist, 2013). It refers to the transformation of the ego's sense of itself from the individual's birth until death (Erikson, 1968a, 1974). Unlike the ego ideal, ego identity is based on who individuals are in reality and what goals they have actually obtained (Erikson, 1968a). Ego identity needs to be distinguished from role identity which is particularly present in the identity stage (Côté & Levine, 1987; Erikson, 1968a). While individuals may play or experiment with various roles in society it is not

who they are on a continuum (Côté & Levine, 1987; Erikson, 1968a). Therefore, the identity stage of the life cycle is integral to the individual learning to distinguish the sense of self (ego identity) from role identity (Côté & Levine, 1987; Erikson, 1968a). In doing so the individual's ego identity will be strengthened and be less able to be individuated in later stages (Côté & Levine, 1987; Erikson, 1964a, 1968a). Erikson defined the continuity of ego identity as “what I am in space, changes in time; what I was is now in me; and what I become is more than the sum of all that I have been” (Erikson, 1974, p. 81).

2.5 The epigenetic principle and the life cycle

The epigenetic principle refers to the unfolding, progressive and normative development of the ego through eight stages of the life cycle (Capps, 2012a; Erikson, 1950/1973; Peedicayil, 2012). Erikson (1950/1973) derived the term from recognising the influence of Freud's physiological training on his theory of psychosexual stages and relating it to *epigenesis*. Epigenesis is the study of embryonic development through sequential and normative stages each reliant on the other for healthy development of the fetus (Brandell, 2010; Peedicayil, 2012). While there are similarities between the epigenetic principle and epigenesis (Peedicayil, 2012), Erikson did not include the time in utero as a stage in his psychosocial schedule of the ego.

Relating the development of the ego and personality to that of an epigenetic sequence Erikson (1950/1973, 1958b) posited that there is a step by step maturation (Sollod et al., 2009). The ego therefore matures through psychosocial stages, each with its own time of ascendancy and characteristic crisis (Erikson, 1950/1973). Erikson theorised each ego stage with its likely focus and inherent crisis on the ‘usual’ expectations of humans at a given age (Erikson, 1950/1973, 1968a; Peedicayil, 2012; Sollod et al., 2009). These expectations are based on genetic variables as well as social environment (Erikson, 1950/1973, 1958b, 1968a; Sollod et al., 2009). Societies and cultures may differ with regard to the physical, cognitive and emotional expectations of infants and growing people (Erikson, 1950/1973). However, each society and culture does consider there to be a “proper rate and proper sequence” (Erikson, 1950/1973, p. 61) which are critical to normal or healthy development. Even though each stage has a primary focus and occurs at a specific stage in the life cycle, each stage and its elements occur in and are integral to all other stages (Erikson, 1950/1973).

Erikson referred to the human life cycle as an “integrated psychosocial phenomenon” (1964a, p. 114). Each person’s life stages are therefore intertwined with other people’s life stages, leading as well as pushing each other along from generation to generation (Erikson, 1964a). This generational cycle, as well as the expectations and tension it may create, guide individuals to the psychosocial crisis inherent in each stage (Erikson, 1950/1973, 1964a, 1968a; Miller 2010). Erikson (1950/1973, 1964a) was adamant that the term crisis did not refer to a catastrophe, although it may turn into one. Crises are the psychosocial concerns, tasks, and events which are more likely to occur in a particular stage (Erikson, 1950/1973; McAdams, 2009; Sollod et al., 2009). These tasks or events that individuals face, provide opportunities for ego growth and personality transformation (Erikson, 1950/1973, 1964a; Sollod et al., 2009). According to Erikson (1950/1973, 1964a), the crisis is an opportunity for potential to be revealed and individuals’ capabilities to be integrated in the personality. Each crisis with its opposing poles or syntonic (positive) and dystonic (negative) elements, exists to some degree in every other stage (Erikson, 1950/1973; Hoare 2013). If a later crisis is severe, previous crises may resurface (Erikson, 1964a). In order for the developing ego to retain balance, it is necessary that both syntonic and dystonic elements of a crisis are assimilated (Erikson, 1950/1973). However, the syntonic or adaptive integration of how to deal with a task or psychosocial concern needs to outweigh the dystonic or maladaptive characteristics (Erikson, 1950/1973; Hoare, 2013; Schultz & Schultz, 2013).

Erikson maintained that if individuals did not experience crises, there would not be “human strength” (1975, p. 259). Erikson (1964a) held that the inherent strength of the ego was often ignored as it is neither easy to classify nor measure. However, after years of clinical experience and observing various cultures, cases and life histories, Erikson (1964a) suggested that ego synthesis or its strengths (virtues) cannot be ignored. For “without acknowledging its existence, we cannot maintain any true perspective regarding the best moments of man’s balance – nor the deepest of his tragedy” (Erikson, 1964a, p. 112). According to Erikson (1950/1973, 1964a) personality and ego transformation can only occur through conflict. This transformation may be painful as it requires individuals to consciously face the reality of their internal as well as environmental positions in order to come to a new understanding of themselves and their situations (Erikson, 1950/1973, 1964a). Individuals may not have the ego capacity or support to

face a particular crisis (Erikson, 1950/1973). This may lead to a core pathology or maladaptive tendencies being incorporated into the ego (Erikson, 1950/1973). Erikson (1950/1973, 1968a, 1975) nevertheless maintained that earlier crises may be resolved at any later stage. Healing or strengthening of the ego may come from unlikely encounters in the world (Erikson, 1964a). It is therefore necessary to consider the individual's subjective reality in order to understand how unforeseen people, creatures, objects or situations may enable the ego to heal, strengthen and adapt (Erikson, 1950/1973, 1964a).

2.6 Autism

This section will briefly locate Erikson's theory regarding ego failure and autism within the historical developments surrounding understanding autism. This will be followed by Erikson's description of characteristics that individuals with autism may possess or display, the development of autism in relation to psychosocial stages, as well as prospects for healing.

2.6.1 Historical developments surrounding autism

During the first half of the nineteenth century infantile and childhood developmental disorders were referred to as some form of psychosis (De Lacey & King, 2013; DeMyer, Hingtgen, & Jackson, 1981; Frank-Briggs, 2012; Rutter, 2005). Infantile schizophrenia, childhood schizophrenia, and infantile psychosis were used to describe what is known today as autism (De Lacey & King, 2013; Frank-Briggs, 2012). During the 1950's the term autism began to be used more frequently (Kanner, 1971). However, it was used interchangeably with infantile or childhood schizophrenia, psychosis, and retardation to refer to young persons who displayed any form of "ego fragmentation" (Kanner, 1971, p. 18). During the 1960's and 1970's schizophrenia and autism came to be recognised as distinct disorders (De Lacey & King, 2013; DeMyer et al., 1981; Frank-Briggs, 2012). The difficulty and danger of labeling infants as having schizophrenia also became apparent (DeMyer et al., 1981). Therefore, while terms denoting psychosis were previously used to describe symptoms of autism, autism became the preferential term for a recognisable developmental disorder (De Lacey & King, 2013; Frank-Briggs, 2012).

Erikson's initial reference to infantile schizophrenia (1950/1973) and later to autism (1956, 1968a, 1977) for infants or growing people with ego failure aligns with the historical change in

terminology. Erikson's (1950/1973) weariness with regard to referring to infants as having schizophrenia may be ascertained from his placing the term in inverted commas, which he did not do thereafter when using the term infantile autism. However, whether Erikson was referring to infantile schizophrenia or autism, he described individuals with the same or similar characteristics and all struggling with either ego weakness or, the more debilitating, ego failure (Erikson, 1950/1973, 1956, 1968a, 1977). Therefore, Erikson's (1950/1973) theory surrounding infantile schizophrenia will also be utilised in this section on autism.

2.6.2 Characteristics displayed by individuals with autism

Erikson (1950/1973) identified several characteristics that individuals with ego failure may encompass or display. These will be discussed in the following sub-sections.

2.6.2.1 Inability to interact and fear of physicality

For various reasons individuals with ego failure struggle to develop and maintain relationships with other individuals. Relationship difficulties may occur as individuals with ego failure are withdrawn into themselves. This is potentially as a result of being unable to screen what and who is safe, and therefore what is allowed to pass into their inner world from the outer world. Their senses may feel overpowered. People, sights, and sounds may be perceived as intruders. Therefore, children may cover their eyes or ears or turn their heads away. There may be a "violent objection" (Erikson, 1950/1973, p. 190) to physical contact with others. They may be pre-occupied with or obsessed with imaginary or far away objects or machines, but appear distant from any awareness or interest in other human beings. Children may also appear not to care whether they are a part of a family or how their families treat them. However, there are signs and improvements in some children when they are with their families instead of in institutions. This suggests that they may care on some level and have a need to be with their families. The boundary between the self and others is not accurate in individuals with ego failure. The perception of the first developmental stage that pleasure comes from within and pain from without remains.

2.6.2.2 Communication difficulties

Relationship difficulties are exacerbated for individuals with ego failure as they struggle to communicate. The causal connection of the self to others and speech is lost or impaired. If verbal communication begins to develop there may be a sudden regression or movement away from speech and communication in some children. It may appear as if such children have turned “against speech” (Erikson, 1950/1973, p. 192) and possibly the other senses as well. Meaning and communication may be replaced with repetitive phrases or incoherent sounds. Even if these children do learn to communicate, difficulty with differentiating between the active and passive as well as ‘I’ and ‘you’ may remain problematic.

2.6.2.3 Peculiar ways of relating to the world

Individuals with ego failure may appear to have a strange physicality, as well as peculiar way of thinking about the world and other people. There is often a “desperate intensity” (Erikson, 1950/1973, p. 194) and repetition to the actions of these individuals. They may display tense and abrupt movements. There may be an inability to concentrate on tasks and sometimes extreme disorientation. These individuals may have a good memory, but are nevertheless often unable to develop and maintain an ego identity. Individuals with ego failure may be impulsive and withdrawn for no apparent reason, but they are also often driven. They may be self-punitive and view the world in black and white terms. If something is perceived as offensive it must be eliminated. Despite the developmental difficulties that these children and adults face, some may have extraordinary abilities and may display isolated and rapid advancement of “special faculties” (Erikson, 1950/1973, p. 200).

2.6.3 Autism and psychosocial development

More is known today about autism than in previous decades. However, the exact cause or causes of autism remain unidentified (De Lacey & King, 2013; Rutter, 2005). Whether the cause is biological, psychological, or both, environment, as well as the nature of care given has shown to influence individuals with the condition and their outcome (Frank-Briggs, 2012). This view was also maintained by Erikson (1950/1973, 1956, 1968a, 1977). Much blame for children developing autism has been laid on mothers and their not giving infants adequate nurture

(Erikson, 1950/1973; Frank-Briggs, 2012; Kanner, 1971). In some cases it was believed that this was done purposefully, in others because of some unidentified deficit in the mother, or because the mother was merely unable to attend to the infant sufficiently (Erikson, 1950/1973; Frank-Briggs, 2012; Kanner, 1971). According to Erikson (1950/1973, 1968a) even if a mother were not completely available or did not give an infant adequate care, it is debatable whether this could disrupt the infant's functioning and development to such a degree that ego failure or autism would occur. Erikson (1950/1973, 1968a) did not exclude the mother-child relationship as a cause of autism nor negate its influence on children with autism. However, he viewed it as one possible cause as many children with tragic and debilitating beginnings do not develop autism (Erikson, 1950/1973, 1968a).

According to Erikson (1968a) very little is known about the "earliest and deepest strata of the human mind" (p. 104), which has made understanding the development of autism difficult. Difficulty recognising the onset of autism is exacerbated when infants draw away from their caregivers before they are old enough for it to be noticeable (Erikson, 1950/1973). In some cases there may not be any suggestible 'outside' cause (Erikson, 1950/1973, 1968a). Erikson did however suggest some possibilities. These may be biological (Erikson, 1950/1973), genetic (Erikson, 1956, 1964a), or some individuals may be particularly sensitive or frustrated (Erikson, 1968a). This sensitivity and frustration may prevent some infants from being able to connect with their mothers or other individuals to the extent that they turn away and within (Erikson, 1968a). Other causes may be a "severe" physical or sexual trauma (Erikson, 1968a, p. 179), or an event which separates infants from their home environment, such as needing an operation or a stay in the hospital (Erikson, 1968a). The above mentioned 'causes' may result in a separation and negation of mutuality which is never overcome (Erikson, 1977). Parents may deny or rationalise the extent of their infant's or child's autism (Erikson, 1956, 1968a). This prevents children from receiving the necessary and specific care and may aggravate the condition (Erikson, 1956, 1968a). According to Erikson (1956, 1968a) the extent of problems faced in infancy is a likely indicator of later functioning.

Whatever the cause may be, infants and children with autism withdraw to the extent that trust, hope, and the mutuality of recognition are "forfeited" (Erikson, 1977, p. 89). Instead of growing

individuals developing an ego identity, the ego struggles for coherence, and the world and people in it become estranged (Erikson, 1977). The inability of infants to feel a state of equilibrium in relation to their primary caregivers may influence the development of a sense of basic mistrust (Erikson, 1964a, 1968a). Infants or children that appear to be developing normally may succumb to what appears like a sudden and “total inner change” (Erikson, 1968a, p. 78). It is as if an attempt at ego balance and wholeness are abandoned. This may be because of “accidental or developmental shifts” (Erikson, 1968a, p. 81) within the being and results in *totalism*. Erikson (1956, 1968a) held the position that to label such a change as bad or pathological was not useful. This neither enables understanding of the change, nor does it provide necessary and suitable assistance to individuals (Erikson, 1956, 1968a). Erikson (1968a) viewed this change as a potentially necessary way of dealing with certain experiences and acknowledged its survival value.

The sense of basic mistrust may align itself with totalism as infants are unable to incorporate the outer world into their inner beings (Erikson, 1968a). This may be viewed in terms of total withdrawal in individuals who are at unease with themselves and others (Erikson, 1956, 1968a). Overarching basic mistrust develops when infants’ egos are unable to balance and integrate difficult or traumatic experiences (Erikson, 1968a). It is as if the negative incidents come to be felt and viewed as the totality of experience. While this withdrawal state may be necessary for survival, it becomes problematic if individuals cannot regain some sense of ego synthesis or coherence, leading to this withdrawal state becoming a permanent way of being (Erikson, 1956, 1968a). The egos of totally withdrawn individuals find repetition and constant testing of the environment necessary in order to continually re-integrate experience (Erikson, 1950/1973). This is because individuals, whose egos are struggling or failing, need to gain some sense of the trustworthiness of the experience of events in the moment (Erikson, 1950/1973).

Whether autism has biological, genetic or environmental causes, it results in psychosocial difficulties. In individuals with ego failure or autism there is a disjunction between the individual’s physical experience of being in the world and the body ego’s integration of such experience (Erikson, 1950/1973). This leads to resistance of physical contact and ineffectual communication (Erikson, 1950/1973). Learning to speak is a primary function that supports

individual autonomy as well as an ability to expand social relations (Erikson, 1956). Speech is related to signs and facts which can be internalised into ego identities and ego ideals, as well as communicated (Erikson, 1956). It enables individuals to define who they are and who they are in relation to others (Erikson, 1956). Speech, which is often impeded in individuals with autism, has a social value and provides support for experiences which may encourage ego growth (Erikson, 1956). Individuals who are withdrawn, struggle to communicate, and have a sense of basic mistrust may develop a conscious and “active mistrust” (Erikson, 1964a, p. 89). Such individuals may begin to “*trust nothing but mistrust*” (Erikson, 1956, p. 89). Growing people with ego failure or autism face ever increasing psychosocial difficulties (Erikson, 1956, 1968a). This along with actively distrusting the self and others may result in individuals consciously, and sometimes purposefully, withdrawing and escaping to a “private utopia” (Erikson, 1956, p. 117) and becoming a “majority of one” (Erikson, 1956, p. 117).

By the time individuals with ego failure or autism reach adolescence they may not have developed an ego identity (Erikson, 1956, 1968a). Adolescence particularly exacerbates earlier psychosocial crises (Erikson, 1956, 1968a). The increased focus on relationships, physical intimacy, expectation to choose an occupation or life path, as well as self definition and competition may place further strain on the ego struggling for coherence (Erikson, 1956, 1968a). Even if individuals have begun to recover and maturation of the ego and development of some form of ego identity are noticeable, the expectations of adolescence may cause individuals to regress to previous introverted states (Erikson, 1956, 1968a). Individuals with a history of autism may struggle with the expected level of personal engagement with others and self delineation (Erikson, 1956, 1968a). This may lead to ongoing introspection and testing of the self to the detriment of the ego (Erikson, 1956, 1968a). Ego synthesis and continuity will be disrupted or further disrupted in some individuals (Erikson, 1956, 1968a). This may result in individuals with autism feeling ashamed, alone, disconnected, and as if life is happening to them (Erikson, 1956, 1968a). The already distrusting individual may lose any trust that was gained in the self or others (Erikson, 1956, 1968a). The ego may wish “to let itself die” (Erikson, 1956, p. 82) in order to form some identity.

While Erikson (1956, 1958) viewed adolescence as a potentially devastating time for individuals with autism, he also saw it as a potential turning point. Any developmental progress and attainment of ego functionality that may have been “relinquished” (Erikson, 1956, p. 94) can be regained and built on. Erikson (1950/1973) suggested that “extraordinarily consistent” (p. 193) encouragement is needed for infants and children with ego failure to learn to trust themselves, others, and the environment. This will aid the ego in learning to master its own body and sensory organs and to develop an ego identity (Erikson, 1950/1973). This too applies to adolescents struggling with autism and may enable previous developmental crises to be resolved, and identity diffusion to be circumvented (Erikson, 1950/1973, 1956, 1968a). Erikson (1956, 1968a) held the position that in order for healing to occur, individuals with autism or ego failure, need consistency of both caring people and environment. However, new experiences that are uncomplicated and straightforward are necessary to allow individuals opportunities to experiment with the most basic forms of trustful mutuality (Erikson, 1956).

2.6.4 Prospects for healing

According to Erikson (1956, 1968a), for healing and recovery to take place, it is imperative that therapists and significant individuals do not merely view people with ego failure or autism as sick or deviant. Merely pathologising struggling individuals may encourage them to choose the negative identity and to become as they are viewed and treated (Erikson, 1956, 1964a, 1968a). Erikson (1956, 1968a) did not negate that the reality of the individuals’ ego states and situations should be addressed, nor that some individuals may remain permanently and totally withdrawn. However, individuals with autism need patient and consistent recognition in order to learn to recognise others, and to understand themselves as active agents in the world (Erikson, 1956, 1968a). Individuals with autism should be encouraged to develop their abilities and talents (Erikson, 1956, 1968a). If the development of abilities is encouraged instead of pressured, it may aid individuals with communication, relating to others, and possibly provide a potential occupation (Erikson, 1956, 1968a). According to Erikson (1956), in light of the afore-mentioned, it is not surprising that recovery often occurs with the realisation and awareness of previously latent talents or artistic abilities. Erikson (1956, 1968a) reasoned that the connection between pursuing creative abilities and recovering from ego failure or autism is significant, and therefore requires further research. If ongoing experimentation with trusting other individuals, as well as a

focus on abilities is permitted, individuals with autism may begin to integrate experiences and develop ego coherence, “even though they may go before they come, deny before they give, seem indifferent before they, again, become attentive” (Erikson, 1956, p. 96).

2.7 Play

Erikson (1950/1973, 1956, 1964a, 1977) held the view that play and creativity are integral to healthy psychosocial development and ego synthesis across the lifespan. However, play is often a neglected concept in society and in adult psychology (Erikson, 1977). Children’s play is frequently viewed as mere make believe and irresponsible action, while adults only ever purposefully play if, and when they take time out for recreation (Erikson, 1977). According to Erikson (1977) when such views are maintained, the creative, as well as healing aspects, and potential of play and the imagination are lost. This section addresses Erikson’s views on play throughout the lifespan, the influence of play and creativity for psychosocial development and healing, as well as the development of extraordinary creativity.

2.7.1 Play during childhood and the beginnings of extraordinary creativity

Erikson (1950/1973) defined play as “a function of the ego, an attempt to synchronize the bodily and social processes with the self” (p. 204). Play demonstrates the ego’s abilities and endeavours at rejuvenation and “self cure” (Erikson, 1950/1973, p. 204). The imagination and play are mediators between fantasy and reality (Erikson, 1950/1973, 1977). Playgrounds take on different forms depending on the age of the individuals concerned (Erikson, 1977). Playgrounds, although often based in reality, are temporary worlds (Erikson, 1950/1973, 1977). In these temporary worlds various concerns may be worked through, whether it is an emotional difficulty a child is experiencing, an idea the working individual needs to process, or a vision a particular leader needs to remodel (Erikson, 1950/1973, 1977). If individuals are struggling in one area of their lives or with a particular aspect of their egos, play and creativity may facilitate learning, self expression, healing and synthesis (Erikson, 1950/1973, 1977). Play is therefore both cathartic and functional for the ego (Erikson, 1977).

Infants see and scan the environment for a long period before they have the motor co-ordination to act in or on their surroundings (Erikson, 1977). They begin to establish their visionary field

which will later become a playground (Erikson, 1977). Adults may not notice when infants' play begins (Erikson, 1950/1973). It is autocosmic and may not be recognised as play (Erikson, 1950/1973). Infants' play initially centers on their own bodies and senses (Erikson, 1950/1973). An example is infants playing with their own toes or hands. They experiment with their senses by looking at things, closing and opening their eyes, as well as making sounds (Erikson, 1950/1973). As infants grow their play extends to the primary caregiver, other individuals, as well as objects in their environment (Erikson, 1950/1973). For example, an infant may tug on an adult's arm or clothes in order to see what the reaction will be. Infants' play is developed in the interplay with their primary caregivers (Erikson, 1950/1973, 1977). In this regard play enters the psychosocial arena as hope is formed by seeing and being seen, which establishes mutuality of recognition (Erikson, 1950/1973, 1964a, 1977). If infants' play is not recognised there is no interplay nor mutuality of recognition. This may result in infants and growing individuals either becoming violent in order to get a reaction and to be noticed, or conversely withdrawn (Erikson, 1950/1973, 1977).

As children develop both cognitively and physically their play further integrates objects, other individuals, and the imagination. This play arena is referred to as the microsphere (Erikson, 1950/1973). However, if children's play is threatened by others, especially older individuals, or if there is a threat that their toys may be taken away, they may become anxious (Erikson, 1950/1973). This anxiety may cause children to regress or withdraw to the autosphere (Erikson, 1950/1973). This may include daydreaming, thumb sucking, or some form of self soothing (Erikson, 1950/1973). If there is a safe space for children to play they will learn how to master and utilise toys, and become accustomed to dealing with and working through traumatic or difficult events through play and the imagination (Erikson, 1950/1973, 1977). This occurs as children play out past difficulties or events and project them onto their toys (Erikson, 1950/1973, 1977). Through such play children may regain a sense of stability, autonomy and ego synthesis, as well as develop their creative potential (Erikson, 1950/1973, 1977). According to Erikson (1977) there is a delight in play. This delight may be necessary for survival as childhood is often not as utopian and carefree as some may make it out to be (Erikson, 1977).

Through play children train their willpower and develop a sense of purpose (Erikson, 1964a). The imaginary arena of play facilitates children's learning to focus and concentrate their efforts (Erikson, 1950/1973, 1964a). Children may play in order to deal with past negative experiences as well as to test themselves, reality, and their expectations (Erikson, 1964a). Through the repetition of play children learn to master their abilities as well as prepare for future endeavours (Erikson, 1964a, 1977). By pretending to be various roles such as a mother or father or various occupational roles, children gain a sense of what these roles may feel like (Erikson, 1964a). This form of imaginative action allows children to start testing possible future identities and occupations at an early age, and to 'examine' them in relation to their abilities, fascinations and to what they enjoy (Erikson, 1964a, 1977). Play for children as well as adults is an "intermediate reality" (Erikson, 1964a, p. 121). It allows the ego to knit together inner and outer processes so that individuals are not overwhelmed (Erikson, 1950/1973, 1964a). Children may express through play and creative activities more than they are able to say in words (Erikson, 1950/1973, 1977). As children enter pre-school their play enters the macrosphere and is shared with others (Erikson, 1950/1973). Whether children are in pre-school or have just entered school, solitary play remains vital and necessary as it facilitates the ego's recovery and processing of emotions (Erikson, 1950/1973). Such solitary play or creative time may also be necessary for the adult ego's recovery and rejuvenation.

During the school age, play energy is transformed into creative products (Erikson, 1950/1973). Children need to learn how to make their imaginings communicable (Erikson, 1950/1973, 1977). When children are older they may become aware of their feelings and thoughts through play and creative activities (Erikson, 1977). This form of play may facilitate awareness about themselves, their circumstances, and possibly their community or society (Erikson, 1977). As children develop they may employ what they learn about themselves through play and creative work for suitable action (Erikson, 1977). Throughout the childhood stages the imagination can aid children in dealing with their changing bodies and create a sense of unification between the mind and body (Erikson, 1977). Experimenting with imaginary roles and creative images also provides children with a safe space to dream about possible future realities and selves, and to form an ego ideal (Erikson, 1977). The ego ideal in turn provides children with an aspect of themselves that they can look up to as well as aspire to (Erikson, 1977). During adulthood some individuals may

fulfill their imagined roles or employ their ego ideals and creativity in extraordinary ways (Erikson, 1977). Human propensity as well as the potential of the imagination can be observed throughout childhood play (Erikson, 1977). If this imagination or creative ability is harnessed and accepted, it can be used in the more social interplay of school and work (Erikson, 1977). Acknowledged and recognisable creative models may drive future occupations and may potentially become extraordinary visions or counter-visions in adulthood (Erikson, 1977).

The play of adolescents, builds on the means of playing and creative development of the previous stages (Erikson, 1977). At this stage play not only concerns creative efforts or ideas, but also often revolves around role play and social play (Erikson, 1950/1973, 1956, 1977). According to Erikson (1956) some diffusion during adolescence is normal. This diffusion should be considered to be part of social play and is a successor to children's imaginary play (Erikson, 1956). While adolescents' play is not make believe, it may take on the form of illusions and in more extreme cases delusions (Erikson, 1956). It is necessary for ego development that adolescents still play with others, be it in less formal social interactions or cajoling, or participating in more formal activities such as sports or other extra-murals (Erikson, 1956). Adolescents also play in terms of experimentation, fantasising, and some forms of introspection (Erikson, 1956). Introspection as well as daydreaming may be viewed as self play and necessary in a similar sense to younger children's isolated play, which is autocosmic and restorative for the ego (Erikson, 1956, 1977).

When adolescents interplay is mutual it may alleviate over-powering emotions as the mutual interplay with the primary caregiver did in infancy and the micro as well as macrosphere play did in childhood (Erikson, 1977). Adolescents and adults may also recover or experience moments of ego synthesis and originality through their creative ideas, actions and products, which serve an integrative function for the ego (Erikson, 1977). Adolescents may begin to recognise themselves in their creations and therefore their creative endeavours as well as products may become integral to their identities (Erikson, 1950/1973, 1956, 1977).

2.7.2 Play during adulthood and the execution of extraordinary creativity

To varying degrees in different individuals, elements of play, creativity and imagination extend into adulthood. This is not only in the myths, stories and images that traverse from childhood into adult consciousness, but may also be observed in further social interplay, art, rituals, ideas, plans and designs (Erikson, 1950/1973, 1956, 1964a, 1977). Children's play and inventive use of the imagination becomes the "model for the creative vision which later uses a circumscribed field" (Erikson, 1977, p. 121). Adults may use creativity and the imagination to gain mastery over who they are trying to become (Erikson, 1977). Like the children's play arena, the adults' arena also becomes a "trial universe" (Erikson, 1950/1973, p. 120). Here, conducive conditions as well as methodologies may be explored in order for past failures to be re-evaluated and future goals to be tested (Erikson, 1950/1973, 1977). This allows for the renewal of hope, and as with children, provides a unique space-time continuum for egos to process events and to recover (Erikson, 1977).

The beginnings of play in infancy center on visual fascination (Erikson, 1950/1973, 1964a, 1977). If this fascination with the world and the imagination continue to be explored and developed throughout childhood, adults who maintain children's way of viewing the world, may see the world as it is, and how they hope or envision it to be (Erikson, 1977). Some individuals with this type of dream or vision may merely wish to prove it to be true, while others may be driven by some inner need and process to fulfill this dream in actuality (Erikson, 1977). Through this process these individuals may spend more time and energy wondering about possible scenarios and playing with ideas (Erikson, 1977). They may view time, space, design or relationships differently, or at least question preconceived notions about humanity, the world and the universe (Erikson, 1977). As a result of their inner conflicts some individuals may need to view the world in a particular way or hold a certain image of it that is containable to their egos and minds (Erikson, 1977). In order to overcome their experience of the world, these individuals may be driven to develop their vision in order that it may become what they experience to be a suitable replacement (Erikson, 1977). The imaginations of extraordinarily creative individuals may have been developed through encouragement from others, through the repetitive use of imagination as an escape from trauma, or to work through difficult experiences. Individuals with

extraordinary creativity or visions may offer, or propel, their visions and craftsmanship to their communities or society (Erikson, 1977).

At the time of writing *Toys and Reasons* (1977), Erikson thought that some of his formulations about adulthood needed to be amended. This was in relation to the forms play takes in adulthood and whether adults become generative and creative, or destructive, be it on the level of the home or society (Erikson, 1977). If creativity has been thwarted adults may stagnate and become rejecting and destructive (Erikson, 1977). This rejection and destruction is then directed at other living creatures (Erikson, 1977). Erikson (1977) held the view that this is a potential reason that, instead of caring for their children, adults abuse them, and in terms of infamous people, channel their destruction against a segment of society. Alternatively, generative individuals may incorporate creativity into their everyday lives and work, which may facilitate a sense of liveliness and fulfillment (Erikson, 1977). Matured playfulness and creativity interacting with adult competence may be valuable to inventiveness and generativity (Erikson, 1977). Opposing infamously destructive individuals, extraordinarily creative individuals possess an intuition, imagination and “serious playfulness” (Erikson, 1977, p. 64). They are able to practically use their creativity and craft in a playground which extends their generativity to their communities, society or the cosmos (Erikson, 1977).

According to Erikson (1950/1973, 1977) old age is not without play. In order for wisdom to be attained and the difficulties of aging to be managed a sense of humour and playful outlook are necessary (Erikson, 1950/1973, 1977). Facing death peacefully is sometimes eased when individuals believe in an afterlife or deity (Erikson, 1964a, 1977). According to Erikson (1964a, 1977) the ability to believe and have faith in the unknown, or un-proven, stems from the child’s ability to imagine and believe in what others may not be able to see. This ability to have faith also stems from the trust developed in the initial interplay with the primary caregiver (Erikson, 1964a, 1977). A creatively integrative overview of the life lived as well as ability to imagine what may come facilitates integrity at the end of life (Erikson, 1977).

2.7.3 Creativity and healing

While Erikson (1977) warned against foul play or deceiving oneself and others when the imagination is used for unhealthy means, he held the view that the imagination, creativity and play serve as a source of great potential for the individual ego as well as society (Erikson, 1950/1973, 1956, 1964a, 1977). Erikson (1950/1973, 1977) acknowledged that at times play and creativity may be disrupted if individuals are traumatised or overwhelmed with emotion. Nevertheless, he maintained that play may be used in the therapy setting (see Erikson 1950/1973 and 1977 for examples) as well as by individuals, young and old, in their private and work capacities. Such play may facilitate psychosocial development throughout the life cycle, as well as integration and healing of the ego in times of conflict. Because of the potential value of play for healthy development as well as extraordinary creativity, Erikson (1977) felt that it is important to study the conditions which support innovation and creative experimentation, and encourage their maintenance and growth, as well as interaction with the social order.

2.8 Animals and nature

As with other concepts, Erikson developed his ideas regarding animals and nature over time, and gathered his knowledge from a wide variety of sources. Erikson's views of the relationships between animals and humans were based on observations, discussions with ethologists and animal psychologists, as well as research (Erikson, 1964a, 1965, 1966a, 1969). Erikson's first presentation of his theory of the connection between animal rituals and the function such rituals may provide in human development was in 1965 (Coles, 1970; Erikson, 1965). According to Erikson (1966a) this was merely a preliminary report. Erikson built on his theory in the *Ontogeny of the Ritualization of Man* (1966a), *Gandhi's Truth* (1969), and *Toys and Reasons* (1977). Erikson's most profound application of his theory surrounding the pacific ritualisation in animals was his interpretation of Gandhi's *Satyagraha* or militant non-violence (Erikson, 1965, 1969). Ethical treatment of both humans and animals, the development of identity or loss thereof, as well as the potential destruction caused by the technological and nuclear age were of particular concern to Erikson (1963b 1964a, 1969, 1977, 1985). He discussed these concerns in relation to animals' use of ritualisation as well as their ego coherence and integrity (Erikson, 1963b, 1964a, 1965, 1966a, 1969). According to Erikson (1963b, 1964a, 1969) many lessons can

be learnt from animals and the natural world. These ideas are elaborated on in the following sub-sections.

2.8.1 Lessons from animals

For most of history humans have had complex relationships with animals and nature (Erikson, 1964a). This has become more apparent and complicated in the last century (Erikson, 1964a). Animals have served as attachment figures and have been employed by humans for emotional, spiritual, and work purposes (Erikson, 1950/1973, 1964a, 1977). Despite humans' involvement with and reliance on animals, many humans have attempted to distinguish themselves from animals, both relationally and biologically (Erikson, 1964a, 1968a, 1985). According to Erikson (1964a, 1968a, 1969), Darwin inextricably linked the human species with other animal species on varying levels, in spite of resistance and uproar from some individuals. Even though people live in an "ecologically bound universe" (Erikson, 1964a, p. 101) they have become uprooted and separated from their "own animal nature" (Erikson, 1964a, p. 107). Technological 'advancement' has removed humans from the natural world (Erikson, 1964a, 1969). This has caused consciences to be split and inner disturbances to occur, while animals retain their instincts as well as ego coherence (Erikson, 1964a, 1969, 1985). To feel un-rooted or estranged from the self creates either an unstable identity or a loss of identity (Erikson, 1964a). This up-rootedness and estrangement has also resulted in "man-made patienthoods" (Erikson, 1964a, p. 107).

According to Erikson (1963b, 1964a) humans have lost their roots through diaspora, the effects of wars, as well as forced and chosen migrations from natural, agricultural, and communal living. Technology has facilitated an expanded as well as smaller world and universe (Erikson, 1963b, 1964a, 1977). However, fear of nuclear and biological war has caused unease (Erikson, 1963b, 1964a, 1977, 1985). Along with humans move away from natural living, has come a greater exploitation of animals and nature (Erikson, 1964a). Despite this exploitation, humans still strive to integrate an element of their life cycles into a part of nature's cycle in order to feel a sense of belonging (Erikson, 1964a). The mechanised and technological world has not only encouraged an exploitation of nature, but also an own species exploitation of other humans (Erikson, 1964a, 1966b, 1977, 1985). Some people may identify with machines as if they are a "new totem animal" (Erikson, 1964a, p. 105). Up-rootedness is not only displayed and experienced through

migration, but also through a loss of ego synthesis and psychosis (Erikson, 1963b, 1964a). The first sense of rootedness or belonging is experienced from the recognition of the mother or primary caregiver (Erikson, 1950/1973, 1964a, 1968a). This mutuality of recognition also occurs in other animals on both an individual as well as species level (Erikson, 1964a). This can be observed between animal infants and their caregivers (Erikson, 1964a). Mutuality of recognition can also be viewed in the ceremonial dances of birds to display and establish their family as a species, as well as the biological predecessors of their offspring (Erikson, 1964a).

To understand the human species and the psychic disturbances which have increased through “man-made patienthoods” (Erikson, 1964a, p. 107) in the technological era, a tracing of roots needs to occur. This does not refer to tracing individuals’ roots to mother-child relationships or the “somatic naval cord” (Erikson, 1964a, p. 106), but rather humans’ beginnings in nature, and to a time when humans were at peace with and in nature (Erikson, 1964a). As mentioned in section 2.6 much pressure has been placed on the mother-child relationship and its influence on future stability and psychological health (Erikson, 1950/1973). This was reinforced by ecological comparisons of the mutuality of recognition relationship between mothers and infants (Erikson, 1964a). Such theories were mainly based on comparisons with birds in the nest who are totally dependent on their mothers for the species to survive (Erikson, 1964a). These views, both ecological and psychiatric, were exacerbated by the idea that the development of infant animals, as well as growing animals still being looked after by their parents or pack, were only comparable to the development of human infants (Erikson, 1963b, 1964a, 1966a). Erikson (1964a, 1966a) maintained that this was an incorrect comparison and was not useful for understanding beneficial developmental aspects or the influence of rituals in both animal and human development (Erikson, 1963b, 1964a, 1965, 1966a, 1969, 1977). According to Erikson (1964a, 1965, 1966a) the development of newborn animals and growing animals still being cared for by their parents or pack should be viewed in relation to human development from infancy through to adolescence (Erikson, 1963b, 1964a, 1966a). Such a developmental view allows for the examination of contributing factors such as environment as well as other humans and animals on the development of children or young animals (Erikson, 1964a, 1966a, 1969). According to Erikson (1964a) in terms of an evolutionary or ecological comparison, hope enables humans to gain some sense of rootedness and belonging, which is possessed by animals and is established

in the animal world. For young animals, like human infants, the responses and verification of mothers, as well as the stability of the environment, enable hope as well as a sense of rootedness (Erikson, 1964a). In this sense the human infant's mother "is nature" (Erikson, 1964a, p. 117).

Both growing children and animals play. Children's play may be more creative and intellectual than animals' play (Erikson, 1964a). However, play provides both children and animals with a means to develop emotionally, cognitively and physically, and to resolve developmental tasks (Erikson, 1964a, 1977). The play of young animals, like children's play, is mostly only possible, when the young are in a safe environment, protected and cared for by their parents (Erikson, 1964a). Animal and human play provides spaces and rituals in which to learn required behaviour, how to contain certain emotions, as well as afford relief from overwhelming emotions (Erikson, 1977). Each species has its own forms of play which are understood by the specific species (Erikson, 1977). This understanding of 'how to play' in each species proposes a sense of order (Erikson, 1977). Young animals, like young humans, learn what type of play is fun and what type of play hurts or goes too far and will create a threatening response (Erikson, 1977). Such play encounters allow young animals and humans to learn to interact and practice interactions for future relationships and encounters (Erikson, 1977).

The human is a "teaching as well as learning animal" (Erikson, 1968a, p. 138). This statement is also applicable to animals in varying degrees, depending on the species (Erikson, 1964a, 1969). This form of teaching refers to being generative, caring for younger members of the species, and imparting necessary knowledge (Erikson, 1964a, 1968a, 1969). People's need to teach and be generative not only extends to other people, but also to animals who are taught various lessons within homes as well certain occupations and services (Erikson, 1964a, 1968a). This human generativity is instinctive, just as animal generativity is instinctive (Erikson, 1964a). Animals also show younger animals how to do things and encourage the development of various capabilities at the necessary time (Erikson, 1964a). It is an essential ethological situation for both humans and animals that there is an interconnecting of life stages as well as generations (Erikson, 1964a).

Previously in psychoanalysis the id was viewed as having total control over human's "animal nature" (Erikson, 1964a, p. 147). In line with this view the ego was seen as being inactive and ruled by the id and superego (Erikson, 1964a). This type of theorising led to a distorted as well as negative perception of human's "animal nature" (1964a, p. 147), as well as relationship with animals and nature (Erikson, 1963b, 1964a). According to Erikson, in animal nature is the "precursor" (1964a, p. 147) to the human ego. Humans have been inclined to project their "id-superego split" (Erikson, 1964a, p. 150) onto animals. These projections are at times contradictory (Erikson, 1964a). People's undesirable vices are attributed to animals (Erikson, 1964a). For example, eating like a pig, being as vicious as a tiger, or as silly as a goat. Conversely, people also project their strengths or virtues onto animals (Erikson, 1964a). For example, being as "courageous as lions" (Erikson, 1964a, p. 150) or as "meek as lambs" (Erikson, 1964a, p. 150), or perceiving beauty and mystery in certain animals and relating these to human qualities. According to Erikson (1964a) what people usually do not recognise in animals or are surprised by, is animals' inner balance, "restraint and discipline" (p. 150) within their ecological environment. This inner regulator in animals is analogous to the human ego (Erikson, 1964a). Animals have more ego synthesis than humans and as such possess and display an ecological as well as "adaptive integrity" (Erikson, 1964a, p. 151). The ego coherence and integrity of animals encourages in them a sense of morality towards both other animals and humans (Erikson, 1963b, 1964a, 1969). This is displayed by various species being able to live in the same environment without interfering with one another unless absolutely necessary and for the sake of survival (Erikson, 1964a). This is furthered by there not being unnecessary carnage, rage, immobilising anxiety, or "inappropriate sexuality" (Erikson, 1964a, p.150). The "mutual regulation" (Erikson, 1964a, p. 151) that animals possess, allows them to live in harmony with other members of their species as well as other species.

Erikson (1964a) held the view that even though humans can only ever attempt to live up to animals' sense of balance and integrity, they nevertheless should try. For people to reach the level of animals' adaptive integrity, they would also require a mutual regulation of their inner processes in relation to the intersections of their technological and societal processes, and interactions (Erikson, 1964a). For this to occur, humans will need to become more conscious of their intergenerational and psychosocial processes (Erikson, 1964a, 1977).

2.8.2 Ethics relating to research with animals

Erikson, (1963b, 1964a) held the *Golden Rule* as his “base line” (1964b, p. 220) for ethics. In its most simple form the Golden Rule implies that “one should do (or not do) to another what one wishes to be (or not to be) done by” (Erikson, 1964a, p. 220). Erikson furthered this statement by suggesting “that (ethically speaking) a man should act in such a way that he actualizes both in himself and in the other such forces as are ready for a heightened mutuality” (1969, p. 413). Various versions of the Golden Rule have been under scrutiny as well as debate (Erikson, 1963b, 1964a). Nevertheless, Erikson (1963b, 1964a, 1969) maintained that the Golden Rule holds ethical implications as well as insights that should be applied sensitively to particular situations.

Individuals deny status as well as reciprocity of ethics to those they consider to be the ‘other’ or ‘outsiders’ (Erikson, 1963b, 1964a, 1966b, 1985). In terms of the Golden Rule, animals may be viewed as creatures that are treated as being the ‘other’, both in scientific research and in society (Erikson, 1964a). According to Erikson (1964a) there are ethical implications for all scientific studies, even if they involve animals. Erikson (1964a) draws readers’ attention to Harlow’s (Harlow, 1961) experiments with attachment in monkeys. While some form of knowledge in an unnatural environment was obtained, the monkeys were observed to have become psychotic (Erikson, 1964a). Relating to such studies, Erikson stated that whether working with humans or animals, the “scientific approach toward living beings must be with concepts and methods adequate to study ongoing life, not of selective extinction” (1964a, p. 229).

Erikson (1963b, 1964a) was of the opinion that both animals and humans should not merely have things done to them in order to learn about their psychological and generational processes. Experiments as well as observations have revealed attachment and interactions within animal species, as well as inter-species between humans and animals (Erikson, 1964a). Nevertheless the methods of study should be as natural as possible (Erikson, 1964a). Whether researchers want to learn of the transactions between animals or between humans and animals, testing and observation should occur in a natural environment (Erikson, 1964a). Such a natural environment will allow both humans and animals to “transmit life” (Erikson, 1964a, p. 229) in order to reveal their “socio-genetic evolution” (Erikson, 1964a, p. 229).

A naturalist investigation referred to as “inter-living” research (Erikson, 1964a, p. 230), occurs when humans and animals live out their life cycles in the same environment. The choices made as well as relationships formed are observed (Erikson, 1964a). An example of this type of research occurred with Elsa the lioness who lived with the Adamson family in Kenya (Erikson, 1964a). Elsa developed a trust relationship with her human foster parents and went to visit them even when she had a mate and cubs of her own (Erikson, 1964a). Elsa would take her cubs with her on such visits (Erikson, 1964a). Erikson (1964a) describes this as a moral response in Elsa as a result of her trust in her human foster family. Elsa’s trust and morality toward humans may have been possible as animals are able to learn human signs and to understand human language and tone (Erikson, 1964a). Elsa was able to convey this trust as well as morality to her offspring regarding the humans she trusted (Erikson, 1964a). Erikson (1964a) points out that this is only one story and occurrence among many that displays the relationships which humans and animals may share.

The relationships humans share with animals, and humans relation to their own instinctive animal natures, may have been “highly distorted by thousands of years of superstition” (Erikson, 1964a, p. 230). This false notion has led to animals being treated as the ‘other’ or as a pseudo-species (Erikson, 1964b). Erikson (1963b, 1969) maintained that there may be “resources for peace” (1964a, p. 230) if humans learn to connect with and understand (a) their animal natures, as well as (b) relationships with animals and the natural world. Erikson furthered the latter idea by stating that if humans learn to “nurture nature” (Erikson, 1964a, p. 230), they will not only find resources for peace, but also for ego synthesis, and a shared communal understanding with animals as well as other humans.

2.8.3 Satyagraha and pacific ritualisation

According to Erikson (1969) there is no definition for Satyagraha. An understanding of the term will be influenced by the era and discipline of both the individuals applying it, as well as the interpreters (Erikson, 1969). However, Erikson (1969) was of the view that Satyagraha held the fundamental principle of action based on ‘truth’ for those who used it as a tool in campaigns or social practice. While the particular ‘truth’ for each individual applying Satyagraha was relative and may have varied, there was generally, and particularly for Gandhi, a focus on truthful action

that did not harm other individuals (Erikson, 1969). Important to both Erikson and Gandhi was the underlying belief that, while intending not to do any physical harm to another (which may be impossible in the action of self-defense), that individuals determine “not to violate another person’s essence” (Erikson, 1969, p. 412). The attitude and credence of Satyagraha may be viewed in relation to Erikson’s understanding of the Golden Rule (Erikson, 1963b, 1964a, 1969). Erikson (1965, 1966a, 1969) maintained that Satyagraha as well as the Golden Rule held imperative principles, as well as possibilities, for how people should treat other people as well as animals. Erikson was of the opinion that these principles are important for everyday interaction. However, he felt that they are particularly important in the technological and nuclear age, and an era dominated by division of various groups into pseudo-species (Erikson, 1964a, 1966b, 1969, 1985). When individuals view other individuals or animals as pseudo-species they take on a “righteousness” (Erikson, 1969, p. 412) that implicates them in unethical behaviour and “undermines” (Erikson, 1969, p. 412) their own psychological states.

According to Erikson (1969) based on what is known and observed of human behaviour, the principles of Satyagraha and the ability to perform militant non-violence seem “alien” (p. 242) and unnatural to humans. In order for Erikson to develop an understanding and interpretation for the concept of Satyagraha, and Gandhi’s application thereof, he needed to integrate psychoanalyses with animal psychology (Coles, 1970; Erikson, 1965, 1966a, 1969). In particular he focused on animals’ use of pacific ritualisation, and made the important distinction between instinctive and instinctual energy and behaviour (Erikson, 1965, 1966a, 1969). Instinctive action is based on patterned, restrained, competent and useful behaviours and energy which have adaptive quality (Erikson, 1965, 1966a 1969). Instinctual action, on the other hand, is influenced by “quantitative excess” (Erikson, 1966a, p. 340) of drives and energy which are rarely useful and adaptive, and more often may be destructive, un-controlled, and unreasonable. Erikson (1965, 1966a, 1969) was of the view that the instinctive energy of animals far outweighs their instinctual energy and as a result have greater ego coherence and integrity. Conversely, instinctual energy has greater influence on human behaviour (Erikson, 1965, 1966a, 1969). However, human thought and action is not wholly determined on instinctual drives, and individuals may reach a more optimal psychosocial development through the employment of their instinctive energies and creative ritualisation (Erikson, 1964a, 1965, 1966a, 1977).

Importantly, Erikson did not view ritual in the pathological sense, as for example, in the case of an individual with obsessive compulsive disorder being viewed as having a hand washing ritual (Erikson, 1966a). Such clinical or pathological views of ritualised behaviour may also be viewed in caged animals (Erikson, 1966a). Erikson refers to ritualisation in the sense of “ceremonial acts” (Erikson, 1966a, p. 337) which may be observed in all social animals, humans included. The rituals Erikson (1965, 1966a, 1969, 1977) refers to are actions which establish and reveal the bonds that are developed through reciprocity, and have adaptive as well as psychosocial significance. Ritualisation involves accepted or agreed upon interactions of at least two individuals (animals or humans), which will be repeated meaningfully, and be beneficial to both (Erikson, 1966a, 1977).

Relevant to Erikson’s interpretation of Satyagraha, is animals’ extension of general ritualised behaviour (viewed within a family or pack) to pacific ritualisation in relation to possible conflict situations with other members of the same species as well as intra-species (Erikson, 1965, 1966a, 1969). As mentioned previously animals do not harm or kill other animals unnecessarily or in excess (even when hunting for food), out of violent rage or for sport (Erikson, 1964a, 1969). There are many examples of pacific ritualisation in animals (see Erikson, 1965, 1969). Merely one example which is observed in wolves, whom Erikson notes are “capable of devoted friendship” (1969, p. 425), arises when there is a dispute between two individuals. At some point during the fight, the weaker wolf will bare its “unprotected neck” (Erikson, 1969, p. 425) to its stronger opponent. Stronger wolves will not act out of instinctual aggression and bite or kill the weaker wolves, but will restrain themselves, and use instinctive energy to leave their opponents (Erikson, 1969). According to Erikson (1969) if humans enter animals’ territory in a non-violent manner, animals will extend their pacific ritualisation to humans, and not do harm to those they view as sharing a “joint universe” (Erikson, 1969, p. 426). Observations of animals’ ritualised behaviour in response to non-threatening humans reveals that the “aggressive or fearful behavior ascribed to animals is a response to man’s prejudices, projections, and apprehensions” (Erikson, 1969, p. 426).

According to Erikson (1969) people should be striving for a “new ethics” (p. 429). He said this in light of the pleasure that some humans take in “torturing and killing an enemy” (Erikson,

1969, p. 429), treating people different to themselves as a pseudo-species, and some supposed moral actions, which have become “a lethal element in the universe” (p. 429). In these respects civilised humans may be viewed as being beneath animals (Erikson, 1969). Pacific ritualisation in animals helps to clarify positions, diffuse potentially aggressive behaviours, and restores “instinctive trust” (Erikson, 1969, p. 230). According to Erikson (1965, 1966a, 1969) the principles of pacific ritualisation in animals offer an explanation of how it may be possible for humans to perform Satyagraha or militant non-violence. A form of creative and formalised ritualisation may enable people to co-exist and interact more peacefully with one another (Erikson, 1965, 1966a, 1969). Erikson was adamant that humans should extend this concept of non-violence to their treatment of, and interactions with, animals (Erikson, 1964a, 1969). See Erikson (1977) for a detailed description and explanation of creative ritualisation with regard to psychosocial development and political action. Erikson was not oblivious that his hope for revolutionised ritualisation based on evolutionary and instinctive principles was complicated to attain (Erikson, 1969). However, “only faith gives back to man the dignity of nature” (Erikson, 1969, p. 435). The interpretation of Satyagraha through animals’ use of pacific ritualisation reiterates Erikson’s (1964a, 1965, 1966a, 1969) notion that for individuals to attain peace within themselves, as well as with their fellow species, they should look outwardly to the examples set by animals and inwardly to their instinctive animal natures.

2.9 Erikson’s stages of psychosocial development

The previous sections (2.2-2.8) focused on critical concepts in Erikson’s theory. These sections that focused on Erikson’s triple bookkeeping approach, theory of the ego, the epigenetic principle and the life cycle, ego failure or autism, play, as well as animals and nature, provide a basis for understanding Erikson’s theorising in general. More specifically these concepts will inform the employment of the psychosocial stages, which follow in this section, in a manner that is particularly relevant to Grandin’s history as an extraordinary creative animal scientist with autism.

2.9.1 Stage 1: Trust versus mistrust (0-1,5 years)

The first stage occurs from birth until infants are between one and a half to two years old (Erikson, 1950/1973; McAdams, 2009; Miller, 2010). At this stage mothers or primary care-

givers have the greatest effect on whether infants will find the world secure and reliable (Erikson, 1950/1973, 1964a; McAdams, 2009; Miller, 2010). This being said, other individuals in the environment still influence the way infants perceive the world and assimilate its nuances (Erikson, 1950/1973, 1964a; McAdams, 2009; Miller, 2010).

As mentioned in previous sections, the development of trust is facilitated by the mutuality of recognition relationship between infants and their primary caregivers (Erikson, 1950/1973, 1964a). These relationships are the beginning of infants' participation in society (Erikson, 1950/1973, 1964a, 1977). As the identification of favourable people, sights, sounds, and experiences are assimilated into infants' inner beings, the outer world becomes less threatening (Erikson, 1950/1973, 1964a). This creates a balance with the discomfort of being a new person in the world and learning to control the body (Erikson, 1950/1973). Increasing comfort encourages in infants a willingness to let their mothers out of sight and other individuals into their world (Erikson, 1950/1973). The purpose of this stage is not only for infants to learn to trust the mother and the surrounding world but also themselves (Erikson, 1950/1973, 1964a; McAdams, 2009; Miller, 2010). It is also essential that in certain situations infants learn to distrust in order to develop self-protective tendencies (Erikson, 1950/1973; Miller, 2010).

The first stage also provides the basis for the development of an ego identity (Erikson, 1950/1973, 1968a). The development of an ego identity is influenced by the consistency and predictability of the mutuality of recognition relationship between infants and their primary caregivers (Erikson, 1950/1973, 1964a, 1968a). Infants' ego identities further develop as they realise that they have a fairly consistent inner world which relates to familiar people and experiences in the outer environment of family and society (Erikson, 1950/1973). The greater the trust infants have, the more they will rely on and develop their balance between inner and outer continuity (Erikson, 1950/1973, 1964a).

As infants' orientation to the world is very oral during this stage, they learn to negotiate, understand and expect certain things from others through feeding, biting, and making sounds (Erikson, 1950/1973; Miller, 2010; Monte, 1999). If infants learn that the world is unpredictable and unsafe, an over-arching sense of mistrust will develop (Erikson, 1950/1973; Miller, 2010;

Sollod et al., 2009). The presence of mistrust is most obvious and profound in infants with autism (see section 2.6). This mistrust may potentially be carried into the following stages causing adolescents or adults to be suspicious, aggravated, discouraged, and to possibly develop some form of psychosis from not being able to assimilate the different parts of themselves into their egos (Erikson, 1950/1973, 1964a; Miller, 2010; Sollod et al., 2009). Despite an optimal developmental outcome during this stage, individuals may experience a sense of loss and division for the remainder of their lives (Erikson, 1950/1973). The trust developed during this stage needs to withstand any sense of loss and despair so that infants and older individuals may be able to face challenges throughout the life cycle (Erikson, 1950/1973, 1964a). The successful negotiation of this stage encourages infants and the growing person to hope in themselves, others, and the world (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009).

2.9.2 Stage 2: Autonomy versus shame and doubt (1,5-3 years)

This stage occurs when children are roughly between one and a half years to three years old (Miller 2010; Sollod et al., 2009). During this time children become physically stronger and more mobile (Erikson, 1950/1973; Miller 2010; Sollod et al., 2009). Their new found mobility allows them to go for and test their desires within the boundaries that parents set, as well as the boundaries of a particular society or culture (Erikson, 1950/1973; Miller 2010; Sollod et al., 2009). During this stage children also learn that they have the ability to hold onto what they want or to dispose of what they do not wish to possess (Erikson, 1950/1973; Miller 2010; Sollod et al., 2009). This is not only demonstrated with children accepting food or spitting or throwing it down, holding onto toys or giving or throwing them away, but also with their ablutions (Erikson, 1950/1973; Miller 2010; Sollod et al., 2009). Children learn that to a certain degree they can control the outcome of circumstances by controlling themselves or letting go of all restraint (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Both 'holding on' and 'letting go' can become destructive ways of being or caring and relaxed ways of relating to the self and others (Erikson, 1950/1973, 1977). How the parents respond is not only crucial to whether children feel shame and lose their sense of autonomy and will, and therefore doubt themselves and others, but the trust that was developed in the first stage can be broken (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009).

It is essential during this stage that parents provide firm, yet nurturing guidance as infants need to learn that their decisions have consequences and that discernment is needed in life (Erikson, 1950/1973). Infants may be overwhelmed by their newfound ability to choose and may lose their trust in themselves and others through unconstructive experiences (Erikson, 1950/1973, 1964a). Young children may turn against themselves and develop an overbearing conscience. This can potentially lead to growing individuals becoming obsessed with repetition and a need to control the environment (Erikson, 1950/1973, 1977).

This stage is further imperative to learning what is right and wrong and what one wishes to have versus what one is allowed (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Therefore, if parents are overbearing, children might become obsessed with always doing what others see as correct and expect of them (Erikson, 1950/1973). However, the opposite can also occur. Children may become unlawful with no sense of self-control when wanting to fulfill their desires (Erikson, 1950/1973; Sollod et al., 2009). According to Erikson (1950/1973) such distinctions are informed by the extent of young children's shameful experiences. Young children, as well as adults, are often unable to endure continual judgment and shameful experiences (Erikson, 1950/1973, 1964a). While children who feel shame may "like to destroy the eyes of the world" (Erikson, 1950/1973, p. 244), their inability to do so leads to the desire to be invisible. Less frequently, children realising their lack of power may become shameless and defiant in order to establish their own sense of power, even if this shameless sense of power produces unlawful behaviour (Erikson, 1950/1973, 1964a, 1977). Successful completion of this stage will form a child who has a strong sense of will, but nevertheless acts within familial and lawful boundaries (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009). The capacity to believe in a just universe and a lawful, ordered society stems from a balance of experiencing freedom and reasonable boundaries during this stage and assimilating these experiences into the developing ego identity (Erikson, 1950/19973, 1968a, 1977).

2.9.3 Stage 3: Initiative versus guilt (4-5 years)

This stage occurs when children are four to five years old (Miller, 2010; Sollod et al., 2009). During this stage children's mobility as well as cognitive abilities have developed and therefore their ability to speak and think (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Children

may identify with or idealise a parent while also fearing the power of this parent (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Children will now attempt to initiate activities and relationships (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). They will be aware that the response they receive means that what they have done is worthwhile and accepted or frowned upon (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). The possibilities and responsibilities that are experienced through initiating activities and relationships “constitutes a new hope” (Erikson, 1950/1973, p. 246). The experiences of this stage may cause children to be anxious as they experiment, try, and possibly fail (Erikson, 1950/1973, 1964a, 1968a). It is nevertheless a stage of unification (Erikson, 1950/1973). Children’s minds and bodies are more synchronised, and the autonomy of the previous stage is accompanied by goal directed decision making (Erikson, 1950/1973, 1968a, 1977).

During this period children are expected to start taking responsibility for their actions which, if undesirable, may be met with harsher consequences than in previous stages (Haensly & Parsons, 1993). The reactions from parents to children’s undesirable behaviour will influence the development of the conscience (Hamachek, 1988). If too many of children’s endeavors are viewed as unfavourable they will experience feelings of guilt and a lack of self-esteem (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). They may also identify with being evil doers (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). As children develop they face new opportunities and may begin to set goals for themselves and purposefully pursue activities which are meaningful to them (Greene, Graham, & Morano, 2010; Studer, 2007; Thimm, 2010). Children’s success at managing to establish objectives and attain goal-directed behaviour during this time may influence whether they pursue meaningful endeavours in later years or instead become inhibited (Greene et al., 2010; Studer, 2007; Thimm, 2010).

The nature of the environment in which children tackle new endeavours, roles, and relationships is imperative to whether individual pursuit and or collaboration are fostered, as opposed to being merely competitive (Erikson, 1950/1973, 1977). While some competition may be necessary for psychosocial development, it should not be the sole goal of children’s endeavours (Erikson, 1950/1973). If children do not succeed in competition, it may lead to them feeling inferior or guilty for enjoying an activity instead of being superior at it (Erikson, 1950/1973, 1968a). On the

other hand a competitive nature fuelled by rage and jealousy may be fostered (Erikson, 1950/1973). Competitive individuals may wish to rule or eradicate other individuals' ideas (Erikson, 1950/1973, 1977). Interacting with other people enables children's moral compass to develop and to integrate the views of a particular society (Erikson, 1950/1973, 1964a). Children no longer only look to fantasy and characters in stories for guidance, but also to real life role models (Erikson, 1950/1973, 1964a, 1977). If children learn to respect their own as well as other people's ideas, roles and endeavours, they will develop a "moral responsibility" (Erikson, 1950/1973, p. 248) which will encourage their participation in society (Erikson, 1964a, 1977). Children who are either pushed to be competitive or continually belittled for their actions may develop a sense of morality that scrutinises others and themselves to the extent that "prohibition rather than the guidance of initiative becomes the dominant endeavour" (Erikson, 1950/1973, p. 249).

According to Erikson (1977) children may attempt to resolve developmental crises through play (see section 2.7 for a detailed discussion). Through play children may imaginatively recreate the past event or conflict in the present and thereby anticipate a future based on their resolutions and new insights (Erikson, 1977). If children successfully complete this stage by learning to initiate mostly acceptable activities they will gain the ego strength of a sense of purpose (Erikson, 1950/1973; Sollod et al., 2009).

2.9.4 Stage 4: Industry versus inferiority (6-11/12 years)

This stage occurs between six years of age and puberty (Miller, 2010; Sollod et al., 2009). For both Erikson and Freud this was a more peaceful time in children's development (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). However, Erikson (1950/1973, 1968a, 1977) viewed this stage as being particularly important to social development. To a large degree successful negotiation of the present tasks relies on familial support and preparedness (Erikson, 1950/1973, 1977). During this stage children are not trying to gain mastery over themselves or anyone else, but rather a sense of ability and competence with the new world of school, technology, and social relationships (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009). This readiness to harness and develop their skills occurs in light of children beginning to realise that in the future they will need to move on to occupations and roles external

to their current family units and be providers for their own families (Erikson, 1950/1973, 1968a). This does not necessarily mean that young children are consciously planning or preparing for future occupations and families, but that they now become aware that this is 'how the world works', and that they too will be adults one day (Erikson, 1950/1973).

Successfully moving through the previous stages is important for preparing children for this stage (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Children's self control increases at this time in their development (Hamachek, 1988; Van Manen & Whitbourne, 1997). Energy that may have previously been used in play activities is increasingly channeled into more formal activities (Hamachek, 1988; Van Manen & Whitbourne, 1997). It becomes increasingly important for children to contribute to their social environment and to meet the requirements set by people other than their parents (Hamachek, 1988; Studer, 2007; Thimm, 2010). Not all of the lessons that occur during this stage are from formal instruction (Erikson, 1950/1973, 1977). Children may learn from role models in various capacities, as well as from older children (Erikson, 1950/1973, 1968a, 1977). The goal-directedness which children established in the previous stage is developed not only in their individual endeavours but also in group activities (Thimm, 2010). Their goals and the abilities that they harness become more integrated into their ego identities, as well as the potential boundaries they view themselves as having (Erikson, 1950/1973).

School aged children have a greater need to complete activities and creations which they have started (Studer, 2007; Thimm, 2010). Children may also begin to take more pleasure in mastering tasks which in turn may motivate their self-development as well as future endeavours (Studer, 2007; Thimm, 2010). If children are constantly put down they will feel that they are unable to do anything and are inferior (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). This may restrict children's future potential and abilities to work and contribute meaningfully to society as they and other individuals impose limitations to the industrious and technological aspects of their ego identities (Erikson, 1950/1973, 1968a, 1977). However, if children's efforts are rewarded in some way or they are made to feel good about themselves they will establish a sense of industry and competence (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). This

will encourage children to believe that through their future works they will be able to contribute meaningfully to society and their family units (Erikson, 1950/1973, 1977).

2.9.5 Stage 5: Identity versus role confusion (12-19 years)

This stage occurs during adolescence. Not only do adolescents' bodies change, but their cognitive abilities mature to take on adult roles (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). The beginning of youth once again presents individuals with a period of upheaval and discontinuity as in infancy and early childhood (Erikson, 1950/1973, 1968a). During this stage adolescents need to re-establish a sense of unification between their minds and bodies with adult roles in mind, as well as define for themselves who they are and their place in society (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Successful completion of the previous stages is needed in order for adolescents to feel secure enough in themselves to assimilate previous identities and to form a consciously integrated identity (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Adolescents' beliefs and ego ideals face much introspection during this time (Erikson, 1950/1973, 1956, 1968a). However, the ego ideal formed toward the end of adolescence often remains informative to individuals' ego coherence throughout the life cycle (Erikson, 1950/1973, 1956, 1968a).

During the previous stages children were greatly influenced by their parents and close adults (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). During adolescence, teenagers are more aware of the expectations of society and possible roles that they may fill within their peer groups and community (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Their ego identities establish a greater sense of continuity as possible ego identities are projected into the future in the choice and initiated pursuit of a career (Erikson, 1950/1973, 1968a). The stability of adolescents' home environments is nevertheless crucial to their emotional capacities to self-regulate and make life choices (Syed & Seiffge-Krenke, 2013). The stability of the home environment is also essential for encouraging adolescents' abilities and for them to be able to define their identities (Syed & Seiffge-Krenke, 2013). Adolescents who manage to form a stable identity will be aware of their strengths as well as weaknesses, have a healthier self-esteem, and be less confused about themselves and their roles in society than those whose identities are diffused (Luyckx et al., 2013). Adolescents with diffused ego identities will struggle to commit

to roles, peer groups, and the pursuit of a particular career (Erikson, 1950/1973, 1956, 1958a, 1968a). Adolescents may go to extremes to avoid identity confusion or ego diffusion and to develop a sense of fidelity (Erikson, 1950/1973, 1956, 1958a). Actions which demonstrate this are adolescents forming in and out groups in stereotypical ways, as well as being cruel to those they perceive to be different or want to differentiate themselves from (Erikson, 1950/1973). Less extreme attempts at role identities and fidelity are adolescents' behaviours surrounding the notion of being in love (Erikson, 1950/1973, 1968a).

The greater the problems experienced in previous stages and the more negative ego qualities developed will hinder adolescents' abilities to develop an identity (Hamachek, 1988). The formation of stable identities that incorporate both individual desires and abilities within cultural and societal expectations is essential to being able to adjust to adult life (Capps, 2011; Hamachek, 1988). It is therefore important that while adolescents experiment with roles for a while, they establish a sense of self that is both committed to others and the pursuit of a career (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). If this is accomplished the ego strength of fidelity is realised. If not, the adolescent may become lost in various roles, including negative ones, and not form a stable identity (Erikson, 1950/1973, 1963a, 1958a; Miller, 2010; Sollod et al., 2009). Even when the ego tasks of adolescence are negotiated successfully, adolescence remains a time of moratorium (Erikson, 1950/1973, 1956, 1958a, 1958b). This moratorium is a period when individuals establish an understanding of who they are, their purpose in their societies, as well as their beliefs (Erikson, 1950/1973, 1968a). This understanding, purpose and belief system, which enables individuals to face the tasks of adulthood with a sense of fidelity, is facilitated by childhood morality being transformed into adult ethics (Erikson, 1950/1973, 1964a).

2.9.6 Stage 6: Intimacy versus isolation (20-35 years)

This stage occurs during young adulthood (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). The primary importance of this stage is being able to form an intimate relationship with another and build a life with this person that will see the individual through into the following stages (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Forming intimate friendships, being committed to others, as well as a chosen career are also essential

developmental negotiations of this stage (Greene et al., 2010; Hamachek, 1990; Studer, 2007). For young adults to develop intimate relationships and not become isolated or lonely, their senses of self need to expand to include others, which may also involve sacrifice and compromise (Erikson, 1963a; Hamachek, 1990). During this stage young adults need to consolidate the beginnings of ethical development in adolescence (Erikson, 1950/1973, 1964a, 1977). They need to commit to their established ethics in order to distinguish between friend and foe, competition and combat, as well as what the necessary action is in various situations (Erikson, 1950/1973).

Young adults' identities need to have been reasonably well established in adolescence in order for them to form an intimate relationship with another (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). This is because the two identities need to fuse together (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). If partners are not secure in their own identities, they may fear becoming lost, or may become diffused in the other person's identity (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Young adults' fears of being lost in someone else's identity or not being able to assimilate their identity with another's leads to isolation (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). A deep sense of isolation will also be founded if young adults are unable to commit to intimate friendships and a purpose for their lives, which may take the form of or include their career (Erikson, 1950/1973). If a healthy and mutual intimate relationship is attained, the ego strength that is formed is love (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009).

2.9.7 Stage 7: Generativity versus stagnation (36-60 years)

The following stage occurs during middle adulthood (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). The ego tasks of this period are imperative to the continuation and inter-living of life cycles (Erikson, 1950/1973, 1964a, 1977). Just as the young need older generations for guidance and care, older generations need to be needed and to be teachers to younger members of society (Erikson, 1950/1973, 1968a, 1977). Hence, this stage is related to concerns adults have for future generations (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). While in the previous stage young adults needed to commit to a partner, close friendships and a profession, the concerns of middle aged adults may be directed toward contributing to society at large

(Dunkel, Mathes, & Papini, 2010; Van De Water & McAdams, 1989). It is not a prerequisite, nor enough to merely have children of one's own (Haensly & Parsons, 1993). Adults need to be actively playing a role in the betterment of society for future generations or caring for children and others in some way that is not necessarily for their own benefit (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009).

The contributions that adults make at this stage may not necessarily be in the form of nurturing, mentoring, teaching or caring for younger generations, but may also be in the form of products, artwork or ideas that may benefit society, or be passed on to future generations (Evans, 1981; McAdams, De St Aubin, & Logan, 1993; Van De Water & McAdams, 1989). Erikson believed that for adults to make a meaningful contribution during this stage of their lives they need to believe that progress of the human species is possible and a worthwhile undertaking (Erikson, 1963a; Irvine, 2013; Van De Water & McAdams, 1989). Generative adults are happier and have a more coherent sense of themselves and their lives than adults who withdraw and reject others during this period (McAdams, Reynolds, Lewis, Patten, & Bowman, 2001). If adults successfully develop in this stage they acquire the ego strength of care (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). If adults do not develop in a way that allows for creative and caring input into others, they will become self-absorbed and stagnate psychologically (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009).

2.9.8 Stage 8: Integrity versus despair (60+ years)

This final stage occurs in late adulthood and involves the integration of all the previous stages (Erikson, 1950/1973; Miller 2010; Sollod et al., 2009). Older adults become more reflective as they need to form a coherent life story (Hamachek, 1990). Older adults develop a sense of integrity during this stage if they are content with the way they have lived and that they have made an impact on others or society (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009). Their acceptance of what they could not achieve is also necessary for the development of integrity (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009). Ego integrity may also be viewed as a content "state of mind" (Erikson, 1950/1973, p. 259) with the life lived and individuals' religious or spiritual beliefs surrounding death. It results in a sense of meaning across the lifespan (Erikson, 1950/1973).

According to Erikson (1950/1973, 1964a) it is not possible to have completed all the previous stages equally well. However, accepting this as part of life as opposed to being viewed as a failure is needed for the development of integrity (Brown & Lewis, 2003; Hall, 1983). Even if previous stages have been problematic, older adults may still resolve earlier issues and face the end of life with peace and contentment (Brown & Lewis, 2003; Hall, 1983). Each society will expect a different combination and integration of previous ego qualities for individuals to be viewed as having developed a sense of integrity (Erikson, 1950/1973). If older adults have not resolved earlier crises and are unsatisfied with their lives, they will despair (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). This despair may take the form of disgust for the self, or displaced disgust directed at other individuals (Erikson, 1950/1973). Disappointment, distress, as well as impatience, and contempt for others may occur if older adults realise that they are not able to start life over and fear dying (Hamachek, 1990). In contrast, if older adults are at peace with themselves, others and the universe, they will attain the last ego strength that is wisdom (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Erikson did however warn older adults not to make the pursuit of the last ego quality “too darn wizard like” (Hall, 1987, p. 135), but rather view it as a maturing of previous ego strengths.

2.10 Erikson and psychobiography

While the previous sections focused on Erikson’s critical concepts and the psychosocial developmental stages, the intention of this section is to provide an overview of Erikson’s contribution and place in the history of psychobiography. For a detailed history and discussion surrounding psychobiography see Elms (1994), McAdams (1988a, 1988b), Runyan (1982, 1988a, 1988b, 1988c), and Schultz (2005a).

While Erikson’s theory encompasses the genetic, social, and cultural influences on the developing person, it also considers the influence of the historical period on these factors (Erikson, 1950/1973; Kóváry, 2011; Mazlish, 1968, 1976). Erikson began to study the influence of society and history in greater detail during World War II when working for the United States government (Hopkins, 1995; Pietikainen & Ihanus, 2003). Erikson was hired to psychoanalyse Hitler as well as other political leaders (Hopkins, 1995; Pietikainen & Ihanus, 2003). The influence of this psycho-historical investigation led to Erikson’s profile of Hitler (Erikson,

1950/1973, 1976) as well as other extraordinary individuals such as George Bernard Shaw (Erikson, 1956, 1968a) and Maxim Gorky (Erikson, 1950/1973).

During the 1950's and 1960's interest in psychobiography increased (Frey, 1978; Manual, 1976; Pietikainen & Ihanus, 2003; Runyan, 1982). Erikson's (1958b) *Young Man Luther* served as a foundation and an influence during this period (Kóváry, 2011; McAdams, 2009; Pietikainen & Ihanus, 2003). Erikson (1958b) not only dealt with the analysis of Luther's life, but also addressed methodological issues relating to psychobiography (Frey, 1978; Pietikainen & Ihanus, 2003). During the 1960's informal meetings between academics and practitioners from various disciplines were held to discuss the ever evolving topic of psychohistory and psychobiography (Pietikainen & Ihanus, 2003). The Wellfleet Group was founded in 1965 (Frey, 1978; Pietikainen & Ihanus, 2003). Erikson, Mazlish, Lifton, and Keniston were prominent founding members (Frey, 1978; Pietikainen & Ihanus, 2003).

The Wellfleet Group's informal meetings were intended to become a formal enterprise when in 1966 the American Academy of Arts and Sciences provided the group with an initial three year grant (Pietikainen & Ihanus, 2003). The academy expected a grand theory of psychobiography to be formulated and a psycho-historical institution to be established (Pietikainen & Ihanus, 2003). This institution was supposed to serve as a base for training scholars in psychobiographical work and maintaining the development of psychobiography (Pietikainen & Ihanus, 2003). It was also intended that Wellfleet Group members contribute articles relating to psychobiography to the *Daedalus* journal (Pietikainen & Ihanus, 2003). These objectives were never met and the funding was not renewed (Pietikainen & Ihanus, 2003). However, core members of the Wellfleet Group, including Erikson, continued to meet informally, which did encourage further development of psychobiography (Frey, 1978; Pietikainen & Ihanus, 2003). Erikson also influenced Mazlish, Lifton, and other psychobiographers in decades to come (Alexander, 2005; Mazlish, 1968, 1976; Pietikainen & Ihanus, 2003). In 1969 Erikson's *Gandhi's Truth* was published. Like *Young Man Luther* (Erikson, 1958b), it not only analysed the life of an extraordinary individual, but also dealt with methodological issues concerning psychobiography. Mazlish (1968) refers to Erikson's contribution to psychobiography as "most outstanding" (p. 167). Both *Young Man Luther* (Erikson, 1958b) and *Gandhi's Truth* (Erikson, 1969) were read by academics as well as

the public, and remain seminal texts (Alexander, 2005; Hopkins, 1995; Runyan, 1982; Schultz, 2005a).

In the subsections that follow, Erikson's contribution to psychobiography will be further elaborated on and demonstrated through focusing on (a) the methodological concerns he emphasised, (b) his description of extraordinary individuals, and (c) the characteristics of extraordinary individuals that he formulated from his various life studies.

2.10.1 Erikson's psychobiographical methodological guidelines and ethical concerns

Methodology as well as ethics remained pertinent to Erikson. He viewed his triple bookkeeping approach (1950/1973) (see section 2.3) as a valuable overall design for all forms of investigation, whether clinical or research related. However, as psychobiography was establishing itself as a discipline Erikson felt it necessary to discuss specific methodological concerns when studying the life histories of extraordinary individuals (Erikson, 1956, 1958b, 1968b, 1969). Methodological concerns pertaining to case histories of 'ordinary' individuals may be relevant when studying extraordinary individuals. Nevertheless, Erikson (1956, 1958b, 1964a, 1968a, 1968b, 1969) maintained that the research of extraordinary individuals had its own concerns as well as lessons.

According to Erikson (1968a, 1969) every psychobiographer chooses a specific subject for a reason, even if the reason is subconscious. Researchers may identify with their subjects or be projecting an unled or unrealised aspect of their own lives onto subjects' lives (Erikson, 1968a). While this may be unavoidable, researchers should remain aware of this, as well as any counter-transference that may occur (Erikson, 1968a). Researchers need to empathise with their subjects while remaining removed enough to be objective, and neither hero-ify nor vilify individuals' lives (Erikson, 1958b). When applying psychological process or theories to history and historical subjects, researchers should also be aware that they are not merely observers, but are also participants/contributors in the way that they analyse and portray their subjects (Erikson, 1958b, 1964a). Erikson (1964a) was adamant that researchers be aware of the misuse of psychology in history and therefore that psychobiographies should not be used for subverting or pathologising

historical figures that researchers detest (Erikson, 1964a) The difference between what is true and what feels like truth needs to be distinguished (Erikson, 1958b).

In terms of data, evidence should not be misconstrued to fit a theory or perception of the subject that the researcher wants to 'prove' or convey (Erikson, 1958b, 1969). Erikson (1958b) cautioned psychobiographers that extracts from autobiographies and biographies should not be quoted out of context (Erikson, 1958b). When using biographies as data sources it is necessary for researchers to be aware of the stance the biographer or historian has taken, as well as any lay pathologising or analysing that occurred (Erikson, 1958b, 1968b, 1969). When using autobiographies as data sources an awareness of what was left out as well as said may provide clues to conscious, as well as unconscious elements of the person's psyche (Erikson, 1958b, 1969). According to Erikson (1958b) a thorough psychobiography will include an analysis of the person's occupation or any work that they do, as this may provide necessary insights (Erikson, 1958b). Erikson (1958b) pointed out that the individual's means of making a living has often been treated as if it is distinct from the individual's psychological development.

According to Erikson (1958b, 1958b) some psychobiographers make the mistake of *originology*. This refers to researchers assuming that there is an earlier precursor to every event or situation in an individual's life (Erikson, 1958b, 1968b). This may be extended to assuming that everything that happens in the individual's life at any stage is related to something that happened in infancy (Erikson, 1958b, 1968b). In line with not making the mistake of originology, Erikson (1958b) cautioned psychobiographers not to view individuals' histories as solely predetermined on their parents' behaviour and actions.

Erikson (1958b, 1968a, 1968b, 1969) maintained that it is necessary to analyse a 'case' or life history in relation to its place in history. Extraordinary individuals 'perform' or bring about historic events (Erikson, 1958b). Therefore it is not logical to separate the connection between the life history and the historical event (Erikson, 1958b). However, Erikson (1958b, 1969) cautioned that when looking in retrospect certain political or economical changes may seem to have been more influential than they were perceived to have been by the individual. The individual may not have even been aware of certain political or economic changes, or events at

the time of their occurrence (Erikson, 1958b, 1969). In contrast with the latter, Erikson (1958b, 1969) cautioned psychobiographers to be aware that even though an event may seem common, it may have a specific meaning for a particular individual. Therefore data and events should be considered in relation to (a) individuals developmental stages and the state of their communities at the time of occurrence, as well as (b) the histories of individuals and communities before and after the event or recording (Erikson, 1968a, 1968b).

2.10.2 Extraordinary individuals and their characteristics

The intersecting elements that are required for an individual to become extraordinary may differ at various points in history. However, Erikson held the view that “any greatness also harbours massive conflict” (1958b, p. 238). Extraordinary individuals feel a great sense of responsibility, not only for themselves, but also for some part of humanity or the environment, “if not for all existence” (Erikson, 1964a, p. 203). They offer their solution to their personal conflicts to their community or generation (Erikson, 1950/1973, 1968a). In doing so extraordinary individuals bridge some vacuum in society, be it psychological, political, economical, or any other area that is amiss in their community at a particular time in history (Erikson, 1958b, 1969). Combining their own and society’s needs with “personal gifts, makes for historical greatness” (Erikson, 1958b, p. 13). These individuals come to represent immense changes in humans’ views of themselves, their societies, and at times the entire universe (Erikson, 1950/1973, 1958b, 1977).

While a simple definition of what makes individuals extraordinary, for better or worse, may not be possible, Erikson did formulate characteristics which are possessed by most of the extraordinary individuals that he studied. These characteristics that Erikson formulated are based on his psychobiographies of Luther (1958b) and Gandhi (1968b, 1969), his profiles of Hitler (1950/1973, 1976), Freud (1964a, 1968a), Maxim Gorky (1950/1973), George Bernard Shaw (1956, 1968a), William James (1968a) and Einstein (1977), as well as his research into the lives of other extraordinary individuals such as Darwin, Kierkegaard, Copernicus, Socrates, Marx, Woodrow Wilson and Eleanor Roosevelt, to name but a few examples.

Erikson noted the following about extraordinary individuals and their lives:

- a) They are intense, committed, sensitive and passionate as well as stubborn, addictive and obsessive.
- b) They contain elements of childlike play and way of viewing people and things in the world, which they do not abandon (see section 2.7 for further description).
- c) They often have a peculiar, strained or abusive relationship with one or both parents.
- d) Many had to care for and take responsibility for themselves as well as other family members, including their parents, while they were still children.
- e) Most extraordinary individuals have a protracted crisis or trauma from their childhoods which haunts and drives them as well as causes a sense of basic mistrust. Even if undiagnosed these individuals could be viewed as patients in some way until they find their own cure.
- f) As a result of some form of suffering, extraordinary individuals often have a unique moratorium or extended adolescence and identity development. This may be because they fear making a commitment to what they are not (which they may have done for much of their childhoods) or they fear taking an opportunity that will not lead them to some sense of wholeness or ego synthesis.
- g) Their healing often aligns with the discovery of “a cause” (Erikson, 1958b, p. 12). There is “often an intrinsic relation between the originality of an individual’s gift and the depth of his personal conflicts” (Erikson, 1958b, p. 249). Therefore while the intense focus on work by extraordinary individuals may seem pathological, it has therapeutic value.
- h) As the work of these individuals has a curative effect, they may have an “almost fanatic concentration on activities” (Erikson, 1958b, p. 42) which ‘hold’ them, their ego synthesis, and their ability to work together.
- i) Extraordinary individuals often withdraw and starve themselves literally and socially in order to focus on their task and developing themselves and their potential.
- j) They are often very demanding of themselves and their environment.
- k) Extraordinary individuals often had a mentor who recognised something in them and encouraged their potential.
- l) They may have had a change in occupation which led to a creative breakthrough.
- m) The identities of extraordinary individuals may become greater than just themselves. They extend to encompass problems in society which they take on within themselves as they may have done with the issues in their families.

- n) The prolonged identity crisis of these individuals, that frequently includes society's crises, causes them to have a premature generativity crisis. This results in extraordinary individuals focusing their energy to solve society's problems. As these individuals are so focused on their task or work they often do not focus on having partners or children of their own.
- o) The calling of extraordinary individuals may seem special or strange. Either way they are totally convicted by it and are unable to ignore it.
- p) The problem of basic mistrust may remain permanently for some extraordinary individuals. However, they use their intellectual and creative gifts as a buffer between themselves and nothingness. They develop their own hope through believing in the concepts of their work. Work often becomes extraordinary individuals' "salvation" (Erikson, 1958b, p. 104).

According to Erikson (1950/1973) in order to learn from the study of historical events and figures, psychologists need to acknowledge that history and psychology influence one another, and are subject to the laws of the other. This is important as an individual's seemingly atypical or strange personal crisis may intersect with a latent crisis in society (Erikson, 1950/1973). This may result in the individual's work and the crisis rising to "representative position" (Erikson, 1950/1973, p. 327). According to Erikson (1950/1973) there is certain psycho-historical logic to the moment when an extraordinary individual's work or theory is accepted by a faction or the majority of society.

Researching the life histories of extraordinary individuals may provide insights into the development of such individuals (Erikson, 1956, 1964a) as well as what the influencing factors were in whether they used their 'gifts' or potential for society's benefit or detriment. However, the psychosocial and identity development of extraordinary individuals should form a research area in and of itself, and the findings should not necessarily be applied universally to all individuals (Erikson, 1956). The autobiographies and biographies of extraordinary individuals may be viewed as historical case studies (Erikson, 1956, 1964a). The psychological researcher can use these historical 'case studies' as data sources to learn about both the developmental stages and crises "in which the worst blockages of untransformable past seem to occur" (Erikson, 1964a, p. 206), as well as the processes that enable inner balance to be "reactivated and renewed" (Erikson, 1964a, p. 206).

Erikson (1950/1973, 1956, 1968a, 1968b, 1969, 1977) both emphasised and reiterated that in order for individuals to become extraordinary they mostly possess a certain unusual perception of the world and themselves as a result of personal struggles. This leads them to have a compulsive drivenness to find their own cure for unbearable emotions and inner fragility or incoherence. According to Erikson “the very danger which they have sensed has forced them to mobilize capacities to see and say, to dream and plan, design and construct, in new ways” (1958b, p. 12).

While the suffering of an individual may be needed for the advancement of society, Erikson cautioned against supporting such a notion uncritically. Importantly for the future appraisal of the development of extraordinary individuals, Erikson stated that “one can always say that anything that helped to make a great man was good for him and the world. But perhaps history has abused this blank cheque” (1958b, p. 86). This is also an imperative cautionary statement as extraordinary individuals often face a struggle between their constructive and destructive characteristics as a result of their unstable pasts (Erikson, 1958b, 1969). If left unguided such individuals may use their ‘gifts’ or potential for society’s destruction as occurred in the case of Hitler. In light of the latter, Erikson (1956, 1958b, 1964a, 1968a) stressed the importance of individuals who function as mentors or parental figures. According to Erikson (1956, 1958b, 1964a, 1968a) mentors and parental figures serve a significant function. Therefore such roles and relationships should not merely be pathologised as a parental-transference on the part of the gifted individual or any individual struggling to gain ego coherence (Erikson, 1956, 1958b, 1964a, 1968a). If such pathologising occurs the value and potential of relationships with mentors or parental figures is negated and their influence on the development of extraordinary individuals is left misunderstood (Erikson, 1958b). In line with Erikson’s reasoning mentors who recognise individuals and their abilities may make the difference between the individual rebelling completely, withdrawing totally, or developing extraordinarily.

2.11 Erikson’s psychosocial theory in current research and practice

The previous section focused on Erikson’s influence on the development of psychobiography, his methodological and ethical concerns regarding psychobiographical research, as well as his findings on the development of extraordinary individuals. This section extends the focus of

Erikson's influence to international and local research, as well as practical applications of his psychosocial theory.

2.11.1 International research

As previously mentioned in this chapter (section 2.2), Erikson continues to influence the development of psychobiographical research (Denzin, 1989; Fouché & Van Niekerk, 2010; Sollod et al., 2009). His theory of the stages of psychosocial development is still utilised to guide studies as well as to produce new information and theories (Miller, 2010). In particular, Erikson's (1950/1973) theory is used in researching lifespan development (Bennett & Douglass, 2013; Miller, 2010; Zhang & He, 2011). It is also often used to research the pursuit of identity in adolescence and young adulthood, as well as identity in old age (Miller, 2010; Schachter, 2004, 2005; Syed, 2012; Zhang & He, 2011). Erikson's (1950/1973) psychosocial theory and triple bookkeeping approach have been particularly useful in research that involves cross cultural (Miller, 2010; Zhang & He, 2011) as well as gender and ethnicity (Johnson-Bailey, 2004) concerns respectively.

While much research using psychosocial theory as a framework has focused on identity studies, a wide range of human experiences have also been researched. This can be viewed with Kramer's (2002) application of Erikson's (1950/1973) psychosocial theory and the psychobiographical approach to research and understand the lives of individuals who committed suicide. According to Kramer (2002) the psychobiographical approach facilitates exploring the individuality of each case, while psychosocial theory (Erikson, 1950/1973) aids the illumination of the development of a particular individual's wish to commit suicide. Kramer (2002) found that psychosocial tasks may have been engaged with positively, yet some individuals were unable to integrate ego strengths into their identities. In particular a lack of integration of trust and hope lead to depression, suicidal ideation and activity (Kramer, 2002).

The importance of the development of basic trust (Erikson, 1950/1973) was also explored in three studies by Trzebinski and Zieba (2013). They used psychosocial theory to explore trust and its influence on recovery and posttraumatic growth in oncology patients (Trzebinski & Zieba, 2013). The results of these studies revealed that the presence of basic trust in oncology patients

related to (a) patients being able to positively deal with their illnesses, (b) optimistically reinterpret their lives and futures, as well as (c) their posttraumatic growth (Trzebinski & Zieba, 2013).

In line with a focus on optimal development and a “philosophy of resilience” (Greene et al., 2010, p. 497), Erikson’s (1950/1973) theory was employed by Greene et al. (2010) to assess healthy psychosocial development in Holocaust survivors. Greene et al. (2010) found that despite popular belief, Holocaust survivors favourably negotiated psychosocial crises and developed healthy personalities. The only exception was the development of trust (Greene et al., 2010). While trust was the least developed ego quality among the Holocaust survivors, a sense of industry was the most developed (Greene et al., 2010). Erikson’s theory was useful to this study as it incorporates environmental and historical influences on psychological development (Greene et al., 2010). It was found that despite the nature of the concentration camps, there was still an intergenerational cycle among the prisoners (Greene et al., 2010). They negotiated developmental crises and developed ego strengths through establishing bonds with other prisoners as well as their own ‘societal’ structures within the camps (Greene et al., 2010).

Despite previous accusations that psychosocial theory is heteronormative and homophobic, it has been found to be particularly useful in understanding the psychosocial development as well as mental health issues of lesbian, gay, bisexual, and transgender (LGBT) individuals (Bennett & Douglass, 2013; Frable, 1997). The research of Bennett and Douglass (2013) also enabled the development of practical tools, based on Erikson’s psychosocial theory, for clinicians to use when treating LGBT individuals with psychological difficulties (Bennett & Douglass, 2013).

A less mainstream use of Erikson’s theory has been qualitative (Irvine, 2013) as well as quantitative (Marks, Koepke, & Bradley, 1994) research in the establishing field of human animal interaction. Both studies involved analysing how attachment to companion animals aids psychosocial development and in particular generativity (Irvine, 2013; Marks et al., 1994). The studies focused on different socio-economic groups such as homeless and formerly homeless people (Irvine, 2013), and young adults at university (Marks et al., 1994). Despite the differences in methodology used and the population dynamics of the participants of each study, similar

results were found (Irvine, 2013; Marks et al., 1994). In addition to generativity, Irvine (2013) as well as Marks et al. (1994) found that taking care of companion animals increased or contributed to a sense of hope, trust, empathy, productivity, identity, and social interaction. Gender and age were not significant to the findings (Irvine, 2013; Marks et al., 1994). However, participants' relation to the animals, such as being primary caregivers, was significant to the resolution of psychosocial crises (Erikson, 1950/1973; Marks et al., 1994). According to Marks et al. (1994), the findings of their study align with Erikson's (1950/1973) theory that individuals do not have to have children of their own in order to be generative.

Another innovative use of psychosocial theory in research can be viewed in the interdisciplinary research of Danze, Ruckman, Winn, and Sonnenberg (2010). Danze et al. (2010) used an interface between psychological and architectural research to develop interactive 3-D and 4-D models of Erikson's psychosocial development. These physical models offer a visual representation of Erikson's psychosocial stages, including the syntonetic and dystonic elements of the developmental crises (Danze et al., 2010). The models are able to be manipulated to display each individual's psychosocial development and how the individual's personal developmental stages intersect (Danze et al., 2010). The purpose of these interactive models is to generate further research using Erikson's theory as well as to be practical tools for teaching and clinical practice (Danze et al., 2010).

2.11.2 South African research

Most of the research in South Africa employing Erikson's theoretical framework has either been related to the development of identity or the lifespan development of extraordinary individuals in the form of psychobiographies. However, and importantly to the future utilisation of Erikson's theory in South African research, Ochse (1983) developed the *Erikson Scale* to measure the extent to which individuals have resolved the various stages of the life cycle (Erikson, 1950/1973). This scale was used to measure cross-cultural psychosocial development traversing the lifespan (Ochse & Plug, 1986). It was found that psychosocial development related to psychological health and a general sense of wellbeing across South African cultures and races (Ochse & Plug, 1986). Thom and Coetzee (2004) employed the *Erikson Scale* (Ochse, 1983) to assess identity development in adolescents living in a democratic South Africa. In consensus

with other South African researchers, Thom and Coetzee (2004) found Erikson's theoretical framework to be useful in the South African context as it encourages the incorporation of cultural, racial, economical, and historical factors (Erikson, 1950/1973, 1968a).

There has been particular interest in the identity development of adolescents living in South Africa after apartheid or having been born and raised in a democratic South Africa. This may be viewed in the research of Stevens and Lockhart (1997), Alberts, Mballo, and Ackerman (2003), Richter, Norris, and De Wet (2004), Richter, Norris, Pettifor, Yach, and Cameron (2007), as well as Norris et al. (2008). While the aforementioned researchers found gender, racial, as well as regional differences in their results, they found Erikson's theoretical framework useful to explore identity development in the South African context as well as to explain the differences in psychosocial development.

The psychobiographies done by South African researchers employing Erikson's theoretical framework have mostly been for Masters' theses and two Doctoral theses thus far. While the subjects of the studies are not all South African, they are from various cultural, racial, and socio-economic backgrounds (see table 2.2). The researchers found Erikson's psychosocial theory to be relevant and useful in explaining their subject's personality development. However, Chezé (2009), Pieterse (2012), and Nel (2013) found that Erikson's theory places more focus on optimal development. As a result Erikson's concepts may need more elaboration or clarification when being used to illuminate the lives of individuals with a dysfunctional developmental schema, such as serial killers (Chezé, 2009; Pieterse, 2012). Nevertheless, Pieterse (2012) considered Erikson's theory to be of value in illuminating the development of John Wayne Gacy's pathology, as well as the influence that abuse may have on the resolution of developmental crises. The latter was also found to be the case in study of Antwone Fisher (Wannenburg, 2013).

Erikson's psychosocial theory seemed to have been particularly applicable in analysing the lives of extraordinarily creative individuals such as the artists van Gogh (Muller, 2009), Pollock (Müller, 2010), Jackson, (Ruiters, 2013), Fisher (Wannenburg, 2013), and Theron (Prenter, 2015), as well as scientist Curie (Roets, 2015). While this may be coincidence, it may also be

Table 2.2: South African Master’s and Doctoral level psychobiographies using Erikson’s theoretical framework

	SUBJECT	RESEARCHER	YEAR
1	Hendrik Frensch Verwoerd (political leader)	Claasen, M. J.	2007
2	Vincent van Gogh (painter)	Muller , H. R	2009
3	Mahatma Gandhi (political leader)	Pillay, K	2009
4	Jeffrey Lionel Dahmer (serial killer)	Chezé, E	2009
5	Paul Jackson Pollock (painter)	Müller, T	2010
6	John Wayne Gacy (serial killer)	Pieterse, J	2012
7	Antwone Quenton Fisher (writer)	Wannenburg, N	2013
8	Michael Jackson (entertainer)	Ruiters	2013
9	Helen Suzman (activist/politician)	Nel	2013
10	Martin Luther King Junior (clergymen)	Pietersen	2014
11	Charlize Theron (actress)	Prenter	2015
12	Marie Curie (scientist)	Roets	2015
13	Wilford Woodruf and Gordon Bitner Hinckley (Mormon prophets)	Saccaggi	2015

because of the themes of play and creativity running throughout Erikson’s theory making it more applicable to the illumination of the lives of artists or individuals who employ creativity in order to develop revolutionary ideas. Another possible reason is the influence that Erikson’s interest in art and creativity, whether conscious or unconscious, may have had on the development of his theory.

Irrespective of the subjects’ various occupations and reasons for being famous or infamous, psychosocial theory was deemed valuable for analysis owing to its focus on the influence of societal as well as historical factors on personality development (Chezé, 2009; Claasen, 2007; Muller, 2009; Müller, 2010; Nel, 2013; Pieterse, 2012; Pietersen, 2014; Pillay, 2009; Roets, 2015; Ruiters, 2013; Saccaggi, 2015; Wannenburg, 2013). The analyses of these psychobiographical subjects’ lives revealed a consensus with Erikson’s (1950/1973, 1956, 1958b; 1964a, 1968a, 1969) view that extraordinary individuals have some difficulty, conflict, or

trauma in childhood or youth which drives them and their life's work (whatever form it may take).

2.11.3 Practical application

A particular strength of Erikson's psychosocial theory is its practical applicability. Psychosocial theory as a research framework has been used in researching and developing projects that promote healing and optimal psychological growth. This can be viewed with (a) the development of Filipino art groups for disabled older adults to help them form coherent selves and life stories in later life (De Guzman et al., 2011), (b) the use of companion animals to aid homeless and formerly homeless people to establish a moral identity, be generative, and resolve earlier developmental crises (Irvine, 2013), (c) the establishment of a framework for mentorship that both promotes the psychosocial growth of the mentor and mentored (Studer, 2007), as well as (d) the creation of fact sheets for adolescents with autism and their parents to explain the psychosocial difficulties faced in the identity stage (Brereton, 2014), and (e) the devising of evidence-based practices that develop the psychosocial skills of individuals with autism for the No Child Left Behind Act and projects (Stephens, Dieppa, & LeBlanc, 2006).

Further practical applications of Erikson's psychosocial theory have been in small animal assisted therapy (Fine, 2010) and equine assisted psychotherapy (Vidrine, Owen-Smith, & Faulkner, 2002). Fine (2010) as well as Vidrine et al. (2002) incorporate and suggest the employment of animals as co-therapists when working with individuals who are struggling to resolve developmental crises (Erikson, 1950/1973). Esposito, McCune, Griffin, and Maholmes (2011), as well as Melson (2003) maintain that a pertinent area of human animal interaction research is the focus on how animals may positively influence and assist the psychological development of individuals. According to Fine (2010), Erikson's theoretical framework naturally aligns with the employment of animals in the therapy setting. Companion animals as well as horses have been found to assist and facilitate resolutions of psychosocial crises (Erikson, 1950/1973) at any stage in the life cycle (Fine, 2010; Irvine, 2013; Vidrine et al., 2002).

Various researchers (Fine, 2010; Irvine, 2013; Marks et al., 1994; Vidrine et al., 2002) suggest that a key element in animal assisted therapy is the non-judgmental nature of animals and their

ability to facilitate the development of trust. According to Fine (2010), relationships with animals offer a different type of interaction and experience for individuals who have had traumatic experiences with people. Some individuals not only learn to trust the animals they are interacting with, but learn to trust themselves and other individuals during the process of working with the animals (Fine, 2010, Vidrine et al., 2002). The trust relationships that are developed further facilitate the development of empathy, care, purpose, competence, and identity when individuals learn to understand the animals and have various responsibilities surrounding their wellbeing (Fine, 2010, Irvine, 2013; Vidrine et al., 2002). Examples of this in equine assisted therapy can be observed when individuals learn how to ride and handle the horses respectfully, as well as being responsible for the horses' grooming and feeding during the therapy sessions (Vidrine et al., 2002). Fine (2010) as well as Vidrine et al. (2002) found that as individuals negotiated various developmental tasks with animals their interactions with humans became less strained, which further assisted their psychosocial development. According to Fine (2010), animals may serve as catalysts for difficult areas of discussion. Fine (2010) provides an example of employing a bird as a co-therapist for a young girl who had been abused. The discussion and interaction with the bird revolved around both the bird and the girl's experiences of respect, trust, and autonomy (Fine, 2010). The relationships between animals and therapists are also important as they offer a model, as well as counter relationship, to debilitating relationships clients may have experienced (Fine, 2010; Vidrine et al., 2002).

Animals have also been employed to facilitate psychosocial development in children with learning disabilities and the elderly in programs such as the *Pets are Loving Project* (Fine, 1992, 2010). The children, who were the companion animal handlers, were found to have an increased sense of autonomy, purpose, and competence (Erikson, 1950/1973; Fine, 1992, 2010). The older adults who were visited by the children and companion animals were noted to have experienced a decrease in isolation as well as an increased sense of integrity (Erikson, 1950/1973; Fine, 1992, 2010). Programs such as *Second Leash on Life* and *Project Second Chance* (Duel, 2000; Fine, 2010; Harbolt & Ward, 2001) involved the rehabilitation and psychosocial development of at risk adolescents who assisted with the rehabilitation and homing of rescue dogs. The adolescents in these projects developed a sense of trust, responsibility, a more integrated identity, as well as commitment or fidelity (Duel, 2000; Erikson, 1950/1973; Fine, 2010; Harbolt & Ward, 2001).

Esposito et al. (2011) suggest that studying the influence of animals on human development may answer key developmental questions, as well as how animals may promote optimal psychological growth in people. Fine (2010), Irvine (2013), Marks et al. (1994), and Vidrine et al. (2002) have demonstrated that animals assist in psychosocial development, as well as that they are able to contribute to projects which facilitate psychological healing. In light of their research Erikson's theoretical framework may be relevant, as well as useful, to future human animal interaction research.

2.12 Critique of psychosocial theory

The previous sections of this chapter have laid the foundations for understanding Erikson's theory and discussed his views on psychobiographical research, as well as his influence on current research. This section will provide a discussion on criticisms of psychosocial theory.

A foremost criticism of Erikson's psychosocial theory is that it is misogynistic and irrelevant to women's development (Douvan, 1997; Franz & White, 1985; Schultz & Schultz, 2013; Van Manen & Whitbourne, 1997). A further primary criticism is that psychosocial theory lacks clearly defined constructs or variables for measurement (Hamachek, 1988; Ochse & Plug, 1986). According to Franz and White (1985) psychosocial theory is too focused on masculine constructs such as autonomy, industry, and identity. This is to the exclusion of fully describing the development of intimacy and attachment, which they feel are more applicable to women (Franz & White, 1985). Douvan (1997) disagrees with Franz and White (1985) and holds the position that Erikson's emphasis on trust, intimacy, and generativity account for developmental issues that some may align more with women's experiences of development, and that these are often not emphasised. Secondly, each individual man and woman develops differently and may place greater emphasis on any of the psychosocial issues, which may previously have been aligned with a particular gender (Douvan, 1997). It may also be argued that assuming that concerns such as identity, industry, and autonomy are not relevant to women is in itself sexist.

Douvan (1997) argued that any masculine bias in Erikson's theory may be a reflection of the historical time in which he was working. While this may be the case, Erikson was also ahead of his time. This can be viewed in his arguments that women should be included in societal,

political and world affairs decisions, as well as that patriarchy is a ritualised authority which suppresses women's authentic creativity and abilities (Erikson, 1964b, 1968a, 1977). In line with Erikson's triple bookkeeping approach (1950/1973, 1964b) he did view biology and therefore anatomy and physiology as important to both men and women's development. As Erikson (1964b, 1968a) noted, there are some undeniable anatomical and physiological differences between men and women. Erikson did not necessarily view this as weakness in women, but as an inherent difference. This view is not in itself misogynistic or sexist. However, Erikson has been accused of viewing anatomy and gender differences as destiny (Franz & White, 1985; Sollod et al., 2009). According to Erikson (1964b) this is only the case in so far as "it determines the potentials of physiological functioning and its limitations" (p. 600). Erikson (1964b, 1968a) also viewed differences in sex as important as this will influence how individuals are related to, as well as relate to themselves and others based on whether they are male or female. This will in turn influence the individual's psychosocial development. While Erikson acknowledged certain biological differences in men and women he believed that both "sexes are most similar in the workings of the ego" (Erikson, 1964a, p. 129) which is "closest to consciousness, language and ethics" (Erikson, 1964a, p. 129).

While Erikson's constructs have been accused of lacking operational quality, Hamachek (1988, 1990), Ochse and Plug (1986), as well as Sollod et al. (2009) maintain that there are descriptions of emotions and attitudes for each psychosocial stage which may be measured. This measurement may occur either through subjective reports or through operationalising behaviours, which may be associated with the negative or positive development of ego qualities of each stage. The operationalising of Erikson's constructs or behaviours associated with the emotional and attitudinal qualities of each stage, has occurred for decades. This may be viewed in the research of Hamachek (1988, 1990), Domino and Affonso, (1990), Van Manen and Whitbourne (1997), Zhang and He (2011) and Luyckx et al. (2013), to name a few examples.

Eriksonian constructs have also been accused of being too abstract, ambiguous and vague (Miller, 2010; Ryckman, 2013; Schultz & Schultz, 2013), and as a result are continuously linked to identity formation in order to be understood (Ryckman, 2013). Ryckman (2013) furthered this argument by stating that Erikson (1950/1973) places too much emphasis on identity formation.

Firstly, Erikson (1950/1973) admits that at times his writing may seem more artistic than scientific and that its purpose is sometimes more to provoke thought and further research than being entirely based on facts or definitions. However Erikson's body of work was based on many years of clinical experience as well as research. When attention is placed on reading Erikson's literature that deals with concepts that relate to the life cycle, which is by far the greater focus of his work, instead of merely reviewing the sections regarding the eight stages, a more in-depth understanding may emerge. An understanding of Eriksonian concepts and psychosocial theory is also increased when tracing his work and its development throughout Erikson's career.

While there may be emphasis placed on identity formation in Erikson's theory, it is merely the focus of one stage. The identity stage has been the most researched of all Erikson's stages of the life cycle (Cloninger, 2012). Therefore the view that Erikson's (1950/1973) theory places disproportionate emphasis on identity formation may have developed as a result of more research (by researchers other than Erikson) focusing on this stage as opposed to other stages in the life cycle. A further reason, which may cause those less familiar with Erikson's theory to assume that the majority of his focus is on the identity stage, is a lack of differentiation between this stage and Erikson's concept of ego identity (1950/1973, 1968a). The concept of ego identity (Erikson, 1950/1973, 1968a) runs throughout the life cycle as it relates to who one is on a continuum. The conflicts and resolutions of every stage contribute to the individual's sense of ego identity (Erikson, 1950/1973, 1968a). Ego identity relates to what is known today as the self concept (Burke & Stets, 2009). Erikson's (1950/1973, 1968a) focus on ego identity is necessary to the entire lifecycle, and differs from the identity stage and crisis, as it refers to individuals' understanding of themselves in entirety as opposed to roles which individuals assume in society.

Aside from Erikson's (1950/1973) theory being criticised for being difficult to use for assessment as it lacks operational quality, it has been mentioned that it is difficult to assess the longitudinal validity of the theory as such research would be costly and complicated to conduct (Ryckman, 2013). In response to this argument, research such as psychobiographies using Erikson's theory to interpret a life history, may be used to assess the suitability and validity of the longitudinal developmental processes of psychosocial theory.

The relevance of psychosocial theory to all socio-economic groups has been questioned by researchers who contend that not all individuals are able to have an identity crisis and particularly not a moratorium as they need to start earning a living as soon as possible (Schultz & Schultz, 2013; Slugoski & Ginsberg, 1989). This criticism reveals that Erikson's idea of a moratorium is another concept of his which is potentially misunderstood. Erikson (1968a) did not negate that for some individuals a moratorium may take the some form of free time in their culture to explore who they are. For others it may take the form of an institutionalised moratorium in such places as universities, psychiatric hospitals, or prisons (Erikson, 1956, 1968a). However, Erikson did not intend that a moratorium is a time when individuals do 'nothing' or do not work. A moratorium may extend well into the individual's twenties (Erikson, 1958b, 1964a). For some individuals it takes the form of an "extended intellectual 'moratorium'" (Erikson, 1958b, p. 9) until they reach a creative breakthrough or understanding of what they believe to be their purpose in life. It is a time in which individuals consolidate who they are and establish a more integrated ego identity, ego synthesis and sense of wholeness, not to the exclusion of earning a living (Erikson, 1958b, 1964a). An example of such a moratorium, which includes earning a living, can be seen when Einstein worked at the Patent Office before coming to fruition as a physicist. Darwin and Freud are also examples of individuals who were working during their moratorium and then changed vocational paths as they discovered who they were and how they wanted to use their abilities (Erikson, 1964a). A moratorium however does not necessarily culminate in a vocational shift or creative breakthrough. The outcome may be an inner transformation in which individuals have better conscious understandings of who they are and may therefore actively be able to be that person in spite of their socio-economic status (Erikson, 1958b, 1964a).

Despite criticisms of Erikson's psychosocial theory, it is considered a particular strength of this theory that it continues to generate research (Feist & Feist, 2013). As was discussed in detail in the previous section, psychosocial theory is employed in diverse investigations for both mainstream and alternative research. This displays the extensive potential of Erikson's theory. Meyer, Moore, and Viljoen (2008) as well as Olson and Hergenbahn (2013) support that Erikson's theory is one of the most useful theories developed in psychology and has far reaching influence. Erikson's notion of identity, the influence of society, the individual's history and

culture on development have also been influential on the advancement of developmental psychology (Burger, 2011; Douvan, 1997; Hamachek, 1988, 1990; Sollod et al., 2009). As Erikson's psychosocial theory (1950/1973) extends development into adulthood, it was critical in establishing the field of lifespan development. It is also of value as it provides a theoretical framework to understand the psychological growth and development of the self at any given time in the life cycle (Douvan, 1997; Hamachek, 1988; Schultz & Schultz, 2013).

A significant strength of Erikson's (1950/1973) psychosocial theory is its applied or practical value (Feist & Feist, 2013; Ryckman, 2013) as was discussed in detail in section 2.10.3. Erikson's theory has been used to develop treatment programs for individuals, schools, hospitals, and businesses (Feist & Feist, 2013). The concepts of the various ego crises have been used by counselors to address developmental issues (Feist & Feist, 2013; Ryckman, 2013). This is particularly valuable in terms of counselors assisting with career choices, the establishment of identity formation, and generativity concerns (Feist & Feist, 2013; Ryckman, 2013).

A neglected impact of Erikson's psychosocial theory is its influence on the development of concepts related to positive psychology. Aside from Vaughan and Rodriguez' (2013) acknowledgement of Erikson's influence on positive psychology and the lack of awareness surrounding this influence, there is little mention of Erikson's theory in this area. Erikson's focus on optimal development, as well as how people may heal and gain ego synthesis despite traumatic experiences, is a potential resource for the further development of positive psychology (Vaughan & Rodriguez, 2013).

2.13 Chapter summary

This chapter introduced Erikson's psychosocial theory as the theoretical framework that will be used to interpret Temple Grandin's development. This was followed by an overview of Erikson's critical concepts, psychosocial theory, and his location in the history of personality and developmental psychology. Erikson's eight stages of psychosocial development that will be used to describe and interpret Grandin's life were summarised to clarify the theoretical framework. Erikson's influence on the development of psychobiography, his methodological guidelines, as

well as views on the development of extraordinary individuals were provided. Lastly, the use of psychosocial theory in recent research as well as a critique of the theory were discussed.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

It is always good to know which ideas cannot be checked directly, but it is not necessary to remove them all. It is not true that we can pursue science completely by using only those concepts which are directly subject to experiment. (R. P. Feynman)

3.1. Chapter preview

This chapter deals with the research objectives of this study as well as the overall research design and methodology. The research objectives are delineated at the outset as the methodological considerations that follow are dealt with in relation to these objectives. As the overarching approach to this study is psychobiographical, an initial orientation to the field will be provided with an overview of psychobiography as well as a description of related concepts. Psychobiography as a research methodology is then addressed. The latter part of this chapter focuses on the design of the study, the participant and sampling method, theoretical conceptualisation, as well as the data collection, processing, and analysis. Lastly, the validity as well as ethical considerations that have been taken into account for this study are discussed.

3.2 Research objectives

There are three main objectives to this study. The first being (a) to describe and interpret the life of Temple Grandin through the use of Erikson's theory of psychosocial development (Erikson, 1950/1973), (b) to informally assess the suitability and usefulness of Erikson's theory (1950/1973), and (c) to make a contribution to the growing academic field of psychobiography. The researcher anticipates that the achievement of these objectives will (a) make a contribution to psychological knowledge and understanding of the development of extraordinary individuals (Kóváry, 2011), (b) contribute to the refinement of Erikson's developmental theory through analytical generalisation (Denzin, 1990; Irvine, 2013; Roberts, 2002; Syed & Seiffge-Krenke, 2013; Yin, 2014), (c) provide insight into the psychological development of a person with autism (O'Haire, 2013a, 2013b), (d) contribute psychological knowledge to the emerging field of human-animal interaction (Griffin et al., 2011), as well as (e) contribute to psychobiographical research in South Africa (Fouché & van Niekerk, 2010).

3.3. Brief overview of the psychobiographical approach

Psychology can be viewed as being concerned with discovery and knowledge production in three overarching domains (Kluckhohn & Murray, 1953; Runyan, 1982, 2006). Runyan (1982, 2006) suggests a three tier approach that enables both nomothetic and idiographic knowledge generation, as people are studied at (a) the level of the general human population, (b) the level of groups, and (c) at the level of the individual. While these three levels or domains are not viewed as completely independent of one another, each level of human existence and functioning is significant in its own right and requires further focus and research (Runyan, 1982). With regard to knowledge generation at the level of the individual, the psychobiographical case study method is suited to facilitate research as it is idiographic and more specifically morphogenic in nature (Allport, 1962; Cara, 2007; Runyan, 1982).

Psychobiographical researchers methodically describe life histories and interpret them by means of psychological theories (Fouché & Van Niekerk, 2010; McAdams, 1988a). The research typically focuses on exemplary and completed lives (Carlson, 1988) and aims “to discern, discover or formulate the central story of the entire life, a story structured according to psychological theory” (McAdams, 1994, p. 12). The cases that are studied are usually of individuals who are of particular interest to society as a result of excelling in their particular fields, be they to the benefit or detriment of society (Fouché & Van Niekerk, 2010; McAdams, 1988a).

Psychobiography is still developing and establishing itself as a field within psychology (Clark, 2007; Fancher, 2006). As with other case study methods, the validity and worth of psychobiographical studies have often been questioned (Clark, 2007; Fouché & Van Niekerk, 2010; Howe, 1997). Despite its limitations, psychobiographical research contributes to the confirming or refuting of psychological models, especially with regard to the further development of personality and developmental psychology (Denzin, 1990; Fouché & Van Niekerk, 2010; McAdams, 1988a, 2009; Schultz, 2005a). Barresi and Juckes (1997), as well as Manganyi (1983, 2013) maintain that psychobiography is one of the areas of psychology most equipped in its method to deal with the storied nature of lives and meaning making that takes place across entire life spans. As a result, its growth has been viewed as necessary but

nevertheless as a revolt against the recognised forms of doing research and theory generation (Barresi & Juckes, 1997; Clark, 2007).

Psychobiographical research typically focuses on complete life histories as well as the impact of historical, societal, and political influences (Clark, 2007; Manganyi, 2013; McAdams, 1988a; Ponterotto, 2013; Runyan, 2006). This allows for detailed investigation of longer-term developmental processes (Barresi & Juckes, 1997; Kóváry, 2011). Psychobiographies usually draw attention to the conditions or contexts that encourage positive development of those who excel (Denzin, 1990; Fouché & Van Niekerk, 2010; Schultz, 2005a, 2005b). However, they can also provide more knowledge surrounding the possible effects on development as a result of experiencing abusive situations or living conditions. Once a large number of cases of similarly extraordinary individuals have been studied, comparative studies can be conducted that may reveal important similarities and differences (Elms, 2007; Howe, 1997; Isaacson, 2005; Kóváry, 2011).

As previously mentioned, psychobiographical research is both idiographic and morphogenic in nature. The idiographic approach employed in psychobiography is significant, as Carlson (1988) states, the point of psychobiography is to “seek coherent *patterns* (as contrasted with dimensionalized variables) and examine the “fit” of life-history data to conceptual categories” (pp. 108-109). This allows for the formulation as well as illumination of “the central story of the entire life” (McAdams, 1994, p. 12) of a research subject by employing “substantial use of psychological theory and knowledge” (Elms, 1994, p. 4). There has been contention around the idiographic approach as a result of nomothetic researchers and supporters disputing the value of studying individual lives. The main objections to studying the individual life are that the results of such research are not normative and therefore not scientific (Luthans & Davis, 1982; Runyan, 1983). As stated in the first paragraph of this section, Runyan (1982, 1983, 2006) postulates that one of the three dimensions of psychological discovery is at the level of the individual, and that such research is as important as studying the population at large or how the individual measures in relation to the group. Gough and Madill (2012) add that people are often more complex than the suggested variables or attributes in experimental techniques. In support of this view is Allport (1962, p. 405) who thought that to “generalize about personality is to lose it”. Mayer and

Leichtman (2012) suggest that a study focusing on a well known individual can simultaneously be used to increase psychological knowledge within the field and in the public domain by clarifying and demonstrating various psychological principles. Findings therefore need not be normative in order to be of any value. Only using statistical or normative measures is problematic as the generalised results that one derives may not hold true for anyone of the individuals in the population being studied (Allport, 1962; Cervone, 2005; Kramer, 2002; Lamiell, 2013; McAdams & West, 1997; Molenaar, 2004). Furthermore, in normative studies the identity of an individual holds no significance (Simonton, 1999) and the complex nature of individual cases may also remain unaddressed (Mayer & Leichtman, 2012). The idiographic approach in relation to psychobiography as a research method will be discussed in more detail in section 3.5.4.

For psychobiography, as well as other life story methodologies, the formation and illumination of a subject's life by means of a psychological theory involves the "re-presenting" (Etherington, 2007, p. 599) or "recreation of a life" (Manganyi, 1983, p. 34). Such recreations of a life raise concerns surrounding the 'truth' of the story being told, as well as interpreted, and whose voice is being re-presented (Etherington, 2007; Manganyi, 1983; Ngwenya & Manganyi, 2003). Psychobiographers do not take for granted or assume that there is not dissonance between language or the words used to describe and interpret experiences and actions, as well as the 'truth' or 'actuality' of these experiences and actions (Manganyi, 1983). According to Manganyi (1983) there can never be an autobiographical or biographical truth even when interpreted by means of psychological theory. The notion of 'truth' is further complicated by the various and numerous voices that are present in psychobiographical data (Manganyi, 1983; Ponterotto, 2013). At best the psychobiographical researcher can stand as a witness, who focuses on, interprets, and re-presents a life story that is lived and told by the subject, as well as informed by other witnesses and participants (Manganyi, 1983).

This inability to re-create the truth or unknowable reality (Manganyi, 1983) of a life does not, however, make psychobiographical research an insignificant endeavour. This is because the point of psychobiographies is to construct psychological meaning (Elms, 1994; Manganyi, 1983; Ngwenya & Manganyi, 2003; Ponterotto, 2013). This psychological meaning enables particular

lives and their intersection and interaction with an occupational field, society, and time in history to be understood (Elms, 1994; Manganyi, 1983; Ngwenya & Manganyi, 2003; Ponterotto, 2013). While this construction of meaning may not be exact truth, it is also not mere creation. Therefore psychobiographies should present knowledge that centers on the voice of the research subject while being psychologically relevant and worthwhile (Elms, 1994; Ngwenya & Manganyi, 2003; Ponterotto, 2013). In summary of this overview, psychobiographical research does not aim to illuminate the “truth of the subject, the realm of reality, of actuality, the realm of the impossible”, but rather aims at enabling the “creation of meaning, after an approximate actuality, after a truth supposed possible which is brought about by systematic witnessing” (Manganyi, 1983, p. 50). The outlined methodology that follows in this chapter will facilitate the systematic witnessing of Grandin’s life.

3.4. Related concepts

3.4.1 Autobiography

An autobiography is a form of life story or life narrative told from the first person perspective (Barresi & Juckes, 1997; McAdams 1988a; Runyan 1982). Autobiographies may also take the form of intellectual autobiographies (Manganyi, 2013). Intellectual autobiographies are often shorter than whole-life autobiographies as they focus on providing information about an individual’s academic or career development (Manganyi, 2013). According to Gough and Madill (2012) qualitative research is strengthened when the subjects of studies own subjective views and experiences are taken into account. Howe (1997) furthers this argument by suggesting that the insider perspective that the subject may provide is crucial to understanding the impact of particular events or situations on the individual’s life. Autobiographies or personal narratives not only provide further insight into individuals’ lives, which may enrich psychobiographical study and understanding (Barresi & Juckes, 1997), but in some cases present reasons or more sound ‘evidence’ for the thoughts or emotions surrounding creative outputs than the mere conjecture that occasionally occurs (Lake, 1983). The self-appropriation or reconstitution which may occur through the process of autobiographical writing may have positive psychological effects for the writer and provide valuable information for the psychobiographer (Manganyi, 1983). However, Manganyi (1983) warns that an autobiography should not necessarily be viewed as an

“authoritative text” (p. 37). Information should be verified and the reasons for and conditions under which the writing took place should be considered (Manganyi, 1983).

3.4.2. Biography

Biographies, like autobiographies, are a form of life narrative or life history (McAdams, 1988a; Runyan, 1982). A biography is the study of an individual life, written by someone other than the subject of the study (McAdams, 1988a; Runyan, 1982) and aims to provide insight about a particular life (Miller, 2000). In the past biographers have usually approached the life of an individual from a historical or literary perspective (Howe, 1997; Roberts, 2002). However, biographies may also be written from a particular interpretative lens, such as sociological, anthropological, or psychological to name a few examples (Roberts, 2002). Biographical researchers draw from public, private, as well as archival data (Lake, 1983; Roberts, 2002; Simonton, 1999). Psychobiographers utilise biographies as a source of indirect or unobtrusive data to which a psychological theory may be applied to illuminate the individual’s life (Clark, 2007; Howe, 1997; Simonton, 1999).

3.4.3 Life histories and life narratives

With a call to refocus personality psychology on more idiographic methods during the 1970’s and the growth of the narrative approach to psychology in the 1980’s, psychobiography and the value of studying individual lives were reignited (Barenbaum & Winter, 2003; Bruner, 1986; Carlson, 1971; Kóváry, 2011; Laszlo, 2008). According to Runyan (1982) it is important to distinguish between life histories as (a) a method of collecting data from respondents in the form of their life stories as they narrate them or (b) as the subject itself, to be interpreted through a selection of numerous methods. The life history method has faced many criticisms such as lack of accurate information, the reconstruction of assumed life events, as well as too narrow a focus with regard to topics (Runyan, 1982). These criticisms, as well as others not mentioned, have incited disapproval toward anything regarded as a ‘life history’ (Runyan, 1982). For this reason it is imperative to distinguish and establish life histories or life narratives as the subjects of studies that refer to the “sequence of events and experiences in a life from birth until death” (Runyan, 1982, p. 6) as opposed to merely being a method of data collection.

Runyan's (1982) view is supported by other researchers and theorists who agree that life histories or narratives should be viewed as the subject matter of the research (Barresi & Juckes, 1997; Bernard & Ryan, 2010; Denzin, 1990; Fancher, 2006; McAdams, 1988a). However, these researchers' opinions differ in that they either view or include as life narratives, the person's autobiographical account or own story, structured with a beginning and ending, significant experiences and feelings, themes, as well as the individual's way of creating meaning and order (Barresi & Juckes, 1997; Bernard & Ryan, 2010; Denzin, 1990; Fancher, 2006; McAdams, 1988a). Mazlish (1976), Simonton (2003), Manganyi (1983, 2013), as well as Bernard and Ryan (2010) extend the definition of life history to include information on (a) how the society and culture of the individual in a particular historical period influences the individual's development and life narrative or story, as well as (b) how the individual may have impacted on the culture and society of the time.

3.4.4 Psychohistory

Psychohistory is an important relation of psychobiography. However, it is a term that often causes confusion with regard to its focus and difference (Kóváry, 2011; Runyan, 1982). Prior to the establishment of psychobiography there was concern surrounding the nature and scope of psychohistory as a result of the tension between history and psychology as disciplines (Kren & Rappoport, 1976; Runyan, 1982, 1988a). The potential for mutual benefit was not recognised and some academics wished to keep the disciplines separate (Runyan, 1982). More recently there has still been discrepancy about the relation between psychohistory and psychobiography (Kóváry, 2011). Botand (1991) views psychobiography as a sub discipline of psychohistory which incorporates the application of psychology to any past people or events. These applications of psychology to history include the lives of famous people as well as motivations behind historical group events or the differences in family and social structures at different times in history (Botand, 1991). Mazlish (1976), as well as Runyan (1982), Shiner (2005), Kóváry (2011), and Ponterotto (2014) make a distinction between psychobiography and psychohistory in that psychobiography is the application of psychology to biography or more specifically the lives of eminent individuals, while psychohistory is the application of psychology to historical events or group behaviour.

3.5 Psychobiography as a research method

With the development of psychobiography it has established itself as a particular research methodology. In most instances it is qualitative, done through an interpretive paradigm and takes the form of a single case study (Schultz, 2005a). Multiple case study research is however increasing (Isaacson, 2005). Most psychobiographies are also idiographic or more specifically morphogenic in nature (Allport, 1962; Runyan, 1982, 1983). The research terms associated with psychobiography will be described further.

3.5.1. Qualitative research

The qualitative approach may be described as an “umbrella term” (Van Maanen, 1979, p. 520) that covers a range of methods, particularly from an interpretive paradigm (Luthans & Davis, 1982; Mellenbergh et al., 2003; Van Maanen, 1979). The qualitative approach to research is naturalistic, holistic, as well as inductive as its focus is on real world situations or whole people as they occur in their natural contexts (Durrheim, 2006; Kelly 2006b; Neuman, 2003). Qualitative research uses observations, interviews, the study of texts, language, and people in their entirety as opposed to discrete variables (Durrheim, 2006; Kelly 2006b). The focus of its interest is in a thorough description of the data as well as the varying complexities of individuals and their circumstances (Durrheim, 2006; Kelly 2006b). Unlike quantitative research that has previously established variables that are to be measured and standardised, qualitative data is allowed to unfold and be understood as the research process deepens (Ashworth, 2003; Bernard & Ryan, 2010; Durrheim, 2006; Parker 1999; Wassenaar, 2006; Willig, 2001).

In contrast to quantitative research which views the researcher as being wholly objective and distanced from the reality and meaning of the data, the subjectivity of researcher and how this affects the interpretation of data is taken into account in the qualitative approach (Kelly, 2006b; Gough & Madill, 2012; Parker, 1999; Stroud, 2004; Taylor, 1999). Some researchers even view their subjectivity as integral to meaning making as long as they maintain awareness or researcher reflexivity (Gough & Madill, 2012; Grubs & Piantanida, 2010; Stroud, 2004; Taylor, 1999).

While qualitative research is increasingly accepted as a suitable approach within itself, it is still viewed as a useful addition to quantitative research as it provides a platform for the development

of hypotheses which can then be tested or measured quantitatively (Terre Blanche, Kelly, Durrheim, 2006). As a rich description of human experience is of value and desired in the qualitative approach, researchers often use an interpretive paradigm with a case study design (Charmaz, 2000; Grubs & Piantanida, 2010; Kelly, 2006b; Simonton, 1999; Willig, 2001; Yin, 2014).

3.5.2. Interpretive paradigm

Research done through an interpretive paradigm takes an empathetic stance to understand the subject of the studies personal experiences (Terre Blanche & Durrheim, 2006; Terre Blanche, Kelly, & Durrheim, 2006). Interpretive research is not concerned with nomothetic principles, causality or standardisation, but with the individual's experiences, which are viewed as the internal reality of the subject (Grubs & Piantanida, 2010; Kelly, 2006c; Terre Blanche & Durrheim, 2006). Research done through an interpretive paradigm attempts to understand the person in context and through interpretation provide a perspective to the subject's narrative (Terre Blanche, Durrheim, & Kelly, 2006; Terre Blanche, Kelly, & Durrheim, 2006). As the interpretive paradigm uses qualitative methodologies for data collection, the researcher's role and subjectivity in interpretation are acknowledged (Grubs & Piantanida, 2010).

An interpretive approach is crucial to psychobiographical study as it allows for the discovery of patterns within the lives of individuals which coincides with the morphogenic nature of this methodology (Allport, 1962; Johnson, 2013; McAdams & West, 1997). An interpretive approach is also important to understanding the individual and therefore to psychobiography as the researcher goes "beyond common sense" (Kóváry, 2011, p. 750) and provides more than a mere explanation of the subject's life. The interpretive approach may therefore be linked to the hermeneutic spiral where the researcher is continually immersed in the data and open to deepened understanding (Kóváry, 2011; Rehnsfeldt & Arman, 2012).

3.5.3. Case study

Case study research is a move from the more general or standardised knowledge generation, as in quantitative research, to the more specific (Kelly, 2006a). Case studies are used to research particular elements of people, specific people, events, contexts, units, organisations or

communities, to name but a few examples (Bernard & Ryan, 2010; Kelly 2006b; Lindegger, 2006; Runyan, 1983). Case studies fall within the idiographic approach to research and are usually thoroughly examined and detailed in their descriptions or explanations (Lee & Tracey, 2005; Lindegger, 2006; McAdams & West, 1997). They may provide in-depth cross-sectional or longitudinal information about a particular individual or situation (Bernard & Ryan, 2010; Lindegger, 2006; Schultz, 2005a). The number of case studies being researched as well as recognition of their worth is increasing (Yin, 2014).

The intention of case studies is to provide a comprehensive description and understanding of the particular phenomenon being researched (Bernard & Ryan, 2010; Lindegger, 2006; McAdams & West, 1997; Miller, 2000; Schultz, 2005a; Yin, 2014). The psychobiographical case study is a specific type of case study that uses indirect methods of data collection, such as biographies and autobiographies, and is usually longitudinal in form (Simonton, 1999). However, direct methods such as interviews may also be used (Elms, 1994; Ponterotto, 2013). The psychobiographical case study goes beyond merely being a descriptive case study by explicitly delving into previously unexplored questions and focusing on explaining and interpreting the life of an eminent individual (Bushman, 1976; Runyan, 1982; Simonton, 1999, 2003).

3.5.4. Idiographic approach to research

The unease between supporters of the idiographic and nomothetic approaches to research has been long standing (Kóváry, 2011; West & Ryu, 2007). The nomothetic approach to research has dominated in psychology as a result of the discipline's attempt to be viewed as a reputable science (Kóváry, 2011; Luthans & Davis, 1982). The nomothetic approach uses quantitative methodologies with the aim of producing standardised or normative results and universal laws (Allport, 1937, 1962; Kóváry, 2011; Luthans & Davis, 1982; Runyan, 1983). In contrast with the more subjective idiographic approach, the nomothetic approach is viewed as being objective (Luthans & Davis, 1982). The points that follow pertaining to the nomothetic approach may be valued by its supporters, but are a cause of contention to those in favour of the idiographic approach. The nomothetic approach assumes that people are more similar than different and that their environments remain stable over time (Luthans & Davis, 1982; Marceil, 1977). While the nomothetic approach derives its laws from statistical measurements across groups, its results are

nevertheless viewed as being ‘true’ for each individual making up the group (Lamiell, 2013; Luthans & Davis, 1982).

The terms idiographic and nomothetic were introduced to psychology by Münsterberg in 1898 (Hurlburt & Knapp, 2006). Allport, who was taught by Münsterberg focused on the idiographic versus nomothetic debate within psychology in the 1930’s (Allport, 1937, 1962; Hurlburt & Knapp, 2006; Kóváry, 2011; Runyan, 1982, 1983). This attention was in response to the focus of psychology being removed from the individual and the distinctive components that make up each person (Allport, 1937, 1962; Kóváry, 2011; Runyan, 1982, 1983). Therefore at the core of the idiographic approach is the person’s individuality (Allport, 1962; Luthans & Davis, 1982; Runyan, 1983). The idiographic approach most often makes use of qualitative methodologies to provide in-depth information about how the individual interacts with others as well as the environment (Lee & Tracey, 2005; Luthans & Davis, 1982). The motivations of individuals as well as perceptions of their lives are valued (Ashworth & Greasley, 2009; Runyan, 1982, 1983). The idiographic approach takes a holistic view to researching the relationship between the components making up the individual as well as how the components or characteristics are structured (Allport, 1962; Lee & Tracey, 2005; Luthans & Davis, 1982). The pattern and structure of a particular individual refer to what Allport (1962) called morphogenesis. The morphogenic approach to psychology, derived from the biological term, is not concerned with what is common to all people but with the elements that make-up the individual as well as how the particular elements are developed and formed (Allport, 1962; Runyan, 1982, 1983).

Both cross-sectional and longitudinal research indicate that people change as they develop over the life course (Cervone, 2005; Foster, Campbell, & Twenge, 2003; Helson, Jones, & Kwan, 2002; Uher, 2013). These findings suggest the importance of research, such as psychobiography, that focuses on the entire life span of a coherent and complex individual as opposed to a snapshot view or a normative result that may provide very little if any information about the individual.

3.6. Research design

This study takes the form of a psychobiographical case study (McAdams, 1988a, 2009). This study employs a single-case research design which can be described as qualitative and morphogenic in nature (Runyan, 1982; Terre Blanche & Durrheim, 2006). This design allows for in-depth description and analysis of personal phenomena and also takes into consideration historical, societal, and political influences (Elms, 1994; Manganyi, 1983, 2013). This investigation will be conducted within the interpretive qualitative paradigm (Terre Blanche & Durrheim, 2006) as it attempts to portray and analyse the life history and psychological growth of Temple Grandin through Erikson's (1950/1973) theory of psychosocial development (Durrheim, 2006).

3.7 Participant and sampling method

Grandin was chosen as the subject of this case study by means of purposive sampling as she is a successful and internationally recognised scientist, author, and activist in spite of struggling with autism (Durrheim & Painter, 2006). She is also purposively sampled as she may be classified as an individual who meets the general characteristics of a subject for psychobiographical research (Durrheim & Painter, 2006; McAdams, 1988a). Purposive or non-probability sampling does not allow the researcher to generalise findings to the larger population in the form of statistical generalisation as in probability sampling (Durrheim & Painter, 2006). However, through analytical generalisation theories may be confirmed, refined or rejected, and the findings may reveal pertinent issues for other individuals or situations (Cara, 2007; Yin, 2014). This method may also be beneficial as it is less expensive, more practical in terms of available participants and information, and allows for a more in depth study (Durrheim & Painter, 2006).

Psychobiography has been accused of being elitist as its usual focus is on famous people who are exemplary in their fields (Chezé, 2009; Fouché, 1999). In practice psychobiographies can be conducted on any person however usual or unusual. However, focusing on those who are extraordinary, for positive or negative reasons, provides an opportunity for socio-cultural factors as well as family dynamics that form extra-ordinary personalities to be studied (Erikson, 1958b, 1968b, 1969; Manganyi, 1983, 2013; McAdams, 2005; Schultz, 2005a, 2005b). Related to the latter, Grandin was a prime candidate for selection. Grandin grew up with complex family

dynamics and in era when little was known about autism. This contributed to the complexities of her development, and influenced the difficulties she experienced as a person living with autism. Yet, Grandin developed into a stable as well as exceptionally creative adult who excels in her field.

3.8 Theoretical conceptualisation

In chapter two Erikson's (1950/1973) theory of psychosocial development was operationalised. In section 2.2 the reasons for employing Erikson's theory for this particular study were outlined. This not only provided a theoretical framework with which to interpret Grandin's life, but also helped to ensure the dependability of this study. Psychobiographers have been cautioned against, as well as criticised for using psychological theories that are not relevant to the historical time in which the subject lived (Fouché, 1999; Runyan, 1982). Using theories that are irrelevant to a different time or culture may interfere with the validity and transferability of the study's findings (Fouché, 1999; Runyan, 1982). The researcher's lack of understanding of a particular historical time or culture may also be a threat to the internal validity. Therefore, sufficient research of other cultures and times in history pertinent to investigations have to be undertaken (Runyan, 1988b). Erikson's (1950/1973) theory is not only still relevant and being used successfully for psychobiographical research (Fouché & van Niekerk, 2010) but is also particularly relevant to this study in terms of era. This is because Grandin was born at a similar time in history to when Erikson (1950/1973) developed his theory of psychosocial development.

3.9 Data collection

Psychobiographies have been criticised for being based on insufficient evidence as well as an over reliance on childhood events to draw conclusions about the behaviour of the adult subject (Runyan, 1982, 1988a). Erikson (1958b, 1968b) refers to this inaccuracy as originology. Fouché (1999) relates these criticisms to the researcher not having contact with the subject of the study. Ponterotto (2013), conversely, suggests that researchers not having contact with their subjects or the families of subjects, and basing the analysis on archival data, may aid objectivity. Psychobiographers that have worked from a psychoanalytic stand point have been criticised for drawing conclusions based on dream journals or free association. However, Alexander (1990) as well as Runyan (1988a) note that in the case of creative individuals, such as Grandin, their works

may be used as a substitution and as a source of more reliable information. Erikson (1958b) is also in support of the view that individuals' occupations or work products are integral to psychobiographical analysis. By studying various sources of data the researcher may gain information from across the subject's lifespan and from diverse points of view which may shed more light on the individual's life as opposed to if the subject were the sole source of information (Elms, 1994; Ponterotto, 2013; Runyan, 1982, 1988a). While the possibility of inadequate evidence is plausible, it is far more often the case that the psychobiographer is faced with a surplus of data (Chez , 2009; Elms, 1994; McAdams, 2006). Focusing on the research objectives and asking questions that relate to these objectives can aid researchers in selecting appropriate data (Alexander, 1988; Yin, 2014).

The data collection regarding Grandin's life and development has been guided by the data triangulation principle (Kelly, 2006b; Yin, 2004a). Data was therefore purposively selected from a variety of sources and carefully sort through for relevant and valid information (Kelly, 2006b; Yin, 2004a, 2014). The collected data was also screened for its objectivity or lack thereof toward the subject of the study (Kelly, 2006b). See Table 3.1. for data types and sources.

Table 3.1: Data sources

Data type	Source
Autobiographical	Grandin (1984a, 1995/2006, 2009a, 2009b, 2016); Grandin & Duffy (2008); Grandin & Scariano (1986/2005); Grandin & Johnson (2005, 2009); Grandin & Panek (2013); "Temple Grandin P.hD Professional Resume" (2016).
Biographical	Baron-Cohen (2005); "Biography: Temple Grandin, P.hD" (2016); Carlock (1986/2005); Cutler (2004); Montgomery (2012); Rimland (1986/2005); Sacks (1995, 1995/2006).
Interview material	Rafols (2012).
Journal articles	Florcke & Grandin (2013); Francks & Grandin (2015); Grandin (1980a, 1980b, 1980c, 1981, 1982, 1984b, 1992a, 1992b, 1997, 2000, 2001, 2003, 2005, 2013, 2014); Morris, Grandin, & Irlbeck (2011).
Documentary (film or radio)	Klaaste (2014); Sutton (2006).

The selection of an appropriate strategy for selecting and analysing data may be necessary. With regard to this research, data collection concerns relating to the subject's childhood were also considered. These are reductionism and reconstruction. It is a concern that some psychobiographies are reductionistic (McAdams, 2005; Ponterotto, 2014; Runyan, 1988b; Schultz 2005a). This accusation has been laid as some psychobiographers purely focus on childhood events, that there is an over emphasis on psychopathology to the detriment of healthy aspects of the individual's life, as well as that many psychobiographies neglect the role played by socio-cultural factors on the subject's life (McAdams, 2005; Ponterotto, 2013, 2014; Runyan, 1988b; Schultz 2005a). With regard to this study, reductionism is addressed through the employment of Erikson's (1950/1973) stages of psychosocial development. This stage approach considers events in Grandin's life across her lifespan, and incorporates the social, historical and cultural, biological, as well as healthy and unhealthy aspects of the subject's life.

Contrary to the concern with the psychobiographer's over reliance on childhood events to describe and interpret the adult subject, psychobiographers have also been criticised for using information and events from the adult individual's life to reconstruct a childhood of which little is known (McAdams, 2005; Runyan, 1988b). Runyan (1988b) states that this is unjustified and that any interpretations that researchers make should be based on evidence. With regard to Grandin's life, there is a considerable amount of information about her childhood and therefore reconstruction has been avoided.

3.10 Data processing and analysis

The overarching data management (or data processing and analysis) guidelines for this study were provided by Miles and Huberman (1994, 2002a, 2002b). The conduction of the processing and analysis of data was aided by Alexander's (1988, 1990) method of asking the data questions, as well as an integration of Yin's (2014) time series analysis with Erikson's (1950/1973) *triple bookkeeping approach*. According to Yin (2006) such a mixed method approach may initially appear complex. However, the integration of methodological or analytical approaches may broaden as well as strengthen a study (Yin, 2006). The mixed method approach is often viewed as being a combination of qualitative and quantitative methodologies. However, it may also refer to an integration of qualitative approaches (Ponterotto, 2005, 2013). According to Ponterotto

(2005, 2013) the mixed method approach is particularly relevant to facilitating the complex nature of psychobiographical research. In terms of psychobiographical studies where there may be a vast amount of data, an integrated methodological approach may assist with ‘sorting’, focusing on pertinent information, and increasing the depth of analysis. With regard to their view of qualitative analysis Miles and Huberman (1994) propose a three step interwoven process. This involves selecting and transforming data which is then organised in a manner which allows for the drawing of conclusions (Miles & Huberman, 1994, 2002a, 200b). This is also referred to as data reduction, data display, as well as conclusion drawing and verification (Miles & Huberman, 1994). The guiding data management framework for this study is represented in Table 3.2.

Table 3.2: Data processing and analysis sequence

Step	Description of step	Cross reference
Step 1	Miles and Huberman’s (1994) three step process provides the overarching guideline for the data processing and analysis. The first step is data reduction. The initial data reduction is aided by Alexander’s (1988, 1990) method of asking the data questions.	3.10.1
Step 2	Miles and Huberman’s (1994) second data processing and analysis step is data display. The data display is aided by an integration of Yin’s (2014) time series analysis matrix with Erikson’s (1950/1973) triple bookkeeping approach.	3.10.2
Step 3	Miles and Huberman’s (1994) third data processing and analysis step is conclusion drawing/ verification.	3.10.3

These steps, which may be further simplified, will be explained in the following sub-sections.

3.10.1 Data reduction

Data reduction occurs throughout the research and analytic process (Miles & Huberman, 1994). It begins with the researcher deciding on which questions to ask and which methodological framework will best aid in finding the answers (Miles & Huberman, 1994). Data reduction continues as the researcher selects which evidence to focus on and then applies the chosen theory (Miles & Huberman, 1994). It is only concluded when the researcher has transformed all the findings into a meaningful and coherent report (Miles & Huberman, 1994).

The initial data selection and reduction was facilitated by Alexander’s (1988, 1990) method of asking the data questions. Alexander (1988, 1990) particularly recommends this method when

working with psychobiographical data. The method of asking the data questions is used when the initial collection of data needs to be sorted for its relevance to the study (Alexander, 1988, 1990). This type of reduction may lead to the formulation of various hypotheses about the subject's life (Alexander, 1988, 1990). It also provides an initial summary with which to consider possible important information (Alexander, 1988, 1990). In terms of this study, two questions were posed to the data. These questions are:

- a. How do the primary and secondary data sources account for Grandin's psychosocial development with regard to each of Erikson's (1950/1973) eight stages of psychosocial development?
- b. How do the primary and secondary data sources portray the socio-cultural context that informed Grandin's development?

Alexander's (1988, 1990) method of asking the data questions informed the choice of information that was relevant for data display, which will be discussed in the following section.

3.10.2 Data display

This step in the analytic process involves the researcher organising the information into a manageable display that allows it to be clearly accessible (Miles & Huberman, 1994, 2002a; Yin, 2012, 2014). Examples of displays that may be used are matrices, graphs, and charts (Miles & Huberman, 1994, 2002a, 2002b; Yin, 2014). The display allows the researcher to analyse the data in a practical manner and to draw conclusions if deemed feasible, or to take another analytic step if necessary (Miles & Huberman, 1994, 2002a, 2002b; Yin, 2014).

Two matrices (see Tables 3.3 and 3.4) were employed as the conceptual frameworks for this study. The matrices allowed the integration of the psychobiographical data with Erikson's (1950/1973) stages of psychosocial development to be systematically displayed. Table 3.3 was used for the initial data arrangement and display. The vertical columns of Table 3.3 represent Erikson's (1950/1973) psychosocial theory which was operationalised in chapter two. The

Table 3.3: Data collection and analysis MatrixA

GRANDIN'S LIFE	STAGES OF PSYCHOSOCIAL DEVELOPMENT							
	Infancy	Early childhood	Childhood: Play age	Childhood: School age	Adolescence	Early adulthood	Middle adulthood	Late adulthood
	Trust vs Mistrust	Autonomy vs Shame / Doubt	Initiative vs Guilt	Industry vs Inferiority	Identity vs Role confusion	Intimacy vs Isolation	Generativity vs Stagnation	Integrity vs Despair
Hell and back: Senses on fire								
'Animals saved me': The magic device								
Through the sliding door								
Scientist at work: Animal advocate								
Real world								
Different but happy								

Based on Erikson (1950/1973), Grandin and Scariano (1986/1996) and Montgomery (2012).

horizontal rows represent significant periods in Grandin's life. Yin (2014) referred to such chronological representation and analysis as a unique form of time-series analysis. According to Yin (2004b, 2014) the possibility of chronological and time-series analysis is a strength of case studies as this allows the researcher to discover causal events and patterns across the lifespan. A chronological time-series matrix that facilitates the interpretation of patterns is especially relevant to the morphogenic nature of psychobiographical studies.

Yin's (2014) concept of a time series analysis was employed and integrated with Erikson's triple bookkeeping approach (see section 2.3.) to form Matrix B (Table 3.4.) This matrix allows for a more comprehensive analysis of the data after the initial sorting in Matrix A (Table 3.3.) The initial pertinent life data gathered and displayed in relation to Grandin's psychosocial stages in Matrix A (Table 3.3.) is further analysed and arranged in terms of data particularly relevant to Grandin's physical functioning, her ego components, and societal influences (vertical columns) in Matrix B (Table 3.4.).

Table 3.4: Data collection and analysis MatrixB

	TRIPPLE BOOKKEEPING APPROACH				
GRANDIN'S PSYCHOSOCIAL STAGES	Physical body/biology	Body ego	Ego identity	Ego ideal	Environmental /Societal influences
Infancy: trust vs mistrust					
Early childhood: autonomy vs shame/doubt					
Play age: initiative vs guilt					
School age: industry vs inferiority					
Adolescence: identity vs role confusion					
Young adulthood: intimacy vs isolation					
Middle adulthood: generativity vs stagnation					
Late adulthood: integrity vs despair					

Based on Erikson (1950/1973) and Yin (2014).

3.10.3 Conclusion drawing and verification

The third step of the analytic process involves drawing conclusions and verifying them (Miles & Huberman, 1994). According to Yin (2004c) this may be the most difficult part of the research process, especially with regard to case studies in which the “real “case” is still ongoing” (p. 251). This is pertinent to a psychobiographical subject such as Grandin whose life is still being lived. Preliminary conclusions may be drawn throughout the research process, but until the researcher has sought through a sufficient amount of evidence and followed the previous analytic steps, final conclusions should not be drawn (Miles & Huberman, 1994, 2002b). In order for the individual’s life to be illuminated and conclusions to be drawn, the discussion as well as interpretation of the findings should be thorough and “explicit” (Yin, 2004d, p. 219). Once final conclusions have been drawn the researcher should review the findings and results that have been arrived at in order to ensure that the study is valid and verifiable (Miles & Huberman, 1994, 2002b; Yin, 2014).

3.11 Validity considerations

One of the greatest downfalls of the case study method in particular, and more generally qualitative research, is the lack of rigour in the research process (Morse, Barrett, Mayan, Olson, & Spiers, 2002; Yin, 2014). Research that is conducted in a rigorous manner pays particular attention to the validity and reliability of the study in order for it to be credible or ‘trustworthy’ (Cozby, 1997; Morse et al., 2002; Yin, 2014). According to Morse et al. (2002) researchers should be aware of rigour and verifying their work throughout the research process as opposed to merely doing a post-research reliability and validity evaluation. Associated with ensuring the rigour of the study, Yin (2014) and Morse et al. (2002) stress the importance of an appropriate research design, data collection method, as well as analytic process that are aligned with the research objectives. These specifics related to this study have been discussed previously in this chapter. Further validity and reliability concerns were credibility, construct validity, transferability, and dependability. These are discussed in the follow sub-sections.

3.11.1 Credibility

Yin (2014), Edwards (1998), and Fouché (1999) state that credibility or internal validity is particularly important in interpretive cases where one’s analysis and results need to be based on factual events and evidence as opposed to speculation. All possible reasons for a particular event occurring or a person behaving in a certain way also need to be explored (Ponterotto, 2013, 2014; Yin, 2014). Aside from there not always being an adequate amount of data to make a thorough assessment, the information that is available may not be reliable (Clark, 2007; McAdams, 1988a; Runyan, 1981; Van Os, 2007). While most psychobiographical subjects are deceased, those that are still alive sometimes provide interview material (Clark, 2007; Howe, 1997). Interview as well as autobiographical information may unintentionally be distorted by memory (Atkinson, 1998; Roberts, 2002) or through subjects’ desires to represent themselves in a particular light (Clark, 2007; Howe, 1997; Manganyi, 1983; McAdams, 1988a; Runyan, 1981) and are therefore not ‘truth’. However, this type of information can still be used for “[i]nternal consistency” (Atkinson, 1998, p. 60) as it reflects how individuals have ordered their lives. This internal cohesion of the research, which may be facilitated by autobiographical data, needs to focus on the extent to which the narrative is plausible (Manganyi, 1983; Ngwenya & Manganyi, 2003). This plausibility relates to Manganyi’s (1983) suggestion, previously discussed, that

psychobiographies attempt to create meaning that is an “approximate actuality” (p. 50) as opposed to a ‘truth’ which in reality cannot be known.

Related to the previous points is researcher bias, the researcher’s own feelings about the subject of the study, as well as the researcher attempting to fit events or a person into a particular theory (Edwards, 1998; Fouché, 1999; Ngwenya & Manganyi, 2003; Yin, 2012, 2014). To avoid such events occurring researchers can reflect on their own feelings and assumptions during a study as well as discuss them with a supervisor or peers (Edwards, 1998; Etherington, 2007; Guillemin & Gillam, 2004; Ngwenya & Manganyi, 2003). Data triangulation can also be used to ensure that as many factors as possible are included in the researcher’s analysis (Fouché, 1999; Ponterotto, 2013, 2014; Yin, 2004a, 2014).

3.11.2 Construct validity

Construct validity refers to the defining of the parameters of what is to be studied (Roberts, 2002; Yin, 2014). Construct validity is increased when there is a reasonable alignment between the research question or aims and the methodological approach that the researcher employs (Long & Johnson, 2000; Morse et al., 2002). Construct validity may therefore also be referred to as measurement validity (Van der Riet & Durrheim, 2006). In order for construct validity to be present the subject of the study needs to be clearly stated, research objectives must be set out at the start of the study, as well as that the way in which the researcher intends to measure the subject needs to be operationalised (Van der Riet & Durrheim, 2006; Yin, 2014).

Statistical measures are not used in qualitative studies and therefore the steps of the theory used need to be operationalised (Roberts, 2002; Yin, 2014). In the case of this study, the steps of Erikson’s (1950/1973) eight stages of psychosocial development were presented and explained in Chapter 2. As with credibility or internal validity, construct validity is also increased by using multiple sources of information as well as non-biased data collection (Fouché, 1999; Roberts, 2002; Van der Riet & Durrheim, 2006; Yin, 2014).

3.11.3 Transferability

The transferability or external validity of a study refers to the extent to which the findings can be generalised or applied to other cases or situations (De Vos, 2005; Krefting, 1991; Lincoln & Guba, 2000; Malterud, 2001; Yin, 2014). The transferability or lack thereof is often a criticism of case studies (McAdams, 2006; Roberts, 2002; Yin, 2014). According to Fouché (1999) and Stroud (2004) external validity is not as relevant in psychobiographical studies as it is in other research methods as the focus of the research is on explaining the life under question as opposed to generalising the findings of the subject's life to other lives. This being said it does not rule out the possibility for psychobiographies to be used for generalisation (Isaacson, 2005; Yin, 2014). As with other case studies, once many studies on similar subjects have been done inferences can start to be made across the studies (Isaacson, 2005; Yin, 2014). Some psychobiographies may also be used to make socio-cultural inferences about other individuals living in the same setting (Manganyi, 1983, 2013; Ngwenya & Manganyi, 2003). Manganyi (1983, 2013) and Ngwenya and Manganyi (2003) maintain that psychobiographies of extra-ordinary individuals may reveal pertinent information about experiences, characteristics, and concerns of 'ordinary' people of a particular society living in the same historical period.

Yin (2014) mentions that through analytical generalisation the case study method can be used to test the generalisability of particular theories. For example the extent to which Erikson's (1950/1973) eight stages of psychosocial development can be used to describe and interpret the life of Grandin, an extraordinarily creative scientist, can be tested and if found to be adequate, can possibly be used to describe and interpret the lives of other creative individuals. A process of further testing can then take place by using Erikson's theory to interpret the lives of other creative scientists. If these interpretations are also shown to be adequate, it can be noted that Erikson's (1950/1973) theory of psychosocial development is useful for interpreting such development (Yin, 2014). Analytical generalisation may also be achieved through incorporating or considering the historical and socio-cultural aspects of a subject's life. According to Simonton (2003), a psychobiographer's inclusion of the socio-historical and cultural aspects of the individual's life in the interpretation enables the results to have "real world" (p. 629) applicability. Manganyi (1983, 2013) supports this view and maintains that the lives of psychobiographical subjects may represent experiences and concerns of other individuals from

the same culture or nation, living in the same historical period. As a result of the types of analytical generalisation mentioned in this section, a form of transferability can be achieved through the use of the psychobiographical case study method.

3.11.4 Dependability

The dependability or reliability of a study is established by the researcher setting out the aims of the research as well as the details of the method that will be used in order to collect and analyse the data (Long & Johnson, 2000; Van der Riet & Durrheim, 2006; Yin, 2014). As with construct validity, the operationalisation of the theory used increases the dependability of the study (Van der Riet & Durrheim, 2006; Yin, 2014). It is not only important that someone who has no knowledge of the subject being researched or limited knowledge of the researcher's field can follow the chain of logic of the study, but also that if another researcher were to follow the same method with the same research objectives in mind, similar conclusions will be reached (Yin, 2014). According to Van der Riet and Durrheim (2006) the results of interpretive qualitative studies could potentially change if repeated by another researcher at a later stage as people are not static and change over time. Long and Johnson (2000) emphasise that consistency of data collection should be maintained.

Dependability is therefore obtained if readers can follow and understand how researchers came to the conclusions they did within the particular context, and in relation to the information or data obtained at the time study was conducted (Van der Riet & Durrheim, 2006). Therefore in addition to a thorough description of how the study was conducted, a rich discussion and analysis of the data will increase the dependability of the study (Van der Riet & Durrheim, 2006). In the case of this study dependability was contributed to through the operationalisation of Erikson's (1950/1973) theory, as well as the detailed description of the objectives of this study, the explicit method of data collection and analysis, and the discussion and analysis of Grandin's life data.

3.12 Research procedure

The overall research procedure used for this study consists of 12 steps which can be viewed in Table 3.5.

Table 3.5: Research procedure

Step 1	Literature review relevant to psychobiographical case study method.
Step 2	Selection of research subject.
Step 3	Preliminary data collection.
Step 4	Selection of theoretical framework.
Step 5	Selection of methodological framework.
Step 6	Proposal.
Step 7	Literature review: Psychosocial personality development (operationalisation of Erikson's theory) - Chapter 2.
Step 8	Methodology – Chapter 3.
Step 9	Data collection, verification, and sorting.
Step 10	Data display and analysis / discussion- Chapter 4.
Step 11	Summary / conclusion - Chapter 5.
Step 12	Introduction – Chapter 1.

3.13 Ethical considerations

There are fewer ethical considerations in psychobiographical research than in some other forms of research (Fouché & Van Niekerk, 2010). However, as psychobiography has established itself as a relevant approach to research it has become more pertinent that ethical guidelines particular to psychobiographical research be established, or at least more fervently and openly discussed (Ponterotto, 2013, 2014). Psychobiographical research is dynamic and often “discovery oriented” (Ponterotto, 2013, p. 21). Therefore ethical requirements may change as the research proceeds. Unexpected ethical issues that the researcher has no previous experience in dealing with may also arise (Guillemin & Gillam, 2004; Ponterotto, 2013, 2014). If psychobiographers highlight and discuss these ethical issues it may (a) assist the development of ethical guidelines particular to psychobiographical research, (b) enable other researchers to be aware of possible ethical concerns that may arise during the research process, and (c) prepare researchers to integrate necessary practices (Ponterotto, 2013).

Various ethical considerations relevant to the psychobiographical approach were deemed important prior to the conduction of this study (Elms, 1994; Ponterotto, 2013, 2014; Runyan, 1982). These ethical considerations will be discussed in the following section. Any unexpected ethical concerns that arise during the research process will be discussed in the concluding chapter in order to add to the growing awareness surrounding psychobiographical research ethics. While Elms (1994) compares the psychobiographer to a journalist in terms of accessing public domain

information, he does caution that all documents and information be handled with respect. Runyan (1982) adds that there should not be any invasion of the subject's privacy as well as that caution must be taken not to harm or embarrass the subject or the subject's family. In terms of this research all data that was used was available in the public domain and included Grandin's autobiographical information.

The issue of informed consent (Ponterotto, 2013; Wassenaar, 2006) was deliberated. The information that has been gathered about Grandin's life is, as has been mentioned, public domain texts, but she was nevertheless contacted with regard to her consent for this research. This letter may be viewed in Appendix A. In response to this letter, Grandin approved the conduction of this research. Caution has been taken when researching her life and in the write up to remain impartial and objective (Ponterotto, 2013; Runyan, 1982; Wassenaar, 2006). This has been aided by discussions with the researcher's supervisor and peers who were undertaking similar research, as well as through various reflexive practices. Reflexivity has traditionally been associated with increasing the rigour and validity of a study (Etherington, 2007; Guillemin & Gillam, 2004; Malterud, 2001). However, various researchers (Etherington, 2007; Guillemin & Gillam, 2004) consider reflexivity an important part of ethical practice. At the outset of a study the researcher should reflect on whether the aims or overall purpose of the study are ethical (Guillemin & Gillam, 2004; Mayer & Leichtman, 2012). While this research is being conducted in order to a complete a thesis, the overall purpose is also to increase psychological knowledge that is not harmful to the subject and is as objective as possible. In accordance with this reflexive practice the researcher has engaged with personal feelings and thoughts surrounding the study and the subject (Manganyi, 1983; Mayer & Leichtman, 2012; Ngwenya & Manganyi, 2003; Ponterotto, 2014). While this reflexive practice was aided by discussions with the researcher's supervisor and peers, a reflexive journal was also kept during the research process.

Understanding the subject's historical period, culture (Manganyi, 1983; Ponterotto, 2013, 2014), and discipline (Manganyi, 2013; Mayer & Leichtman, 2012; Ponterotto, 2013, 2014) are also considered reflexive practices that aid ethical conduct as they enable a more holistic view and interpretation of the subject's life. The researcher therefore investigated the American culture and history with which Grandin's life has intersected. Schools for children with autism were also

visited in order to understand the potential learning environment of such individuals. Schools for children with autism in South Africa may be different to those in America, and it is a different historical time to when Grandin went to school. Nevertheless, visiting these schools did provide the researcher with a greater understanding of the educational difficulties that children with autism face, as well as various educational methods that are used to aid development in children with autism. Related to the latter the researcher had informal discussions with family members of individuals with autism in order to better understand the impact on family life. In order to understand Grandin's discipline more thoroughly research was conducted about the field of animal science and various animal scientists were contacted in this regard. Two ethologists (one trained in animal assisted therapy) as well as two veterinarians focusing on animal behaviour and human-animal interaction were contacted during the study. These professionals were contacted in order to gain a greater understanding of Grandin's field of expertise as well as for their opinions about how animals may influence human development. The latter understanding was supported by discussions with psychologists who practice animal-assisted therapy.

Reflexivity also pertains to researchers reflecting on what knowledge it is that they are creating and how they conduct this process (Guillemin & Gillam, 2004). Related to this is the need for researchers to be aware of the authoritative voice of their discipline as well as the potential power dynamics that accompany their findings entering the public domain (Etherington, 2007; Mayer & Leichtman, 2012; Ponterotto, 2013). With regard to psychobiographies in particular there may be wide public interest in the research subject (Mayer & Leichtman, 2012). This does provide an opportunity for the public and individuals who would not usually read research documents to be educated with regard to psychological terms and development (Mayer & Leichtman, 2012). However, psychobiographers should nevertheless refrain from using unnecessary pathological labels (Mayer & Leichtman, 2012; Ponterotto, 2013) as well as information that may be "titillating or enticing" (Ponterotto, 2013, p. 23) to the public but has no psychological relevance. Elms (1994) stated that while information about psychobiographical subjects may be freely accessible, psychobiographies must nevertheless remain ethical. According to Elms (1994) the ethical psychobiography will add "to our understanding of ourselves and other human beings" (p. 255). While the study did not directly benefit Grandin it

does contribute to the understanding of extraordinarily scientifically creative individuals as well as add academic value to the field of psychology.

3.14 Chapter summary

This chapter focused on the psychobiographical approach to research, as well as the methodological concerns particular to this study. The research objectives for this study were laid out at the beginning of the chapter as the methodology that was used and considerations that were taken into account were in relation to the objectives. The overall research design and methodology and in particular the mixed method approach to research, Alexander's (1988, 1990) method of asking the data questions, as well as Miles and Huberman's (1994, 2002a, 2002b) general view of qualitative analysis were explained. The particular validity considerations of this study and the research procedure were outlined. Lastly, the ethical considerations of this study were discussed.

CHAPTER 4

FINDINGS AND DISCUSSION

*In the depth of winter I finally learned
that there was in me an invincible summer.*
(Albert Camus)

4.1. Chapter preview

This chapter focuses on the processing and analysis of the data pertaining to Grandin's life. The data has been collated and analysed in terms of Erikson's (1950/1973) stages of psychosocial development (see Chapter 2). The data display of each of the eight stages that Grandin has experienced will be followed by an interpretation in accordance with Erikson's (1950/1973) theory. Each stage will be consolidated with salient points. The data display and interpretation will be followed by a life summary. There is a vast amount of information on Grandin's life, both autobiographical and biographical, and choices had to be made and justified as to which information to focus on. Where possible, the researcher has based the findings on Grandin's autobiographical accounts of her life and work in order to witness her story. However, biographical sources were also used and valuable in providing a holistic view of the research subject.

4.2. Circumstances surrounding Grandin's birth

Unless otherwise specified, the data for this stage is based on Cutler (2004).

While Erikson's theory of psychosocial development (1950/1973) is extensive, covering the entire lifespan after birth, it does not include the time spent in utero. The information provided in this section was deemed necessary as it provides the reader with a description of the circumstances that led to Grandin's conception and birth. This occurred shortly after World War II at a time when few women had been bearing children (Cutler, 2004) and little was known about autism (De Lacey & King, 2013; DeMyer et al., 1981; Frank-Briggs, 2012; Rutter, 2005). It is the view of the researcher that these circumstances may have influenced Grandin's development.

Grandin's paternal great grandfather, John Livingston Grandin, and paternal great uncle, William James Grandin, were French Huguenots. In 1896 the brothers became impatient with drilling for oil and John Grandin established a banking business with Clark Baum. In 1870 William Grandin bought Baum's shares and the brothers founded Grandin Bros Bank. With their increasing wealth the brothers established a successful corporate farm. The accumulated wealth was passed onto TempleGrandin's grandparents. They moved to Boston and maintained an elite air with many social rules. This elite and strict way of living was firmly passed onto Dick Grandin, Temple Grandin's father. Dick witnessed his own father's active stand against his sister's desire to be an artist and discouragement to marry a man who, because he was an artist, was considered to be un-wealthy. Instead she had to marry a wealthy, but abusive and dishonest, Newport man. Dick Grandin went to Harvard. He was a clubman and therefore did not live in a dormitory, but a rented house that had a male staff member. After graduating from university Dick joined the 101st Cavalry in New York and was part of Squadron A. Squadron A were considered to be debonair and held in high esteem. Their glory was short lived when World War II began and they were transformed into a tank unit. Throughout Dick's upbringing and time spent in the military he developed a strict sense of rules, order, and elitism.

Temple Grandin's maternal grandfather, like the Grandin lineage, was also a determined worker. John Coleman Purves was a civil and mechanical engineer. Along with three colleagues they invented an electric coil that could sense direction in relation to magnetic north. Their invention was termed the 'flux valve,' and later called the compass. John Purves' documents are preserved in the Smithsonian Museum. The inventors established the Purves' Corporation and worked through the depression in Springfield, Massachusetts. John Purves was not a social man. However, his wife Mary Temple thrived in the social scene. This caused tension between the couple. When Mrs Purves died at age 98 she admitted to having had a wealthy yet unhappy life. She imposed her elitist social values on her daughters. Eustacia, TempleGrandin's mother, was always second guessing herself as a result. When Mrs Purves was a young woman she performed in many productions. Eustacia was so taken with her mother's performances that she named her first child Mary Temple.

In 1944 Dick Grandin and Eustacia Purves met at the Boston debutante cotillion (an upper class ball in the United States of America where young women are presented to society). Mr Purves being shy and not taken with elite social events refused to accompany his daughter. Eustacia was friends with Dick's sister who suggested that he accompany her. Eustacia was then delighted that her father had not attended the event because she thought Dick looked like Gary Cooper. At the time Eustacia was 17 and Dick was a 30 year old officer in the tank corps. Dick was on leave before his overseas military tour. A few days after the cotillion Dick departed for his duty overseas and announced by mail that he would marry Eustacia when he returned. The war ended in 1945 and a year later they were engaged. Dick went to work for the World Federalists before the couple were married.

4.3. Stage 1: Trust versus mistrust (0-1,5 years)

Unless otherwise specified, the data for this stage is based on Cutler (2004).

4.3.1 Findings

Mary Temple Grandin's birth and first few weeks in the world seemed fairly usual for her socio-historical period. Grandin was born on 29 August 1947. Eustacia was a young mother and inexperienced with babies as few had been born during the Second World War (Cutler, 2004; Grandin, 1984a). It had become the norm for a baby to be induced and this was the case with Grandin's birth. Eustacia had lost consciousness and when she awoke she immediately wanted to see Grandin. However, the nurse on duty told her that she was not allowed to see her until feeding time. The nurse's reasons were that babies had to be left alone to cry until feeding time in order to establish a schedule. As Eustacia was asleep during the next allotted feeding time, she still was not allowed to see Grandin. They had to wait until the following day to meet one another.

Eustacia struggled to breast feed Grandin as, according to the nurse, she had inverted nipples. She struggled to produce milk and when she did her nipples became ulcerated. The taste of the salve that was applied to Eustacia's nipples initially made Grandin scream, but her hunger caused her to continue feeding. Except for feeding time Grandin had to remain in the nursery. Friends and family were only permitted to observe her through a window at a designated hour.

After 10 days Eustacia and Grandin left the hospital with the practical nurse who had been hired for the usual six week period. Eustacia thought that she would now be able to hold baby Grandin and take charge of her care. However, the practical nurse carried Grandin out of the hospital and in the car, and informed Eustacia that that was the way it was supposed to be.

Going home or to somewhere far off

Eustacia had prepared Grandin's room weeks before her birth. Her excitement for the return home turned to disappointment when the practical nurse took Grandin to her new room away from her mother. When Eustacia was allowed to see Grandin for her first home feeding she was unable to nurse as her milk had gone. Dick was furious as he went out in the night to get formula. On his arrival at the house the practical nurse took the formula from Dick and Grandin from Eustacia. Eustacia protested at not being allowed to feed Grandin herself. This further infuriated Dick who blamed Eustacia for losing her milk.

During the next six weeks the practical nurse took care of Grandin. At the end of the six week period Eustacia was relieved to be alone with her baby. However, Eustacia did not know "how to win her over" (Cutler, 2004, p. 5) as Grandin did not seem to care. Initially Eustacia questioned whether Grandin was too quiet and sleeping too much, but she did not have experiences with other babies so she could not compare (Cutler, 2004; Grandin, 1984a; Grandin & Panek, 2013). Eustacia felt ashamed that she had wondered if Grandin were behaving strangely and so rather ignored her concerns and prepared the house for social functions. Nevertheless, as the months proceeded Eustacia noticed that while other babies in her social circle grabbed their mothers' hair, necklaces or earrings, Grandin did not interact at all (Cutler, 2004; Sutton, 2006). By the time Grandin was six months old she did not want to be held and would stiffen and pull away (Cutler, 2004; Grandin, 1984a; Grandin & Scariano, 1986/2005; Montgomery, 2012). A few months later it became almost impossible for anyone to hold Grandin as she would scream, claw at the person, and struggle to get away (Grandin & Scariano, 1986/2005; Montgomery, 2012). Grandin's withdrawal made Eustacia feel "snubbed" (Cutler, 2004, p. 6) and affirmed her choice to keep her distance from Grandin and ignore that something was potentially wrong with her child (Cutler, 2004; Grandin & Panek, 2013).

In the summer Eustacia took Grandin to swim with a life jacket in a club pool. She thought that Grandin had enjoyed the swim. Around the time that Grandin turned one, Eustacia took her to the beach to swim. A swell carried Grandin, who was wearing the life jacket, away from Eustacia. Grandin floated further and further into the ocean out of Eustacia's reach. Eustacia screamed frantically and a man heard her, saw the situation, and rescued Grandin. All the while Grandin was silent and non-responsive. Eustacia thought that Grandin "seemed neither happy nor unhappy" (Cutler, 2004, p. 7) at being pulled out to sea or to being handled by a stranger. At this point Eustacia began to feel that Grandin had been taken from her "to somewhere quite far off" (Cutler, 2004, p. 8).

4.3.2 Discussion

This stage was particularly difficult to analyse as there was little information available about this time. The researcher has attempted to avoid reconstruction. However, the available information was analysed in terms of Erikson's (1950/1973) first stage of psychosocial development and theory of ego failure (Erikson, 1956, 1968a, 1977), as well as how this information made sense with regard to the following stages. For example, the first stage of Grandin's life is pervaded by ego failure and a basic sense of mistrust (Erikson, 1950/1973, 1956, 1968a, 1977). However, when considering the available information in accordance with information and analysis of the following stages, it is suggested that her ego failure did not align with a sense of basic mistrust to the extent that it would result in totalism (Erikson, 1956, 1968a). This is suggested as Grandin's withdrawn state did not remain a permanent way of being as her ego would slowly begin to reintegrate experiences and regain coherence (Erikson, 1956, 1968a). That her ego failure did not result in totalism is also suggested as her ego would in later stages begin to tentatively lay the foundations for the development of a sense of hope and will (Erikson, 1950/1973, 1956, 1968a). Therefore, the analysis of this stage is provided cautiously in terms of the most plausible analysis of the limited information available.

Possible causes of absence and ego failure in infant Grandin

While all people that children come into contact with, especially those that care for them, are integral to their development during this stage, mothers are of particular importance (Erikson,

1950/1973, 1964a; McAdams, 2009; Miller 2010). Despite Grandin's birth and care being usual for a wealthy family in her socio-historical period, she was separated from her mother at birth and only allowed very limited contact with her during the first two months. This along with Grandin's mother struggling to breastfeed her, being passed between various caregivers, and not attended to when she cried could have negatively influenced her understanding and expectations about the world (Erikson, 1950/1973; Miller 2010; Monte, 1999). Erikson's (1950/1973) theory suggests that as Grandin had different care-givers in her first few weeks, she would learn that the world is neither secure nor reliable (Erikson, 1950/1973, 1964a; McAdams, 2009; Miller 2010). Her sense of insecurity could have been aggravated by the tension at home between her parents. These factors would also influence her developing into an untrusting child and negatively affect her view and value of herself (Erikson, 1950/1973, 1964a; McAdams, 2009; Miller 2010).

Despite Grandin having several caregivers and having erratic contact with her mother in her first months, the theory (Erikson, 1950/1973, 1968a) suggests that this alone was unlikely to have disrupted her ego development to the extent that ego failure would occur. As little is known about the "earliest and deepest strata of the human mind" (Erikson, 1968a, p. 104) there may not be a known outside cause for Grandin's ego failure. However, biological reasons (Erikson, 1950/1973) or genetics may have been a factor (Erikson, 1956, 1964a). While it is plausible that Grandin's genetics may have influenced her ego failure or developing autism, it is not definitive (Grandin & Panek, 2013). The MRI's that Grandin had as an adult revealed that various parts of her brain are different to those of *neuro-typicals* (Grandin & Panek, 2013). These biological differences in her brain may have been present at birth and therefore may have been a cause or contributing factor of her ego failure (Erikson, 1950/1973). Grandin may also have been particularly sensitive or frustrated (Erikson, 1968a). This combined with her genetic make-up, structural brain differences, and limited contact with her mother may have caused her ego failure and therefore separation or negation of the mutuality of recognition relationship (Erikson, 1977).

I don't want to interact. The world scares me.

In individuals with ego failure or autism there is a disjunction between physical experience of being in the world and the body ego's integration of such experience (Erikson, 1950/1973; Feist

and Feist, 2013). This would have caused Grandin to be unable to screen what and who is safe, and therefore what is allowed to pass into her inner world from the outer world (Erikson, 1950/1973). Her senses may have felt overpowered and therefore people, sights, and sounds would have been perceived as intruders (Erikson, 1950/1973). While Grandin may have begun to scan her environment and develop a visionary field, her inability to identify favourable people and sensory experiences, and assimilate them into her being caused the outer world to become more threatening (Erikson, 1950/1973, 1964a, 1977). As a result, Grandin did not interact with other individuals nor take part in autocosmic play (Erikson, 1950/1973; Sutton, 2006). Erikson (1950/1973) defined play as “a function of the ego, an attempt to synchronize the bodily and social processes with the self” (p. 204). Grandin’s inability to take part in autocosmic play potentially influenced her ego assimilating more dystonic elements and becoming less balanced (Erikson, 1950/1973; Hoare, 2013). Infants who have begun to develop ego coherence would extend their autocosmic play to the psychosocial arena with their caregivers by for example tugging on their hair, necklaces, or clothing (Erikson, 1977). Grandin, however, began to resist physical contact by stiffening when held and later struggling to free herself (Cutler, 2004; Grandin 1984a; Grandin & Scariano, 1986/2005; Montgomery, 2012).

As Grandin was unable to take part in the interplay of seeing and being seen with other individuals, which enables hope to be formed, she was not able to establish mutuality of recognition (Erikson, 1950/1973, 1964a, 1977). Grandin’s inability to feel a state of equilibrium in relation to her mother or another primary caregiver may have influenced her development of a basic sense of mistrust (Erikson, 1964a, 1968a; McAdams, 2009). A sense of basic mistrust along with her ego incoherence led the environment and people in it to become increasingly estranged (Erikson, 1977). According to Erikson (1964a, 1968a, 1977) Grandin’s ego forfeiting the mutuality of recognition relationship with her mother resulted in her ego struggling for coherence and being unable to begin to form an ego identity as healthy infants would in the first stage. This would have increased Grandin’s basic sense of mistrust and ego imbalance between her inner world and the outer environment (Erikson, 1950/1973; Feist & Feist, 2013).

According to the theory (Erikson, 1956, 1968a) Eustacia’s lack of experience with children as well as little being known about ego failure or autism at the time could have influenced or

aggravated Grandin's ego failure (Grandin, 1984a; Grandin & Panek, 2013). This can be observed when Eustacia did not have knowledge about autism and felt "snubbed" (Cutler, 2004, p. 6) by Grandin's lack of interaction with her and chose to ignore Grandin (Grandin & Panek, 2013). Grandin not receiving specific care for her condition and the necessary attention from her mother may possibly be a cause of her increased distrust, becoming further withdrawn, escaping to a "private utopia" (Erikson, 1956, p. 117), and her increased aggressive objection to physical contact (Erikson, 1956, 1968a; Grandin & Scariano, 1986/2005; Montgomery, 2012). As Grandin did not have the ego capacity or support to face the crisis of this stage it led to a core pathology and maladaptive tendencies being incorporated into her ego (Erikson, 1950/1973). As previously mentioned Eustacia's inconsistent behaviour toward Grandin and her denial of Grandin's problems may have aggravated Grandin's ego failure and sense that the world is unreliable and untrustworthy (Erikson, 1956, 1968a; McAdams, 2009; Miller, 2010). However, the care that she did show Grandin and her attempts at mother-baby activities such as taking her to swim, may have had as yet unseen developmental benefits (Erikson, 1950/1973).

The value of being absent

Infants who have a basic sense of mistrust and are unable to integrate traumatic experiences into their egos may experience negative incidences as the totality of experience (Erikson, 1956, 1968a). However, Erikson (1968a) suggested that as a result of "accidental or development shifts" (p. 81) some infants may abandon attempts at ego balance and wholeness and succumb to a total withdrawal. This total withdrawal may be a necessary way of dealing with certain experiences and may have survival value (Erikson, 1956, 1968a). As previously suggested, Grandin's ego failure and withdrawal did not result in totalism. However, her withdrawn state was severe and her seeming to have gone "somewhere quite far off" (Cutler, 2004, p. 8) may have provided her ego with a protective or survival element (Erikson, 1956, 1968a). The protective quality that her withdrawn state potentially provided her ego may have been active during the times of tension between her parents, and in her experience of being swept out to sea when she did not react nor become distressed as may be expected from a psychologically healthy infant.

The theory suggests that as Grandin's ego forfeited the mutuality of recognition relationship with a primary caregiver, which resulted in her mistrust and inability to begin to form an ego identity, she may become suspicious, further withdrawn, and may develop some form of psychosis later in life (Erikson, 1950/1973, 1964a; Feist & Feist, 2013; McAdams, 2009; Miller 2010; Sollod et al., 2009). While Grandin has not become psychotic, her difficulty with assimilating the different parts of herself did lead to periods of aggression, anxiety, a general sense of being overwhelmed by her senses and emotions, as well as an extended struggle with ego weakness (Erikson, 1950/1973, 1956, 1968a, 1977). Grandin's inability to assimilate different experiences and parts of herself into her ego and incapacity to deal with certain emotions also possibly led to her withdrawing to a "private utopia" (Erikson, 1956, p. 117) or dissociating. This happened throughout her childhood. While this may be viewed as a negative polarity, Grandin's dissociation can also be viewed as a protective function that influenced the development of her imagination (Erikson, 1956, 1977). These aspects of Grandin's development that were influenced by this first stage will be discussed further in the following stages.

4.3.3 Stage 1 salient points

- a. Pervaded by ego failure and a basic sense of mistrust.
- b. As a result of tension between her parents and having different caregivers in the first two months, Grandin learnt that the world was neither secure nor reliable.
- c. Cause of ego failure unknown. Grandin's sensitivity combined with genetics, structural brain differences, and limited contact with her mother could have caused her ego failure and negation of mutuality of recognition relationship.
- d. Little being known about autism at the time as well as Eustacia choosing to ignore Grandin's symptoms could have aggravated her ego failure and mistrust.
- e. Disjunction between Grandin's physical experience of being in the world and her body ego's integration of such experience.
- f. Inability to take part in autocosmic play / interplay of seeing and being seen. Therefore hope could not be formed and more dystonic elements were assimilated by her ego.
- g. Inability to begin to form an ego identity as healthy infants would in this period.
- h. Withdrawn state was severe, but may have provided Grandin's ego with protective and survival elements.

4.4. Stage 2: Autonomy versus shame and doubt (1,5-3 years)

Unless otherwise specified, the data for this stage is based on Cutler (2004).

4.4.1 Findings

Eustacia first voiced her fears about Grandin's development when Grandin was 21 months old. One day Eustacia's friend Veevee and her daughter came to visit. Ceelie, who was only a few months older than Grandin, played in the sand pit, making objects with her molds and spade. Ceelie would look to the adults for approval and was encouraged by their praise. All the while Grandin did not interact with anyone. Nor did she play the way Ceelie did, even when Eustacia and Veevee tried to involve her. Grandin sat lost in her own world, merely picking up sand and watching it slip through her fingers, over and over again. When Eustacia could no longer handle her child's oddness she blurted out "Why isn't Temple doing what Ceelie's doing?" (Cutler, 2004, p. 14). Veevee was a pediatric nurse and took Eustacia's question as an opportunity to express her own concerns that Grandin was not playing nor learning to speak. Veevee believed that Grandin could be taught to speak and suggested that Eustacia make an appointment for Grandin at the Judge Baker Guidance Clinic. Eustacia first consulted her pediatrician who thought that she was just being an overly anxious mother. Nevertheless, Eustacia made the appointment at the clinic where Grandin was examined by Dr Caruthers and then by Dr Meyer, who brought toys for her to play with. Dr Meyer thought that Grandin was "very odd" (Cutler, 2004, p. 15) and suggested that Eustacia buy a set of bright coloured plastic cups to play with Grandin at home.

During May 1949 Grandin's first sibling, a sister, was born. A nurse was hired to look after Grandin. Eustacia continued throughout the year to try play with Grandin with the cups. Slowly Grandin learnt how to take the cups and give them back to her mother. However, she would never look at her mother and remained mute and lost in her own world (Cutler, 2004; Grandin, 1984a). She still preferred to be alone and desisted being touched (Grandin, 1984a; Grandin & Scariano, 1986/2005; Montgomery, 2012). While Grandin was often lost in her own world she would react suddenly and sometimes aggressively to sounds, smells, textures, and sudden movements from other people (Grandin, 1984a; Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Montgomery, 2012). One day when Grandin was two and a half Eustacia was raking

leaves and could not reach the leaves under the bushes and so knelt and used her hands. Surprisingly, Grandin silently knelt next to her mother and imitated her actions of pulling the leaves out from under the bushes. Eustacia noticed that Grandin's hands were cold and held and blew on them. Grandin did not respond in anyway. She also did not withdraw her hands.

Grandin remained mute until she was almost three years old (Cutler, 2004; Grandin, 1984a; Sutton, 2006). At this time she started to laugh. However, the laughter was filled with spitting and became "uncontrollable spasms" (Cutler, 2004, p.16) that she would struggle with throughout childhood. Dick was disgusted with his daughter and could not tolerate the disorder she created. He was adamant that she was retarded and belonged in an institution. Grandin's behaviour became more tumultuous and disruptive to the family. This further infuriated Dick. The tension and disharmony between him and Eustacia grew. Eustacia's desperation increased and so she took Grandin back to Dr Meyer. This was their last appointment together. Eustacia was told that the doctors were satisfied with how she was handling Grandin's situation, but that they could not understand Dick's behaviour. Although Dr Meyer withdrew from Grandin's case, Dr Caruthers continued to meet with her. However, he would not tell Eustacia what had transpired between Dick and the doctors.

A glimmer of hope

One day when Grandin was almost three years old she sat on the floor crumpling newspaper while Eustacia played the piano. Eustacia stopped playing for a while to attempt to get Grandin to play with the plastic cups. This was to no avail. Eustacia felt affronted and thought that she would ignore Grandin. This was to happen on a few occasions. When Eustacia began to play a Bach piece Grandin hummed along to the tune. Her mother was overjoyed (Grandin & Johnson, 2005). However, her joy did not last long as Grandin's tantrums increased. Dick used this as support that Grandin was retarded. Grandin's tantrums would involve ripping the wallpaper off her bedroom walls, ripping her bunny mattress and pulling out the stuffing until she reached the springs and then eating bits of the mattress (Cutler, 2004; Grandin & Johnson, 2005). This would be followed by fits of spitting and laughing (Grandin, 1984a). During one of Eustacia's attempts to calm Grandin, Grandin ran out of the house and into the road. She proceeded to take her

clothes off and defecate. Eustacia grabbed Grandin and took her back to her room. Once placed in her room Grandin began to break and throw any object that she could find. After throwing toys, bedding, and the bin into one pile she once again defecated, picked it up and smeared it onto the torn wallpaper (Cutler, 2004; Grandin & Scariano, 1986/2005; Sutton, 2006). Grandin would also urinate on the carpets or on curtains that she had pulled and placed between her legs (Grandin & Scariano, 1986/2005). This behaviour was repeated on many occasions. Each time Eustacia would repair the room until one day when she went into a state of rage she closed screaming Grandin in the room. As Eustacia closed the door Grandin became silent. Eustacia was not sure if Grandin merely wanted an audience for her tantrums or if she was rather glad to finally be alone and so settled down.

Dick's unhappiness and disgust with Grandin's behaviour was supported by Grandin's maternal grandmother. Mrs Purves, however, chose to ignore Grandin as if it would make her disappear. Mrs Purves was also disappointed with Eustacia for bearing such an impolite, odd child with a "distasteful malfunction" (Cutler, 2004, p. 21) as it was having a negative impact on the family's social standing. Between Mrs Purves disapproval and the shame Grandin was bringing to the family, Eustacia went to seek the advice of her 99 year old Aunt, Ruby. Ruby thought that Mary Purves was a "fool" (Cutler, 2004, p. 22). Through her discussion with Ruby, Eustacia realised that through her own embarrassment and guilt she had in many ways withdrawn from Grandin. Ruby made apparent that Eustacia was the adult in the relationship and needed to find a way to help Grandin if she were to "survive" (Cutler, 2004, p. 23) in the world.

Practical advice for a mother in the uncharted world of autism

After Eustacia's discussion with Ruby she decided that she needed to find someone to help her at home with Grandin. She hired a nanny, Miss Cray, who had experience with troubled children. Neither Eustacia nor the nanny knew why Grandin behaved the way she did (Cutler, 2004; Grandin & Panek, 2013). However, the nanny believed that she could assist Grandin. The nanny believed that they needed to harness Grandin's attention and that she not be allowed to daydream (Grandin & Panek, 2013). She brought learning cards, games, and colouring books to encourage Grandin's involvement in the world (Cutler, 2004; Grandin, 1984a). Even though Grandin

became responsive to the nanny she did not learn to speak. Grandin remembers that she began to understand what people were saying, but could not respond (Grandin, 1984a; Grandin & Panek, 2013; Grandin & Scariano, 1986/2005).

At the clinic Dr Caruthers suggested that as Grandin was three years old and not speaking she should come in for an EEG and a ten day observation (Cutler, 2004; Grandin, 1984a; Grandin & Panek, 2013). Grandin did not mind going to the hospital until she had to have the EEG. She reacted violently and had to be sedated. Eustacia was not allowed to visit Grandin during this time, but she was allowed to watch her through a one-way mirror. When Grandin was placed in a room with other children she sat in a corner and ignored them. Dr Meyer suggested that Dr Onesti, an ear specialist, test Grandin's hearing to check if it was not interfering with her learning to speak and socialise. However, Grandin's hearing was found to be normal. Like Eustacia's friend Veevee, Dr Caruthers believed that Grandin could learn to speak and suggested a speech therapist despite her initial diagnosis of "brain damage" (Grandin & Panek, 2013, p. 3). Mrs Reynolds had a small school at her home. Grandin attended her nursery school and also saw her for speech therapy. As many of the children in the class suffered from retardation or Down's syndrome Eustacia did not want Dick to see the school or the children (Cutler, 2004; Grandin & Panek, 2013). At home the nanny continued her lessons with Grandin and tried to teach her that there were other people in the world that she needed to be aware of and to share with (Grandin & Panek, 2013). Despite all the effort and input Grandin still did not interact with other children nor did she want to share with anyone.

When Grandin was almost four years old Dr Caruthers suggested that she be seen by a child psychiatrist. The psychiatrist first met with Dick and Eustacia and told them that when Grandin reached adolescence she would need to be psychoanalysed. At this meeting the doctor was reading a notebook. It was revealed that Dick had been writing about Grandin and Eustacia's behaviour. From this the doctor deduced that Grandin had infantile schizophrenia. Dick was pleased that he finally had a diagnosis that he believed. Despite Dick's wealth, he was angry about spending money on Grandin's tutors, nanny, and doctors. He thought that he now had the justification he needed to institutionalise her.

4.4.2 Discussion

According to Erikson (1950/1973) it is possible for a previous stage to be renegotiated at a later stage. Therefore, according to the theory it would have been possible for Grandin to learn to trust in herself and the world around her, and therefore begin to develop autonomous behaviour during this stage (Erikson, 1950/1973, 1964; Miller 2010; Sollod et al., 2009). However, as a result of Grandin's sensitive ego state, her father's growing disdain with her, and further inconsistent care from her mother, her distrust in people and the world were reaffirmed (Erikson, 1950/1973, 1964a; Miller 2010; Sollod et al., 2009). As Grandin's ego was struggling to establish a sense of balance, potentially distressing experiences may have been difficult for her to integrate and may have felt more traumatic to her than to a toddler who had established a mutuality of recognition relationship with a primary care-giver (Erikson, 1968a). Such experiences that probably aggravated Grandin's basic sense of mistrust were the times her mother ignored her, when her sister was born and a nurse looked after her instead of her mother, as well as her stay in the hospital when she was separated from her family and familiar environment (Erikson, 1968a). Grandin's home life that involved increasing arguments between her parents would also have influenced her sense that her environment was insecure (Erikson, 1950/1973, 1964a; Miller 2010; Sollod et al., 2009).

The influence of environmental change and external hope

Despite the events that exacerbated Grandin's sense of mistrust, there were new environmental and social changes that probably started to impact on her ego's development during this stage. Eustacia admitting to Veevee that she recognised that something was wrong with Grandin was an important development with regard to her parenting, treating Grandin as someone with worth, and providing her with the necessary stabilising care (Erikson, 1956, 1968a). Initially during this stage Eustacia's treatment of Grandin oscillated between trying to understand her to instead ignoring her. Nevertheless, talking to Veevee as well as taking Grandin to the Judge Baker Guidance Clinic where the doctors tried to help Eustacia find ways to interact with Grandin, brought hope from the external societal environment into Grandin's home environment. This external hope was also affirmed through Eustacia's discussion with Ruby. The extent to which Grandin was able to internalise this sense of hope at this point is unknown (Erikson, 1950/1973,

1968a; Miller, 2012; Sollod et al., 2009). However, it is suggested that her ego did begin to tentatively integrate this sense of hope as she started to interact with the outside world at times despite her previous ego failure and severely withdrawn state (Erikson, 1956, 1968a). Grandin's interacting with the environment was at times constructive such as her playing with objects like sand or newspaper, and exchanging the cups with her mother. Grandin's weak ego, however, prevented full assimilation of the external hope and her positive experiences (Erikson, 1950/1973, 1956, 1968a). As a result she would vacillate to more destructive means of interacting with her environment as was displayed by her destroying objects, defecating and urinating wherever she pleased, and throwing tantrums (Cutler, 2004; Erikson, 1950/1973, 1956, 1968a; Grandin & Johnson, 2005; Grandin & Scariano, 1986/2005; Sutton, 2006).

Grandin's ways of interacting with the environment were often viewed as destructive and shameful to her parents and extended family as her actions were not socially acceptable, and as a result negatively impacted on the family's social standing (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Despite the shame felt by Grandin's family influencing their behaviour toward her, it is suggested that because of her ego failure she did not internalise this shame to the extent that an infant without ego failure would have (Erikson, 1950/1973, 1968a). Her withdrawn state prevented her from being present or aware enough to realise the disdain of her family and to feel shame. In this case Grandin's ego failure may be viewed as having provided her with defensive and protective qualities against a sense of shame and doubt which could have aggravated her withdrawn state and inability to trust (Erikson, 1950/1973, 1964a, 1968a; Feist & Feist, 2013). This protective quality of her ego failure is supported by the shame not dispelling her tentative internalisation of hope (Erikson, 1950/1973, 1964a, 1968a; Feist & Feist, 2013). This enabled her ego to start testing her environment and lay the foundations for mutuality of recognition relationships and the development of a sense of will (Erikson, 1950/1973). This may also have been the point that Grandin's ego began to transition from a state of ego failure to severe ego weakness (Erikson, 1950/1973, 1956, 1968a).

It may not look like play...

Despite Grandin's ego development being impeded, she began to test and interact with her environment through autocosmic play that at times involved the microsphere (Erikson, 1950/1973, 1977). According to Erikson (1950/1973) play demonstrates the ego's abilities and endeavours at rejuvenation and "self cure"(p. 204). In the case of the ego's attempts at healing, this is illustrated by Grandin's repetitive play when picking up the sand and letting it slip through her fingers, crumpling the newspaper, humming, and the more interactive play of exchanging the cups with her mother (Erikson, 1950/1973). According to the theory (Erikson, 1950/1973) Grandin's struggling ego needed to gain a sense of the trustworthiness of experiences of events in the moment. Her ego, therefore, found repetition and constant testing of the environment through play necessary in order to continually reintegrate experience (Erikson, 1950/1973, 1956, 1968a). Play such as letting sand slip through her fingers and crumpling the newspaper would have enabled her body ego to begin to differentiate the boundary of her body from that of other objects and locate itself within time and space (Erikson, 1968a; Feist & Feist, 2013). Exchanging the cups with her mother would have furthered her body ego integrating the experience of itself as separate from another, yet being able to interact (Erikson, 1968a; Feist & Feist, 2013). The experience of exchanging the cups with her mother may also be viewed as the beginning of a mutuality of recognition relationship with a primary care-giver and founding of her participation in society (Erikson, 1950/1973, 1964a, 1977). These experiences would be integral to Grandin later being able to develop mutuality of recognition relationships with others as well as develop an ego identity or sense of self (Erikson, 1968a, 1974; Feist & Feist, 2013).

The maladaptive tendencies that Grandin incorporated into her ego during the first stage influenced the way in which she would begin to develop a sense of will (Erikson, 1950/1973). Grandin's socially appropriate demonstrations of autonomous behaviour such as playing with sand, newspaper, and humming were intermittent. Grandin demonstrated the development of destructive autonomous behaviour and a sense of her own desires by testing the boundaries of her environment through tantrums (Erikson, 1950/1973, 1964a; Miller 2010; Sollod et al., 2009). By destroying objects in her bedroom, as well as by urinating and defecating wherever she pleased, Grandin learnt that to a certain degree she could control the outcome of circumstances

by letting go of all restraint (Cutler, 2004; Erikson, 1950/1973; Grandin & Johnson, 2005; Grandin & Scariano, 1986/2005; Miller, 2010; Sollod et al., 2009; Sutton, 2006). Grandin still had an overarching sense of mistrust during this stage (Erikson, 1950/1973, 1968a). Her mistrust as well as her inability to tolerate physical contact or communicate through speech as healthy toddlers would begin to do at this point, may have led her to feel threatened and powerless (Erikson, 1950/1973, 1964a, 1977). Grandin using destructive and shameless means of establishing autonomous behaviour may, therefore, have been in order to create her own sense of power and control over her environment (Erikson, 1950/1973, 1964a, 1977). The theory (Erikson, 1950/1973; Hoare, 2013; McAdams, 2009; Miller, 2010) suggests that the incorporation of dystonic elements during this stage may lead to unlawful behaviour in the future. While Grandin did not partake in criminal behaviour later in life, she would struggle to remain within the bounds of socially acceptable behaviours throughout her childhood.

Determination despite an inability to communicate

Grandin's impaired causal connection of herself to others as well as ineffectual communication weakened her ability to develop autonomous behaviour and engage psychosocially (Erikson, 1950/1973, 1956). For Grandin meaning and communication were replaced with repetitive gestures, incoherent spitting and laughing, as well as destructive behaviour that were possibly indicative of her frustration when trying to communicate (Erikson, 1950/1973). While speech and communication are necessary functions that support the development of autonomy, Grandin's impairment in this area did not disable the development of a sense of will (Erikson, 1956; Feist & Feist, 2013; Miller, 2010). Grandin's ego striving for coherence, as tumultuous as it was, and leaving her severely withdrawn "private utopia" (Erikson, 1956, p. 117) are early signs of the sense of will and determination that her ego would display throughout her life.

Eustacia's discussion with Ruby and realising that her embarrassment and anger toward Grandin had caused her to withdraw from her young child resulted in a turning point in Grandin's psychosocial environment and care during this stage. Eustacia's realisation caused her to try to be more understanding of Grandin, as well as more consistent with her (Erikson, 1950/1973). Miss Cray's daily work with Grandin and focus on getting Grandin to actively engage in the

world, as well as Grandin attending speech therapy and nursery school provided her with consistency, constant boundaries, and potential social interactions (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). This was imperative to Grandin's ego development as "extraordinarily consistent" (Erikson, 1950/1973, p. 193) encouragement is needed for children with ego failure to learn to trust themselves, others, and the environment. However, a threat to Grandin's ego's security and encouragement to develop existed in the labels she received such as having "brain damage" (Grandin & Panek, 2013, p. 3) and being an infantile schizophrenic that supported her father's desire to have her institutionalised (Erikson, 1956, 1968a). Erikson (1956, 1968a) did not negate that the reality of individual's ego states and situations should be addressed. However, he suggested that it was imperative that significant individuals do not merely view people with ego failure or weakness as sick or deviant (Erikson, 1956, 1968a).

As Grandin neared the end of the second stage of psychosocial development she had more consistency, care, and hope in her environment to facilitate ego stability and the development of trust and autonomy than before (Erikson, 1950/1973, 1956, 1968a). Dick's anger at her, wanting to withdraw her care, and have her institutionalised, conversely, had the potential to encourage Grandin to incorporate the negative identity and to become as she was viewed and treated by him (Erikson, 1956, 1964a, 1968a).

4.4.3 Stage 2 salient points

- a. Grandin's distrust in the world was reaffirmed as a result of a sensitive ego state, growing disdain from her father, and further inconsistent care from her mother.
- b. New environmental and social changes brought external hope into the home environment. Grandin began to tentatively integrate this sense of hope.
- c. A sense of hope enabled her to start testing her environment and lay the foundations for mutuality of recognition relationships and development of a sense of will.
- d. At times interacted with her environment through autocosmic play. Other times demonstrated destructive autonomous behaviour to create her own sense of order and control over the environment.
- e. Withdrawn state prevented Grandin from being present or aware enough to realise the disdain of her family and to feel shame.

- f. Ego found constant testing of the environment necessary in order to reintegrate experience. Playing (exchanging the cups with her mother) was the beginning of mutuality of recognition and her participation in society.
- g. Impaired communication did not impede the development of a sense of will.
- h. New consistencies (Eustacia's growing awareness and care, Miss Cray's daily supervision, Mrs Reynolds' nursery school and speech therapy) provided Grandin with constant boundaries and potential social interactions. This encouraged her development of trust.

4.5 Stage 3: Initiative versus guilt (4-5 years)

Unless otherwise specified, the data for this stage is based on Cutler (2004).

4.5.1. Findings

Despite Dick's determination to have Grandin institutionalised, Eustacia was determined to raise her at home (Cutler, 2004; Sutton, 2006). Eustacia made another appointment to take Grandin to see the child psychiatrist without Dick. The psychiatrist informed Eustacia that Grandin had been suffering from psychosis and infantile schizophrenia and that as she had begun to convalesce she was becoming a neurotic. At this meeting the psychiatrist suggested that Grandin be placed in a foster home. Eustacia refused to do this and instead continued with the help of the nanny and Mrs Reynolds. Dick, however, had more furious outbursts about Grandin. He believed that he was justified as she was insane and he now had "psychiatric proof" (Cutler, 2004, p. 32). Grandin's parents continued arguing as their marriage deteriorated.

Learning to speak

At this stage Grandin could hear, but she found it difficult to distinguish the sounds of vowels and consonants, especially when people spoke quickly (Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Montgomery, 2012). Mrs Reynolds helped Grandin to learn the consonants and to stretch them out (Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Montgomery, 2012). Grandin remembers that this is what she particularly struggled with because to her ears all she heard were vowels (Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Montgomery,

2012). Grandin's development of social skills and more socially acceptable behaviour was aided by strict rules at family meals that everyone attended, as well as the games that were played with the family and the nanny (Grandin, 1995/2006; Grandin & Panek, 2013; Grandin & Scariano, 1986/2005). Although Miss Cray's methods caused Grandin to pay attention to her, they often scared Grandin (Grandin & Scariano, 1986/2005). Miss Cray used Grandin's distress at sudden loud noises as a means of punishment (Grandin & Scariano, 1986/2005). Even if Grandin daydreamed while eating her lunch Miss Cray would pop a bag next to her ear or in her face (Grandin & Scariano, 1986/2005).

Despite the efforts of Miss Cray and Eustacia, when Grandin was four years old she still could not speak or interact except through her tantrums. Grandin's tantrums and destructive behaviour grew worse later in the day when she became tired (Grandin, 1984a; Grandin & Scariano, 1986/2005). Grandin had stopped playing with her feces, but still lived in her "private land of enchantment" (Cutler, 2004, p. 38). When Grandin was almost five years old Eustacia noticed that the work with Miss Cray and Mrs Reynolds began to reveal results. She had started to speak, even though her words were not clear. Grandin also began to behave herself in a group and, for example, wait her turn for a cup of juice. Grandin's development was more apparent in controlled or familiar environments (Grandin & Scariano, 1986/2005). Throughout her childhood she would over-react when there were many people and loud noises (Grandin, 1984a; Grandin & Scariano, 1986/2005). Invariably Grandin would hit another child or throw something at someone (Grandin & Scariano, 1986/2005).

Grandin's voice was flat and had no rhythm or inflection (Grandin & Scariano, 1986/2005). Whenever she did speak it highlighted her differentness from other children (Grandin & Scariano, 1986/2005). This was also aggravated by her not being able make eye contact (Grandin & Scariano, 1986/2005, p. 26). To everyone's surprise, one day when Grandin was five years old and at Mrs Reynolds nursery school she answered the telephone and greeted the caller for the first time when no one answered (Grandin & Scariano, 1986/2005).

Kindergarten

As Grandin's progress became more evident, Mrs Reynolds and a social worker from the Belmont School System approached Eustacia about allowing Grandin to attend a month long camp for special needs children. Eustacia accompanied Grandin to the camp where the director told Grandin that she may attend the camp as long as she learnt to say the Lord's Prayer and always did her best. Eustacia was anxious about these requirements. However, Grandin learnt the Lord's Prayer and began to demonstrate determinism. The camp director thought that Grandin should attend a small kindergarten as long as the school knew and accepted her history and situation. Eustacia met with Mr Ladd, the head of Dedham Country Day school, as well as Mrs Dietsch who was in charge of the first three grades. When Eustacia explained Grandin's situation to them the two educators responded positively. Grandin was allowed to attend the school as long as they could keep open communication with Eustacia and send her home if she had a bad day. On the first day of school Grandin was kept at home so that the teacher could explain to the other children in her class that she was "different" (Grandin & Scariano, 1986/2005, p. 32). During the late 1940's and early 1950's there was great panic surrounding the polio outbreak and children were aware of other children who had been affected as they wore leg braces or used crutches (Montgomery, 2012). The teacher told the children that Grandin's condition was "sort of like polio" (Montgomery, 2012, p. 29), but that it was not visible as it was in her brain. The children in her class agreed to be understanding of her situation (Montgomery, 2012).

Grandin often had tantrums at school and one day she bit Mrs Dietsch. On each of these occasions she was sent home and her class was told that she had problems. Eustacia felt that she had better learnt how to handle Grandin from Mrs Dietsch. Mrs Dietsch insisted that if she or Eustacia speak to Grandin that they put their hand on her shoulder even if she did not like it and it made her nervous. Mrs Clark who was Grandin's kindergarten class teacher did not always understand and expected Grandin to be able to do the tasks in the work books and keep rhythm with the other children when she played the piano (Grandin & Scariano, 1986/2005). She could not understand Grandin's logic, way of thinking, and lack of rhythm (Grandin, 2005; Grandin & Scariano, 1986/2005). Although Grandin tried she could not clap in time with the piano or the other children and was scolded for not paying attention (Grandin & Scariano, 1986/2005). Even

though Grandin was not trying to be disruptive Mrs Clark told her to fold her hands in her lap because she did not want to keep in time with the other children. The other children laughed at Grandin who, infuriated, jumped up (Grandin & Scariano, 1986/2005). Mrs Clark responded by grabbing her shoulder and leading her to the corner of the classroom where she had to stand alone until the end of the class (Grandin & Scariano, 1986/2005).

Grandin struggled with many tasks because she still needed to connect meaning to the words she heard and how to distinguish various objects or creatures from one another (Grandin, 1995/2006). This point was illustrated by Grandin being able to distinguish the family golden retriever from their two cats by size (Grandin, 1995/2006; Montgomery, 2012). Grandin applied this same logic to the animals in the neighbourhood (Grandin, 1995/2006; Grandin & Johnson, 2005). However, when her next door neighbour got a dachshund she could not understand why it was not a cat (Grandin, 1995/2006; Grandin & Johnson, 2005). She needed to figure out another distinguishing feature between cats and dogs other than their size, and this was their noses (Grandin, 1995/2006; Grandin & Johnson, 2005). To Eustacia's surprise Grandin improved at school in spite of her difficulties, disruptions, and days of being sent home. The child psychiatrist was just as surprised and said that he could not understand why Grandin got sick nor why she was getting better (Cutler, 2004; Grandin, 1984a).

4.5.2 Discussion

As with the previous stages, Grandin had a complex developmental response to this period. During this stage children's mobility as well as cognitive abilities have developed and therefore their ability to speak and think (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). As a result children will now attempt to initiate activities and relationships (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). However, because of Grandin's insufficient trust as well as lack of autonomy she struggled to initiate activities and relationships and find a sense of purpose (Erikson, 1950/1973, 1964a). As learning to speak is a primary function that supports cognitive processes, individual autonomy, as well as ability to expand social relations, Grandin's impairment in this area further impeded her development of a sense of initiative and purpose (Erikson, 1950/1973, 1956; Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Montgomery, 2012). Grandin's struggle with the meaning of words, signs, and facts was

illustrated by her difficulty in understanding why the next door neighbour's dachshund was not a cat because it was small (Erikson, 1956; Grandin, 1995/2006; Grandin & Johnson, 2005). As Grandin was unable to communicate through speech for the majority of this stage, she was unable to begin to define who she was, and who she was in relation to others (Erikson, 1956; Grandin, 1995/2006; Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Montgomery, 2012). The difficulties Grandin experienced with communication and meaning would also have delayed the development of her ego identity (Erikson, 1956).

Constructive versus destructive agency and learning from new experiences

Dick's negative view of Grandin and insistence on having her institutionalised, as well as the psychiatrist's suggestion to have her placed in a foster home still threatened Grandin's ego security, and could have led her to internalise the negative identity (Cutler, 2004; Erikson, 1956, 1964a, 1968a; Sutton, 2006). Erikson noticed that there were signs of improvement in some children who remained with their families instead of being placed in an institution (Erikson, 1950/1973). This was the case with Grandin. Eustacia's more reliable parenting and the environmental consistencies such as Miss Cray's presence at home and Mrs Reynold's speech therapy and nursery school enabled a partial resolution of the dystonic elements that Grandin had internalised in the previous stages (Cutler, 2004; Erikson, 1950/1973, 1958b; Grandin & Panek, 2013; Hoare, 2013; Miller, 2010; Sollod et al., 2009). The regular psychosocial interaction provided Grandin with consistent recognition (Erikson, 1956, 1968a). This was needed in order for her to learn that she was part of a community, to recognise others, and to understand herself as an active agent in the world (Erikson, 1956, 1968a). These experiences were reaffirmed with the social interplay of the formal family dinners as well as the games Grandin played with her family and Miss Cray (Erikson, 1956, 1968a; Grandin, 1995/2006; Grandin & Panek, 2013; Grandin & Scariano, 1986/2005). These psychosocial interactions, which involved Grandin seeing and being seen, aided her development of mutuality of recognition relationships as well as hope (Erikson, 1950/1973, 1964a, 1977). As a result, Grandin began to trust the environment more as can be observed by her ego's ability to be present for longer periods of time (Erikson, 1950/1973, 1956, 1968a). Grandin's increased trust in her environment enabled her physical experiences of being in the world and her body ego's integration of such experiences to be more

unified (Erikson, 1950/1973). This enabled her body ego to differentiate herself from other people and animals (Erikson, 1968a; Feist & Feist, 2013; Grandin, 1995/2006; Grandin & Johnson, 2005). This development supported Grandin's mutuality of recognition as well as her learning to speak when she was almost five (Erikson, 1968a; Feist & Feist, 2013).

Interactions with other people enable children's moral compass to develop and to integrate the views of a particular society (Erikson, 1950/1973, 1964a). While Grandin may not have developed a moral compass at this point, her learning to understand the meaning of words supported her understanding the difference between right and wrong and what one wishes to have versus what one is allowed (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Grandin demonstrated her growing awareness of expected societal boundaries and mutuality of recognition by no longer playing with her feces, as well as her actions at nursery school where she began to behave in a group and wait her turn for a cup of juice (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). The theory (Erikson, 1950/1973) suggests that Grandin's regression and lack of restraint in unfamiliar environments may have been due to her limited sense of autonomy feeling threatened in places and with people she did not know and trust. With her senses feeling overpowered, Grandin may have felt out of control (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). As a result, she regressed to shameless and unacceptable means of communicating, as well as establishing and crossing the boundaries between herself and others as was viewed by her tantrums or throwing objects like an ash tray at people (Erikson, 1950/1973; Grandin, 1984a; Grandin & Scariano, 1986/2005; Miller, 2010; Sollod et al., 2009). Grandin's dystonic characteristic of 'letting go' when she was tired or in an unfamiliar environment was a destructive way of responding to others that hindered her being able to develop a sense of purpose through initiating relationships during this stage (Erikson, 1950/1973, 1977; Hoare, 2013; Sollod et al., 2009).

Grandin's withdrawn as well as disruptive ways of being impacted her ability to form relationships, as well as affected the people around her, especially her father. However, despite her developmental impairment and times of regressing, the more trusting, autonomous and law abiding syntonic elements that her ego had begun to integrate led to her most noticeable act of initiative during this stage (Erikson, 1950/1973, 1958b; Hoare, 2013; Miller, 2010; Sollod et al.,

2009). Grandin demonstrated initiative as well as a sense of purpose when her growing autonomy accompanied her goal directed decision to answer the telephone at her nursery school and greet the caller (Erikson, 1950/1973, 1968a, 1977). While this action may not have been surprising or noteworthy for a developmentally healthy five year old, the recognition of Grandin's progress was imperative to her ego recovery, sense of self, and the possibility of new experiences (Erikson, 1956, 1968a). According to Erikson (1956) new experiences that are for the most uncomplicated are necessary for individuals with ego failure and weakness to experiment with basic forms of trustful mutuality. For Grandin the recognition of her progress led to new and more autonomous experiences at holiday camp and kindergarten.

Confusing responses from others

Grandin coped fairly well at the camp for special needs children. This may have been because the camp coordinators were understanding of the children's difficulties and had straightforward expectations of them (Erikson, 1956). Despite Mr Ladd and Mrs Dietsch trying to understand Grandin's situation, the kindergarten environment required more developmentally healthy abilities and behaviour. Grandin was not developmentally ready to meet the academic expectations of her grade or Mrs Clark as could be observed with her still struggling with the meaning of words, inability to do tasks in the workbooks, or clap in time with the piano (Erikson, 1950/1973, 1956; Grandin, 1995/2006, 2005; Grandin & Scariano, 1986/2005). Grandin did not only not fulfill academic requirements but crossed acceptable school rules such as jumping up when she was supposed to be sitting and biting Mrs Dietsch (Erikson, 1950/1973; Cutler, 2004; Grandin & Scariano, 1986/2005). Grandin's defiance of boundaries possibly revealed her frustration with not being able to perform or communicate effectively, her body ego's discomfort with unwanted physical contact, and her attempt, albeit unacceptable, to regain a sense of her own power and control (Erikson, 1950/1973, 1964a, 1977).

During this period children are expected to start taking responsibility for their actions which, if undesirable, may be met with harsher consequences than in previous stages (Haensly & Parsons, 1993). The increased presence of Grandin's ego and development of her cognition would have enabled her to be more aware that the responses she received, such as being laughed at by other

children or having to stand alone in a corner, meant that what she had done was worthwhile and accepted or frowned upon (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). The responses of other individuals may still have seemed confusing to Grandin's ego that was struggling to integrate experiences and establish coherence (Erikson, 1950/1973, 1964a; Syed & Seiffge-Krenke, 2013). However, being less withdrawn may also have caused her ego to be less protected than before from feelings of shame and low self-esteem when being punished or laughed at (Erikson, 1950/1973, 1956, 1968a; Miller, 2010; Sollod et al., 2009). Feelings of shame and low self-esteem would have been disruptive to Grandin's tentative trust in the world, her autonomy, and potential to develop initiative (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). It is not known whether Grandin was aware of the children in her class being told that she had something "sort of like polio" (Montgomery, 2012, p. 29) in her brain or if any child ever teased her about this information. Such events could have affirmed her shame and low self-esteem. However, there is inconclusive evidence for this to be theorised.

While not all of Miss Cray's methods were suitable, as an adult Grandin appreciated that she had persevered and helped her to learn to interact and behave in a more socially acceptable manner (Grandin & Panek, 2013; Grandin & Scariano, 1986/2005). Despite Grandin's appreciation and Miss Cray's valuable role in assisting Grandin's development, some of her means of punishment, such as frightening Grandin with loud noises by popping a bag near her ear, may have been harmful to Grandin's ego (Erikson, 1950/1973, 1956, 1968a). As this stage brings with it new experiences, children are often anxious of failure (Erikson, 1950/1973, 1956, 1968a). By focusing on Grandin's failures through distressing means of punishment, Miss Cray may have aggravated the anxiety of her already fearful ego, increased her self-doubt, and negatively influenced her self-esteem (Erikson, 1950/1973, 1956, 1968a; Miller, 2010; Sollod et al., 2009). Instead of Grandin's assimilation of new experiences enabling her ego to find the outer world less threatening, Miss Cray's means of using fear as punishment possibly kept her ego in a weary state about the outer world (Erikson, 1950/1973, 1964a). This was exacerbated by not allowing Grandin to daydream which is a form of play (Erikson, 1950/1973, 1977; Grandin & Scariano, 1986/2005). While children with ego weakness such as Grandin need to be encouraged to be present, daydreaming at times is also needed and does not necessarily constitute being withdrawn (Erikson, 1950/1973, 1956, 1977). By not allowing Grandin to daydream, Miss Cray was

interrupting her ego's attempts at synthesis and self soothing, and disallowing Grandin a sense of stability and autonomy which going into her imagination could have provided (Erikson, 1977).

At the end of this stage Grandin was not scholastically nor psychosocially at the same level as her peers at kindergarten. There is no evidence to suggest that she was able to set goals for herself and purposefully pursue activities which were meaningful to her (Greene et al., 2010; Studer, 2007; Thimm, 2010). Grandin's trust in herself and others was still tentative (Erikson, 1950/1973, 1968a). This along with her communication difficulties prevented her from initiating relationships and activities and establishing a sense of purpose (Erikson, 1950/1973, Miller, 2010; Sollod et, al, 2009). However, to her mother's as well as psychiatrist's astonishment she was less withdrawn and had begun to show signs of improvement. Her ego was less dominated by dystonic elements (Erikson, 1950/1973; Hoare, 2013; Schultz & Schultz, 2013). According to Erikson the ego has surprising "powers of recovery" (Erikson, 1958b, p. 8). While Grandin's ego was still struggling for coherence, the increased reliability of her environment had facilitated the beginnings of mutuality of recognition, as well as a sense of hope and will which were imperative to her ego remaining "intact" (Erikson, 1964a, p. 118).

4.5.3 Stage 3 salient points

- a. Initially insufficient trust and autonomy to initiate activities and relationships and find a sense of purpose.
- b. Inability to communicate through speech for the majority of the stage. Therefore, Grandin was unable to define who she was or who was she in relation to others. This delayed the development of her ego identity.
- c. Defiance of boundaries possibly revealed Grandin's frustration with not being able to communicate effectively, her body ego's discomfort with unwanted physical contact, and her attempt to regain a sense of her own power and control.
- d. Eustacia's more consistent care and Mrs Reynolds' and Miss Cray's work enabled partial resolution of dystonic elements.
- e. Regular psychosocial interaction provided Grandin with consistent recognition. This was needed in order for her to learn that she was part of a community, to recognise others, and to understand herself as an active agent in the world.

- f. Increased trust in the environment enabled her ego to be present for longer periods of time. As a result Grandin's body ego was more able to integrate physical experience and differentiate herself from other individuals. This supported her learning to speak.
- g. Being less withdrawn may have caused her ego to be less protected than before from feelings of shame and low self-esteem.
- h. Toward the end of this stage Grandin's ego was less dominated by dystonic elements. Increased reliability of the environment facilitated the beginnings of mutuality of recognition and a sense of hope and will. This enabled her ego to remain intact.

4.6 Stage 4: Industry versus inferiority (6-11/12years)

Unless otherwise specified, the data for this stage is based on Grandin and Scariano (1986/2005).

4.6.1. Findings

In November 1953, shortly after Grandin turned six, her brother was born (Cutler, 2004). During this stage Grandin continued to attend Dedham Country Day School (Cutler, 2004). Grandin struggled to learn to read. Not wanting Grandin to fall behind, Mrs Dietsch asked Eustacia if she would help at home. During their home reading lessons Eustacia would give Grandin tea each time she practiced. This made her feel grown up and like she was good at something. Eustacia knew she had to find a story that would hold Grandin's attention (Cutler, 2004). Grandin liked the pictures in *The wizard of Oz* and so Eustacia would read a few paragraphs and then encourage Grandin to sound out the words (Cutler, 2004; Grandin, 1984a). Grandin's eagerness to know what would happen next in the story after her mother had finished reading her section led to a determination to learn to read (Cutler, 2004). Eustacia was informed that Grandin had begun to read above the grade level. While she still struggled with most subjects, Grandin began to feel that reading and art had become her strengths and survival.

During this stage Grandin's tantrums continued and she developed a discomfort with the texture of some clothes which would continue into adulthood (Grandin & Panek, 2013). However, she did begin to learn that there were certain social conventions, such as wearing her scratchy petticoat to church, that she had to adhere to (Cutler, 2004). She also learnt to keep quiet during Sunday dinners (Cutler, 2004). Grandin's explanation to her mother was that her being able to

cope with this particular uncomfortable situation was that “Sunday dinner is quiet. It’s noise and confusion I hate” (Cutler, 2004, p. 44). Despite Grandin’s erratic and disruptive behaviour at school, she liked to play double solitaire at home with her father (Cutler, 2004). During the game she was quick and focused (Cutler, 2004). Dick also grew fonder of her during these games and when they worked on his boat together (Cutler, 2004). Dick told Eustacia that she must not moan about him having a boat because it was good for Grandin and that she did not have tantrums or giggling fits when they did chores on the boat (Cutler, 2004). Grandin’s attention was also more focused at home on projects such as painting her bed, booby trapping her bedroom, or looking after her pet mouse (Cutler, 2004; Grandin, 1984a; Montgomery, 2012).

During this time that Grandin was developing and coping with much support around her, the tension between her parents subsided (Cutler, 2004). Dick and Eustacia took a trip alone to Europe (Cutler, 2004). However, with home life taking on a routine and becoming more mundane Eustacia became bored (Cutler, 2004). She decided to take up performing (Cutler, 2004). Eustacia devoted more time to learning music and watching performances in the evenings (Cutler, 2004). Dick did not approve and did not wish to go with her to the clubs (Cutler, 2004). Eustacia then took a singing job in a night club which once again increased the tension between her and Dick, as well as Dick’s previous rage at Grandin (Cutler, 2004). He felt that he had “a child who can’t behave and a wife who won’t” (Cutler, 2004, p. 58). To the detriment of her marriage Eustacia began spending more time away from home (Cutler, 2004). Not only was she busy with her singing career, she had also began performing and directing theatre productions (Cutler, 2004). She continued to do this during her fourth pregnancy (Cutler, 2004). In June 1955, before Grandin turned eight years old, another baby sister was born (Cutler, 2004). Shortly after the baby’s birth Eustacia returned to performing in stage productions which furthered the rift between her and Dick and increased the tension in the household (Cutler, 2004).

The magical device

When Grandin was in the second grade she began to daydream about a “magical device” (Grandin & Scariano, 1986/2005, p. 36) that would provide her with physical comfort (Grandin, 1984a). She still could not tolerate being hugged and flinched when touched by anyone (Grandin,

1984a). Her discomfort with physical contact was aggravated by Miss Cray continuing to use her anxiety and discomfort to punish her at home. Even though Grandin did not have this device as a child she substituted her need for “tactile stimulation” (Grandin & Scariano, 1986/2005, p. 37) with blankets that she wrapped herself in before hiding under the couch. Grandin would also dress herself in cardboard because she enjoyed the pressure (Grandin, 1984a). This satisfied her desire to control the type and intensity of physical contact she needed (Grandin & Scariano, 1986/2005; Montgomery, 2012). When Grandin outgrew the blanket she made a suit for herself out of blow up beach toys that she had cut up. While in the third grade, Grandin’s imaginary designs began to take on the shape of boxes, even coffin like ones, that would be warm and that she could crawl into. Grandin became preoccupied with the “magical device” (Grandin & Scariano, 1986/2005, p. 36).

Real and imagined friends

Eustacia noticed that Grandin’s relationship with her next door neighbour Lyman was significant during this stage. While other children merely tolerated Grandin or accepted her on the basis of living in the neighbourhood, Lyman was fond of her (Cutler, 2004). Their bond seemed to have been forged through their enjoyment of mischievous endeavours (Cutler, 2004). Grandin enjoyed informing her mother of the mischief that she and Lyman had been involved in (Cutler, 2004). One day she informed Eustacia that “Where it says, ‘keep within the line’...I like to walk just outside of it” (Cutler, 2004, p. 47). Both children had vivid imaginations and one day they turned Grandin’s bedroom into a stage (Cutler, 2004). Grandin played Bisban, her imaginary friend who carried out pranks (Cutler, 2004). Lyman enjoyed Grandin’s performance and character that represented mischief (Cutler, 2004). The children extended their pranks to the members of the neighbourhood and school (Cutler, 2004).

Lyman gave a mouse, Crusader, to Grandin as a present (Cutler, 2004). Crusader lived in a cage next to her bed (Cutler, 2004). Every morning Grandin would take Crusader out so that he could do exercises and run along strings she had strung across her room (Cutler, 2004). Grandin, her siblings, and Lyman would sometimes put mercurochrome on Crusader’s white back so that he would look like a Red Cross Knight (Cutler, 2004). One morning Grandin and her siblings went

to their mother in distress to tell her that Crusader was lying in his cage and not moving (Cutler, 2004). Eustacia took the children and Crusader to the veterinarian who informed them that Crusader was dead (Cutler, 2004). Grandin was concerned that the mercurochrome had killed him and explained to the veterinarian why they had put it on Crusader (Cutler, 2004). The veterinarian reassured Grandin that they had not done anything to cause Crusader's death and that he had been a happy mouse who died in his sleep because he was very old (Cutler, 2004). Grandin was relieved to hear this and asked her mother if they could have a funeral for Crusader (Cutler, 2004).

Summer camp and the difficulty of being different

When Grandin was nine years old her mother sent her to summer camp. She had mixed feelings about going. The camp instructors had been informed of Grandin's difficulties. The camp was a distressing experience for Grandin. While she managed at the small country school, difficulties arose with children who had reached puberty. Grandin was teased by one of the boys for not having breasts. Although she did not know what "boobs" (Grandin & Scariano, 1986/2005, p. 50) were, she repeated the word constantly and was scolded for doing so. On the way to evening dinner one of the girls told Grandin that girls had breasts so that they could feed their babies. This confused Grandin who could not understand why boys did not have breasts and wondered if it was because they did not want to feed their babies. The girl told Grandin that boys have "something that *makes* babies" (Grandin & Scariano, 1986/2005, p. 50) and said that she should ask one of the boys to show her his "peter" (Grandin & Scariano, 1986/2005, p. 50). Grandin said that she did not know where boys would keep such a thing, but nevertheless asked one of the boys to show her his. This incident resulted in the camp instructors labeling Grandin a pervert and deviant. This was not a good reputation to have when she developed a bladder infection. In the infirmary Grandin's genitals were examined with various "sharp" (Grandin & Scariano, 1986/2005, p. 51) instruments and painted with gentian violet. When the nurse placed something in her vagina she cried from the pain. Grandin was kept heavily sedated in the infirmary for a week before her parents were contacted (Cutler, 2004). After this incident and a trip to the pediatrician Grandin's parents took her to see a psychiatrist, Dr Stein.

Fixations and the calm of creativity

Grandin's fixating or obsessing, which irritated her family, extended to areas other than her "magical device" (Grandin & Scariano, 1986/2005, p. 36). In the fourth grade Grandin had a fixation with wanting to know everything about the upcoming election (Grandin, 1984a). Grandin and her friend Eleanor went as far as to take the election posters off of the telephone poles in order to hang them in their bedrooms. Even though this was not an easy task for the youngsters they persevered. Grandin also began to talk incessantly and was given the name "chatterbox" (Grandin & Scariano, 1986/2005, p. 39). At night in bed she would tell herself stories out loud. She felt the stories needed to be spoken out loud in order for them to feel real (Grandin, 1984a). Her favourite imaginary character was Bisban. She enjoyed the sense of control her imagination provided her with. Bisban became Grandin's excuse when she misbehaved. She told her parents that it was Bisban who had put salt in the sugar bowl and glued the lid of the toilet to the seat. Bisban along with another character, Alfred Costello, whom she made up when she was 11, provided her with much entertainment and laughter. The Alfred Costello in Grandin's imaginative stories was based on a class mate with the same name. In the classroom he was mean to Grandin. He would tease her about the way she walked and would trip her and call her "weirdo" and "dummy" (Grandin & Scariano, 1986/2005, p. 40). In Grandin's stories Alfred also behaved badly. He did things like throw garbage around the school. The difference was that in Grandin's stories Alfred was caught and punished and she would laugh when this happened.

While many of Grandin's obsessions caused others annoyance, such as her perpetual questions and talking, some of her fixations provided her with a sense of calm, control, and release of her emotions that tended to overwhelm her (Grandin & Scariano, 1986/2005; Montgomery, 2012). In the fourth grade Grandin still struggled scholastically even when she tried. This was especially the case in mathematics where she kept falling behind. This was disappointing for her. She was also the last child in the grade to receive the "penmanship award" (Grandin & Scariano, 1986/2005, p. 41) even though she had focused her efforts on doing the necessary work to receive the award. The award involved becoming the teacher's scribe for a day and receiving a set of coloured pencils, which motivated Grandin in her efforts as she loved artwork. When

Grandin was in the fourth grade she and Eleanor were the first girls who were allowed to take woodshop as a school subject (Grandin & Scariano, 1986/2005; Montgomery, 2012). Grandin loved this subject and was proud of her accomplishments with building a wooden ship and a planter. Her joy did not last as the school decided that Grandin and Eleanor had to go back to cooking class. This upset Grandin because she felt she was a “failure again” (Grandin & Scariano, 1986/2005, p. 42).

Grandin had a reputation for behaving erratically, impulsively, and for throwing tantrums. However, she was also known for her creativity (Grandin, 1984a). Grandin managed to create mixed emotions in people. One of these people was her French teacher, Miss Julie, who was also her sewing teacher. In sewing class Grandin enjoyed working with her hands and creating something and behaved very well. She was particularly good at embroidery. However, in French class she was an “absolute terror”(Grandin & Scariano, 1986/2005, p. 42). She even told the teacher, in French, to shut her mouth. Another person who faced Grandin’s erratic behaviour was the history teacher. If the class had to read from the textbook she would drift off into her imagination and ignore everyone in the class. Conversely, outings to the Egyptian art museum and making historical artifact equivalents fascinated Grandin. Grandin and Eleanor did very well in their project that involved making realistic spears. Grandin’s creative abilities extended to other areas of school life. One day the school had a pet show and Grandin’s mother would not let her take Andy the family dog, so she decided to dress up and perform as him. She asked the Reese twins to be her masters for the day. The boys obliged and like the rest of her class enjoyed her performance. Grandin was awarded a blue ribbon.

Learning to get along with others while home life further deteriorates

Along with Lyman, Grandin had close friendships with classmates Eleanor Griffin and Crystal Swift. Crystal appreciated Grandin’s creative ideas, whether constructive or naughty. They would also play word games and laugh. Unlike other children, Crystal did not struggle to understand what Grandin was saying even though her manner of speaking was awkward. One day another child asked Crystal why she would play with “such a nerd as Temple” (Grandin & Scariano, 1986/2005, p. 44). Crystal responded by saying that she liked Grandin because she was

not boring. Despite being a well behaved child Eleanor remained Grandin's friend throughout elementary school. When someone teased Grandin and mimicked her awkward speech and "jerky movements" (Grandin & Scariano, 1986/2005, p. 44) in the assembly hall, she threw a tantrum and lay on the floor and kicked anyone who came near her (Montgomery, 2012). Even though Eleanor was appalled she defended Grandin.

In the summer of 1958 when Grandin was almost 11 years old, Eustacia decided to go away with a friend to a music festival (Cutler, 2004). Dick said he would "take charge" (Cutler, 2004, p. 78) of their children. Connie, a friend of Eustacia, offered to organise the children's games for the Saturday dance and make sure that Grandin was alright (Cutler, 2004). For the most Grandin was well behaved at the dances, liked to play musical chairs, and did not complain about having to wear a dress or scratchy petticoat (Cutler, 2004). Grandin knew that her mother had given her permission to go to the games evening and so walked to the casino (Cutler, 2004). When she arrived Connie saw her looking in the window, terrified (Cutler, 2004). When Grandin saw Connie looking back at her, she cried for help and said that her father was coming to take her home (Cutler, 2004). Dick was furious when he arrived at the casino (Cutler, 2004). Connie had seen that Grandin was terrified and so stood between her and Dick (Cutler, 2004). Connie told Dick that Grandin was afraid of him (Cutler, 2004). This made him angrier (Cutler, 2004). Even though Grandin was trying to please people and fit in socially, incidents of Dick taking his fury out on her became more frequent (Cutler, 2004). Each time Dick would "bear down hard on her" (Cutler, 2004, p. 79) and scare Grandin she would either attempt to fight back, run away, or cry. Dick would then use Grandin's reactions as evidence that she was out of control (Cutler, 2004). Eustacia and the children became aware and anxious of Dick's rage and outbursts (Cutler, 2004).

When Grandin was in the fifth grade she put her creative talents to productive use by helping the teachers make costumes for the school play. She was good at this, enjoyed it, and her efforts were noticed and appreciated. However, Grandin could not always focus her creative endeavours constructively. One day Grandin and a friend Sue were playing at Sue's house in the hay loft. After Sue dared Grandin, she threw a ball out the window and into the teacher's (who lived next door) birdbath. The ball bounced out of the birth bath and so the dare escalated. Grandin threw a whisky bottle out at the bird bath and smashed it. There were over one hundred whisky bottles in

the hay loft. Grandin and Sue proceeded to throw them all out of the window at the teacher's house, incurring much damage. The following day Grandin thought that she was not going to get caught and that she would use this situation to get back at some boys who had been mean to her. She told the teacher it was a terrible thing that had happened and that she had seen the boys near the teacher's house the previous day. Even though Grandin did not get into trouble for this incident she did begin to feel guilty about it and so told her mother what had happened and that she was sorry for being destructive (Cutler, 2004).

As Grandin's time at Dedham Country Day School drew to a close Eustacia offered to organise the country fair and put on a play to show her appreciation to the school for being so understanding of Grandin's situation (Cutler, 2004). The children were excited about the play and making the props (Cutler, 2004). Dick however, was furious (Cutler, 2004). After this incident Eustacia decided that she wanted to be away more and auditioned for a part in a large touring production, which she got (Cutler, 2004). She knew if she took the part it may lead to her and Dick getting divorced (Cutler, 2004). She took the part anyway (Cutler, 2004). Grandin's sister had become very aware of the tension between their parents and kept asking Grandin if she thought that their parents were going to get divorced. Grandin who was less aware of the nuances in interpersonal relationships thought her sister was being silly. Grandin did however remain aware of Dick's potential for outbursts of rage.

4.6.2 Discussion

Erikson viewed this stage as a more peaceful time in children's development (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). For the most this was the case for Grandin. While the previous stage is usually a period of unification, the more peaceful developmental time of this stage enabled Grandin's body and various parts of her ego to become more unified (Erikson, 1950/1973). The consistency of Grandin's surroundings and regular psychosocial interactions continued to aid her development of trust and willingness to test the environment, and therefore reintegrate experiences (Erikson, 1956, 1968a). Her mind and body became more synchronised and her ego increasingly willing to remain present (Erikson, 1950/1973, 1968a, 1977). As a result her autonomy began to be more aligned with goal directed decision making and for the first time of her own volition she interacted with and formed relationships with other individuals

(Erikson, 1950/1973, 1968a, 1977). Although Grandin still did not adhere to all social conventions, she became more aware of them and at times conformed, such as when having to wear her petticoat to church or behave at Sunday dinner and local dance (Cutler, 2004; Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Despite developmental improvements Grandin was still trying to assimilate experiences and find ego coherence during this stage (Erikson, 1950/1973, 1956, 1968a). As a result her ego weakness caused her to vacillate between a sense of industry or inferiority (Erikson, 1950/1973; 1956, 1968a; Miller, 2010; Sollod et al., 2009). She was either competent or incompetent at a task and not usually mediocre. This may have caused confusion for her ego identity (Erikson, 1950/1973, 1968a, 1977). Her friendships, creativity and imagination, however, enabled her ego to retain some sense of ego balance during this stage (1950/1973, 1956, 1977).

Grandin's growing initiative and sense of purpose were demonstrated through her relationships as well as activities (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). The more constructive and socially acceptable of these included painting her bed, dressing up as the family dog for the school pet show, as well as when she played double solitaire with her father, and when they worked on his boat (Cutler, 2004; Erikson, 1950/1973; Grandin & Scariano, 1986/2005). Grandin revealed competence in these activities as was recognised by her father in their shared activities and by her class at school where she won a blue ribbon for her performance (Erikson, 1950/1973; McAdams, 2009; Sollod et al., 2009). However, Grandin's maladaptive tendencies such as shameless and defiant behaviour continued (Erikson, 1950/1973; Hoare, 2013; Schultz & Schultz, 2013). At times her ego's dystonic elements and regressive tendencies pervaded through her tantrums (Erikson, 1950/1973; Hoare, 2013; Schultz & Schultz, 2013). On other occasions, they accompanied her developing autonomy and initiative in sociably unacceptable and even destructive behaviours (Erikson, 1950/1973; Sollod et al., 2009).

Crossing boundaries: At times I'm just overwhelmed; other times I enjoy it

Grandin's attempts at initiative that crossed boundaries but were less serious infractions included booby trapping her room, gluing the toilet seat to the bowl, and removing election posters (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). More shameless and destructive crossing

of boundaries included throwing bottles at, and breaking, her teacher's bird bath and roof, as well as lying on the assembly hall floor and kicking anyone who came near her after being teased (Cutler, 2004; Erikson, 1950/1973, 1964a, 1977; Montgomery, 2012; Grandin & Scariano, 1986/2005). Grandin's increased ability to communicate led to differing explanations for her behaviour. Grandin being able to cope with Sunday dinners because they were quiet and that it was "noise and confusion" (Cutler, 2004, p. 44) that she hated revealed that sometimes her defiant or shameless actions were a result of her feeling out of control and overwhelmed (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). This may have been the case when she reacted after being teased at school for having awkward speech and "jerky movements" (Grandin & Scariano, 1986/2005, p. 44). Grandin's statement to her mother that "Where it says, 'keep within the line'... I like to walk just outside of it" (Cutler, 2004, p. 47) reveals that at times she purposefully misbehaved and enjoyed testing boundaries (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009).

Another possible negative influence on Grandin's behaviour was Miss Cray continuing to use loud noises to scare Grandin as punishment as well as her father's verbal and physical aggression toward her. The actions of these caregivers who should have protected her and corrected her behaviour in a safe manner possibly fuelled the parts of Grandin's ego that distrusted her environment and kept her body ego on alert (Erikson, 1950/1973, 1968a; Feist and Feist, 2013). General anxiety as well as hyper-vigilance were problems Grandin would struggle with for the rest of her life. At times Grandin's father as well as Miss Cray acted inappropriately and aggressively toward her, even when she did try to behave in a socially acceptable manner or did excel in various areas. Their actions may have caused Grandin to experience confusion, a sense of shame, and low self-esteem (Erikson, 1950/1973, 1964a; Miller, 2010; Sollod et al., 2009). The theory (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009) suggests that as Grandin was put down and even punished by her father and Miss Cray when she was trying, feelings of self-doubt and inferiority that she experienced in other areas may have increased. As a child her means of gaining control and a sense of power was to cross other people's boundaries or act in such a manner that would cause others to stay away from her and specifically not touch her, such as when she threw tantrums and kicked (Erikson, 1968a; Feist & Feist, 2013; Miller, 2010; Sollod et al., 2009). Adults also serve as potential role models for children (Erikson, 1950/1973,

1964a, 1977) and influence the development of their conscience (Hamachek, 1988). Grandin possibly learnt from her father and Miss Cray that at times it was acceptable to cross other individuals' boundaries and therefore did not feel guilty when she did. As her ego integrated this lesson, a purposefully mischievous side was incorporated into her ego identity (Erikson, 1950/1973, 1968a).

Ego weakness accompanied by still being young

Despite Grandin being labeled a deviant and pervert at summer camp, her inappropriate behaviour was indicative of her immaturity, innocence, and vulnerability due to both her age and ego weakness. The available data suggests that Grandin did not have much interaction with adolescents who had reached puberty as she did not have older siblings and the children's period at Dedham Country Day School was completed in grade five (Cutler, 2004; Grandin & Scariano, 1986/2005). Being a nine year old at a camp with adolescents could in itself have placed Grandin in a vulnerable position where she could be manipulated by older children whom she possibly trusted. Her ego weakness or autism exacerbated this vulnerability as she was neither cognitively nor emotionally developed as healthy children her age (Erikson, 1950/1973, 1956). Her awkward speech and physicality, which children her own age teased her about, would also have revealed to older children that she was different even if they were unaware of her having autism (Erikson, 1950/1973; Montgomery, 2012; Grandin & Scariano, 1986/2005). While Grandin had begun to trust certain people and various parts of her environment, she still needed to learn discernment with regard to trusting others (Erikson, 1950/1973, 1964a). Grandin's ego's distrust manifested itself as fear of touch, sudden movements, loud noises, and the unknown (Erikson, 1950/1973, 1956, 1968a). She was, however, more trusting of people and other children even when she should not have been as she was less aware of social nuances (Erikson, 1950/1973, 1956, 1968a). This increased her vulnerability to be used by the older children for their amusement. Grandin may have felt inferior if she realised she was out of her depth socially or that her lack of sexual knowledge was being used for other individuals' amusement (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009). However, it cannot be theorised that she was incompetent as the summer camp was not an age appropriate setting for Grandin to test her social abilities (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009).

Grandin's distressing experiences at the camp infirmary when she developed a bladder infection possibly aggravated her body ego's distrust of physicality (Erikson, 1968a; Feist & Feist, 2013). Instead of her parents being contacted or receiving caring treatment, her boundaries were infringed as her genitals were examined with various "sharp" (Grandin & Scariano, 1986/2005, p. 51) instruments that hurt her (Cutler, 2004; Erikson, 1950/1973, 1968a; Feist & Feist, 2013). This incident at the camp, along with being teased at school and having her emotional and physical boundaries crossed as punishment by her father and Miss Cray could have broken the trust Grandin had begun to develop and caused her to experience shame (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). These occurrences also had the potential to disrupt her body ego's integration of experiences as well as cause Grandin's weak ego to once again withdraw (Erikson, 1950/1973, 1956, 1968a; Feist & Feist, 2013). In accordance with Erikson's theory (1950/1973, 1956, 1968, 1977) the hope and will Grandin had begun to establish, as well as her creativity, and mutuality of recognition relationships with her friends enabled her ego to remain present.

Friendship without judgment

Grandin still struggled socially during this stage. However, the relationships with her friends as well as Crusader helped her to more fully incorporate syntonistic characteristics from this stage and the crises of the previous stages (Erikson 1950/1973, Hoare, 2013). Lyman, Eleanor, Crystal, and Crusader all provided Grandin friendship without judgment. Despite Eleanor sometimes being horrified at Grandin's behaviour and Crystal being scrutinised by other children about their friendship, both girls remained loyal to Grandin. These relationships facilitated Grandin's mutuality of recognition, trust, and sense of autonomy (Erikson, 1950/1973, 1968a; Miller, 2010; Sollod et al., 2009). Grandin's relationships with Lyman, Eleanor, Crystal, and Crusader enabled her to initiate activities, develop a sense of purpose, and importantly to play (Erikson, 1950/1973, 1977; Miller, 2010; Sollod et al., 2009). By playing with the other children and Crusader, Grandin began to learn to interact and practice interactions for future relationships and encounters (Erikson, 1977). These play encounters also provided Grandin with a means to develop emotionally, cognitively and physically, and to resolve developmental tasks (Erikson, 1964a, 1977). Being able to play with others required that Grandin be recognised as a friend and

that she remain present to recognise other individuals (Erikson, 1956, 1968a). Playing with her friends and Crusader further facilitated her understanding of herself as an active agent in the world (Erikson, 1956, 1968a).

Grandin's self control, sense of collaboration, and ability to focus also began to develop during this stage (Erikson, 1956/1973, 1964a, 1977; Hamachek, 1988; Van Manen & Whitbourne, 1997). This was demonstrated through her shared activities with Lyman when building a stage in her bedroom and acting out imaginary characters, playing word games with Crystal, as well as the school activities that Eleanor and Grandin worked on together (Cutler, 2004; Erikson, 1956/1973, 1964a, 1977; Grandin & Scariano, 1986/2005; Hamachek, 1988; Van Manen & Whitbourne, 1997). Despite Grandin generally being socially incompetent, the friendships that she had managed to form provided her with some sense of relational competence that she was previously unable to develop (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Grandin's friendships incorporated her into society and enabled her ego identity to develop a sense of herself that was in relation to others and a community (Erikson, 1950/1973, 1964a, 1968a, 1977).

Grandin's relationship with Crusader was significant during this stage. Erikson recognised that animals may also serve as attachment figures (Erikson, 1950/1973, 1964a, 1977). As with her friends, Grandin's attachment to Crusader enabled her to feel a sense of belonging and encouraged her ego to remain present (Erikson, 1956, 1964a, 1968a). By looking after Crusader Grandin developed a sense of purpose and displayed initiative as well as competence (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). The exercises Grandin did with Crusader each morning may be viewed as a form of creative ritualisation or "ceremonial acts" (Erikson, 1966a, p. 337). Their morning ritualisation that was repeated meaningfully established and revealed their bond that was developed through reciprocity (Erikson, 1965, 1966a, 1969, 1977). Erikson (1965, 1966a, 1969, 1977) maintained that such rituals could have adaptive as well as psychosocial significance. Grandin's mutuality of recognition with Crusader involved trusting one another with a shared physicality and touch when she took him out of his cage to let him exercise or to play with him (Erikson, 1968a, Feist & Feist, 2013). Grandin was generally averse to touch, but there is nothing in the data to suggest that she in anyway minded being physically close to Crusader. Crusader may have been less threatening to hold as he was significantly

smaller than humans who touched Grandin. However, if she were not gentle and calm with him he could potentially have bitten her. Grandin's relationship with Crusader enabled her to trust another living creature with a form of physicality and may have been one of her body ego's initial experiences in learning to integrate touch (Erikson, 1968a, Feist & Feist, 2013).

As previously mentioned Grandin had internalised a mischievous and even unruly side into her ego identity (Erikson, 1950/1973, 1968a). Nevertheless, Grandin's interactions with her friends and Crusader enabled her to learn to respect some other individuals and lay the foundation for the development of a "moral responsibility" (Erikson, 1950/1973, p. 248) which she would adhere to throughout her adulthood. Crusader's role in this development was significant as according to Erikson in an animal nature is the "precursor" (1964a, p. 147) to the person's ego. Animals have more ego synthesis than humans and as such possess and display an ecological as well as "adaptive integrity" (Erikson, 1964a, p. 151). The ego coherence and integrity of animals encourages in them a sense of morality towards both other animals and humans (Erikson, 1963b, 1964a, 1969). Through Grandin's interactions with Crusader she had learnt to care for another. To some extent she may have internalised a sense of his morality and integrity through her ritualisation with him (Erikson, 1963b, 1965, 1966a, 1969, 1977). This was displayed by her for the first time demonstrating concern for another when Crusader died and she worried that they, the children, had killed him with the mercurochrome, as well as wanting to have a funeral for him (Cutler, 2004; Erikson, 1950/1973, 1963b, 1964a, 1969). That Grandin had to some extent internalised a sense of morality was evident when later during this stage she admitted to her mother that she had vandalised the teacher's property and felt guilty about it (Cutler, 2004; Erikson, 1950/1973). While it is harmful to children to constantly feel guilty, experiencing some guilt when she acted destructively would have aided the development of Grandin's conscience and sense of responsibility (Haensly & Parsons, 1993; Hamachek, 1988).

Healing through creativity

Erikson (1950/1973, 1956, 1964a, 1977) maintained that play and creativity are integral to healthy psychosocial development and that the ego may find healing and synthesis through imaginative endeavours. Grandin's play with her friends and Crusader facilitated learning and

self expression and were functional for her ego (Erikson, 1950/1973, 1977) Her more solitary imaginative activities such as telling stories to herself out loud and dreaming about a “magical device” (Grandin & Scariano, 1986/2005, p. 36) that could provide her with non-threatening physical comfort were also functional and cathartic for her ego (Erikson, 1950/1973, 1977; Grandin, 1984a). Erikson (1977) suggested that children may resolve developmental crises through play as they imaginatively recreate past events in the present and thereby anticipate a future based on their resolutions and new insights. Telling herself stories in the evenings enabled Grandin to regain a sense of stability, autonomy, and ego synthesis when she felt overwhelmed by daily activities, the increasing tension between her parents, or her father’s and Miss Cray’s aggressive behaviour (Erikson, 1950/1973, 1964a, 1977). By employing Bisban and Alfred Costello in her imagination to recreate scenarios that had happened with peers who had been mean to her at school she was able to imagine other possibilities for how the scenarios could have transpired (Erikson, 1950/1973, 1964a, 1977). Although these recreations were only in Grandin’s imagination, they provided her with a healthier means of expressing and dealing with feelings of inferiority and being out of control (Erikson, 1950/1973, 1964a, 1977). Instead of throwing a tantrum or withdrawing Grandin’s imagination and developing creativity facilitated a way for her ego to remain present and calm when she was overwhelmed (Erikson, 1968a, 1977).

As Grandin had entered school her play energy was increasingly used to transform her imaginings into more formal creative products (Erikson, 1950/1973; Hamachek, 1988; Van Manen & Whitbourne, 1997). This occurred at home as well, as was demonstrated with her attempting to create a realistic form of the “magical device” (Grandin & Scariano, 1986/2005, p. 36) that she had imagined. By wrapping herself in blankets and making cardboard and later plastic suits for herself, Grandin was making her imaginings communicable (Erikson, 1950/1973, 1977). This was particularly important for Grandin as her ego weakness had caused her to struggle to communicate (Erikson, 1950/1973, 1968a). Grandin’s imagination and developing creativity provided her with an opportunity to act autonomously, initiate activities, and experience a sense of purpose and competence while enabling her body ego to experiment with various forms of physicality (Erikson, 1950/1973; Greene et al., 2010; Studer, 2007; Thimm, 2010). According to the theory (Erikson, 1977) children may become aware of their feelings and thoughts through play and creative activities. By building and testing various forms of the

“magical device” (Grandin & Scariano, 1986/2005, p. 36) Grandin was able to realise that her body needed some form of “tactile stimulation” (Grandin & Scariano, 1986/2005, p. 37) and physical comfort (Erikson, 1977; Grandin & Scariano, 1986/2005; Montgomery, 2012). She also realised that she was not completely averse to being touched as she had previously felt, but that she needed to be in control of such bodily contact (Erikson, 1977; Grandin & Scariano, 1986/2005; Montgomery, 2012).

Grandin’s creativity and communicable imaginings further facilitated her self-awareness at school (Erikson, 1950/1973, 1977). For the most Grandin was still incompetent at social relationships and school tasks. Her feelings of inferiority may have overwhelmed her ego if it were not for her industry and sense of competence in art, sewing, woodshop, and activities that required her to be imaginative (Erikson, 1950/1973, 1956, 1977; Miller, 2010; Sollod et al., 2009). Grandin showed that she had the ability to learn new tasks when she was encouraged and her efforts were recognised and rewarded (Erikson, 1950/1973, 1968a; Miller, 2010; Sollod et al., 2009). This was observed when Eustacia taught her to read at home and encouraged her by giving her tea and making her feel grown up (Cutler, 2004; Erikson 1950/1973, 1968a). That this resulted in Grandin reading above the grade level would have instilled some confidence in her and further facilitated her communication skills (Cutler, 2004; Erikson 1950/1973, 1956, 1968a). In accordance with the theory, despite the developmental difficulties that Grandin faced as a result of her ego weakness, she displayed isolated and rapid advancement of “special faculties” (Erikson, 1950/1973, p. 200). However, her lack of competence in areas such as mathematics, cooking and penmanship, despite her efforts, increased her self-doubt, low self-esteem and feelings of inferiority (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009).

As it becomes increasingly important for children to contribute to their social environment and to meet the requirements set by people other than their parents (Hamachek, 1988; Studer, 2007; Thimm, 2010), Grandin often felt like a “failure” (Grandin & Scariano, 1986/2005, p. 42) at school. This would have been detrimental to her ego identity or sense of self and belief that she was capable of contributing to society (Erikson, 1950/1973; Feist & Feist, 2013). As previously mentioned, oscillating between a sense of competence and inferiority probably created confusion for Grandin’s developing ego identity (Erikson, 1950/1973; Feist & Feist, 2013). This confusion

along with the incorporation of dystonic elements from this stage could potentially have increased the incoherence of Grandin's ego (Erikson, 1950/1973; Feist & Feist, 2013; Hoare, 2013). However, Grandin's propensity for play and creative endeavours facilitated her participation in society, enabled her ego to knit together inner and outer processes and regain more balance than was previously possible (Erikson, 1956, 1964a, 1968a, 1977).

4.6.3 Stage 4 salient points

- a. Despite this being a more peaceful time in Grandin's development her ego weakness caused her to vacillate between a sense of industry and inferiority. This may have caused confusion for her ego identity.
- b. Grandin's autonomy began to accompany goal directed decision making and for the first time, of her own volition, she interacted with other individuals and formed relationships.
- c. Grandin's maladaptive tendencies such as shameless and defiant behaviour continued. At times it was a result of her feeling out of control and other times because she enjoyed it.
- d. By playing with the other children and Crusader, Grandin began to learn to interact and practice interactions for future relationships and encounters. These encounters incorporated her into society and encouraged the development of a moral responsibility.
- e. Grandin's involvement with Crusader facilitated her ego remaining present and the development of purpose, initiative, competence and learning to care for another. To some extent she may have internalised a sense of his morality and integrity through her creative ritualisation with him
- f. Grandin's relationship with Crusader enabled her to trust another living creature with a form of physicality and may have been one of her body ego's initial experiences in learning to integrate touch.
- g. Grandin's imagination and creativity provided her with a healthier means of expressing and dealing with feelings of inferiority and being out of control. Telling herself stories out loud and dreaming of / attempting to create a magical device that could comfort her enabled her to resolve difficulties through her imagination.
- h. Despite often being incompetent and feeling like a failure, Grandin's friendships and imagination enabled her ego to retain some balance.

4.7 Stage 5: Identity versus role confusion (12-19 years)

Unless otherwise specified, the data for this stage is based on Grandin and Scariano (1986/2005).

4.7.1. Findings

During this stage Grandin graduated from Dedham Country Day School and entered the seventh grade at Cherry Hill Girls' High School. This was a particularly unhappy time in her life. Cherry Hill Girls' High School was different to Grandin's elementary school in many respects. It was not co-educational and the curriculum was aimed towards feminine subjects. This private school was attended by large numbers of upper middle class girls. Previously there had only been 13 students in a class at DedhamCountryDay School compared to the 40 students per class at the high school. As her distractions grew, Grandin struggled with most subjects, particularly mathematics and French. She also continued to misbehave, but in a childish way that was frowned upon by the other students (Montgomery, 2012).

The situation at home also worsened for Grandin. After being fired from his job Dick spent most of his time at home (Cutler, 2004). As he grew bored and frustrated he decided to write a book to prove that God did not exist (Cutler, 2004). Dick's anger grew but no one in the house said anything about it out of fear of his violence (Cutler, 2004). Grandin's siblings were more successful at maintaining their weariness of Dick and acting accordingly (Cutler, 2004). One evening at dinner the children had a contest trying to grab a bottle of tomato sauce from one another (Cutler, 2004). Grandin grabbed the bottle and squeezed too hard so that some squirted out (Cutler, 2004). Furious, Dick leapt up and screamed at Grandin, "You little bitch!" (Cutler, 2004, p.85). Grandin knew she had to run (Cutler, 2004). However, Dick caught her in the next room, threw her into a chair, and grabbed hold of her neck (Cutler, 2004). In response Grandin grabbed her father's tie and pulled it tight around his neck (Cutler, 2004). Dick let her go and she ran out of the house and down the street (Cutler, 2004). Dick ran after Grandin and screamed "I'm going to kill you" (Cutler, 2004, p. 86). Grandin's siblings were terrified and asked Eustacia if their father was definitely going to kill their sister (Cutler, 2004). Grandin reached a stone wall when her father caught her (Cutler, 2004). Dick was on top of Grandin, about to "smash" (Cutler, 2004, p. 86) her into the wall when Eustacia grabbed him (Cutler, 2004). Trying to get Dick off Grandin, Eustacia hit him repeatedly (Cutler, 2004). Grandin managed

to get loose, climb over the wall and hide in the poison ivy (Cutler, 2004). From this point forward Dick's anger toward his wife and daughter became more frequent and public (Cutler, 2004).

Personal growth versus behaviour deserving of expulsion

At school Grandin still did well in creative classes like jewelry making. Nevertheless, the school contacted her mother about her disruptive behaviour and poor marks, and threatened to have her expelled. Grandin's mother responded to this by calling her psychiatrist Dr Stein. Dr Stein knew Grandin's headmaster and wrote to him in an attempt to intervene. Dr Stein felt Grandin was progressing, albeit slowly. After Dr Stein's letter Grandin was allowed to continue at the school. When Grandin was elected to the assembly committee she felt honoured and tried to fit in. Her duty was to give demerits to anyone who spoke during assembly. Grandin also began to occupy herself at home by watching the television program *Twilight Zone*, reading science fiction, and building model airplanes. Eustacia noticed Grandin's growth in an interpersonal relationship when she was paired for a project with a classmate, Claudia, who was born with an open heart valve (Cutler, 2004). Claudia, who would die a few years later, did not have much energy and constantly wheezed as she tried to breathe (Cutler, 2004). Claudia needed to do a very calm and quiet project (Cutler, 2004). Grandin somehow understood this and for the first time put aside her own desires about a project and accommodated Claudia's needs (Cutler, 2004). The girls did a non-strenuous project that involved making patterns out of leaves and petals (Cutler, 2004).

Despite Grandin's efforts to fit in at school, she did not make any friends and was often teased for being different. She regularly got into fights and would hit anyone who teased her (Grandin & Scariano 1986/2005; Montgomery, 2012). One day when Grandin had had enough of being called a "Retard" (Cutler, 2004, p. 133) she locked one of the girls who had mocked her in the broom closet. The girls nevertheless continued to tease and humiliate Grandin (Cutler, 2004). Grandin was warned repeatedly that tantrums and violence were not accepted at the school. However, when Mary Lurie passed Grandin in the corridor and called out "Retard! You're nothing but a retard!" (Grandin & Scariano, 1986/2005, p. 68) Grandin became enraged and threw her history book at Mary (Montgomery, 2012). The book hit Mary in the eye and she

screamed. Grandin walked away. However, the matter was not over. That evening, Mr Harlow, the headmaster, phoned. When Grandin answered Mr Harlow told her that she was “incorrigible”(Grandin & Scariano, 1986/2005, p. 68) and that she was not to come back to the school after Christmas. Grandin was upset because Mr Harlow was not bothered with her side of the story.

Finding a more suitable way forward

After Grandin was expelled, Eustacia realised that she and her daughter were in un-chartered territory since Grandin had left the safety and support of Dedham Country Day School (Cutler, 2004). Feeling lost and desperate Eustacia made an appointment at the Judge Baker Guidance Clinic as she had done when Grandin was a little girl (Cutler, 2004). However, all the faces she was met with in the seminar room at the clinic were new to her (Cutler, 2004). After discussion the doctors asked Eustacia if she had considered a special needs school for Grandin (Cutler, 2004). The previous year Eustacia had done a documentary on children suffering from retardation and emotional disturbance. Eustacia and Grandin liked HampshireCountrySchool in Vermont, which had featured in the documentary. As there were only 32 children in the school, each child received a lot of individual attention. The school was on a farm and the scholars were encouraged to ride horses and participate in the farm duties. Eustacia mentioned this school to the doctors and told them that the headmaster was warm and kind (Cutler, 2004; Montgomery, 2012). The doctors’ responses were negative as the headmaster of the school was not a psychiatrist, but a psychologist (Cutler, 2004; Montgomery, 2012). They strongly suggested that Grandin be placed in the special school at the hospital (Cutler, 2004). Eustacia left the hospital disappointed and went home to discuss the situation with Grandin (Cutler, 2004). Eustacia felt that Grandin understood that they needed a new plan going forward and Grandin liked the idea of a small school on a farm with animals (Cutler, 2004; Montgomery, 2012). After Christmas Eustacia took Grandin to the boarding school in New Hampshire (Cutler, 2004; Montgomery, 2012).

Mr Patey, the director of New HampshireCountrySchool, greeted Grandin and her mother on their arrival and took them on a tour of the school (Montgomery, 2012). Grandin was eager to

know about the farm animals and Mr Patey told her that interested students could help take care of the animals in the dairy and stables. The school aimed to be a therapeutic environment while offering a holistic education. Mr Patey asked Grandin what she thought of the school and if she would like to be a part of their community. Mr Patey's question surprised Grandin who was not used to her opinion being asked. She said that she wanted to attend the school and moved into one of the family units that had a house mother.

When Grandin was standing in line for dinner on her first evening at the school an older girl, Phoebe, cut in front of her. When Grandin told the girl that she could not cut in, the girl responded by shoving Grandin and saying "Bug off, nerd" (Grandin & Scariano, 1986/2005, p. 74). Grandin became furious and hit the girl. Everyone in the dining hall became silent as Miss Downey pulled Grandin aside. Much to Grandin's surprise Miss Downey asked her to tell her what had happened. Grandin recounted the incident. Miss Downey told Grandin that that was her account of events as well, but that violence would not be tolerated as a way of dealing with disagreements. Even though Miss Downey's way of reacting was new to Grandin, in her first six months at the school she would still flare into an argument and hit people from time to time. The teachers tried to be patient with Grandin. However, one day when Grandin tripped over a wire and punched the child who had laughed at her Miss Downey took away the privilege of riding the horses and working with the various animals for a week (Grandin & Panek, 2013; Grandin & Scariano, 1986/2005). This was particularly difficult for Grandin as she had fallen "in love with animals" (Grandin & Johnson, 2005, p. 1) and riding the horses was what she "lived for" (Grandin & Scariano, 1986/2005, p. 75). Grandin was also not allowed to do any other farm work for the week. While Grandin still got up to mischief and behaved badly at times she never used her fists to settle an argument again.

Other people have feelings too

Grandin's interpersonal growth was witnessed by Eustacia on the occasions that she visited Grandin at school (Cutler, 2004). On one of these occasions Eustacia took Grandin and a friend out for dinner (Cutler, 2004). Grandin surprised Eustacia by being concerned about her friend and telling her mother that she should not "smack" her "lips during dinner" (Cutler, 2004, p. 144)

as her friend hated it when people did that. Grandin's interpersonal growth was also witnessed in her combining her love of animals, while considering the needs of another (Montgomery, 2012). Jackie was a good friend of Grandin's in high school (Montgomery, 2012). They particularly got along because both of them were more interested in the outdoors and animals than in boys or the latest fashions (Montgomery, 2012). While Jackie also loved animals she had never had her own pet (Montgomery, 2012). When Grandin adopted a stray dog, Timmy, and a cat who had kittens, she gave one of the kittens, Tiger, to the delighted Jackie (Montgomery, 2012). Jackie loved Tiger and threw him a birthday party (Montgomery, 2012). Tiger, however, was scared of all the people and ran away until he was sure all the people were gone (Montgomery, 2012). Grandin's solution was to make a cat door for him to be able to get back into Jackie's room when he felt he needed to retreat to safety (Montgomery, 2012). Both Jackie and Tiger were grateful to Grandin (Montgomery, 2012).

Panic sets in

Aside from the pleasure of riding the horses and working with the animals Grandin became more obsessive in her behaviour and started having panic attacks (Grandin, 1984a; Grandin & Scariano, 1986/2005). Adjusting to a new environment, rules, and people had been a challenge for her. When Grandin reached puberty her panic attacks worsened and she struggled even more socially (Grandin, 1984a; Grandin & Scariano, 1986/2005). She also became more startled by things like the telephone ringing or going on school outings, which she had previously enjoyed. Grandin also began to fear that she would have a panic attack in front of people and so tried to avoid social situations. She became desperate and felt as if she were going backwards developmentally. The only times she felt relief was when riding the horses, working with the animals, or when doing physical labour.

In March 1962, when Grandin was 14 years old, her psychiatrist requested a private conversation with Eustacia (Cutler, 2004). The psychiatrist informed Eustacia that Dick was trying to prove that she was insane and suggested that she leave her husband (Cutler, 2004). He also informed her that he did not like to testify in court but that he would testify to her sanity if necessary (Cutler, 2004). He told Eustacia that her personal psychiatrist had informed him that he would do

the same (Cutler, 2004). In August 1962 when Grandin was 15 years old her parents got divorced and Eustacia was awarded full custody of the children (Cutler, 2004). Grandin stayed at the boarding school while her siblings remained with Eustacia (Cutler, 2004). Initially Grandin's marks did not improve and Eustacia felt that she was spending too much time riding horses and doing farm work (Cutler, 2004; Montgomery, 2012). However, Mr Patey was aware of Grandin's history as well as the situation at home and informed Eustacia that Grandin needed the time to find an "emotional equilibrium" (Cutler, 2004, p. 151). Shortly after this time Eustacia started dating Ben Cutler, a professional musician, whom she would marry when Grandin was 17 years old (Cutler, 2004). Eustacia and Grandin's siblings moved to Bronxville, New York, with Ben and his children (Cutler, 2004).

Salvation

Grandin became more stressed and anxious which further disrupted her social relationships and school work. One Sunday in chapel Grandin was struck by what the minister said. He knocked on the lectern and said that if one knocked He would answer. Grandin wondered who this *He* was and focused her attention. The minister then quoted from the book of John saying, "I am the door: by me if any man enter in, he shall be saved..." (Grandin & Scariano, 1986/2005, p. 84). Grandin heard nothing else. All she could think about was finding the door that would open up to heaven and save her. She fixated on all doors, whether the bathroom, stable, or class room door. But she could not find what she thought was "*the door*" (Grandin & Scariano, 1986/2005, p. 84). An addition to Grandin's dorm was being built. One evening when Grandin was walking back to her room from dinner she saw that the workmen had left and went to look at the new part of the building. Grandin noticed a ladder and decided to climb up onto the fourth floor. When she climbed onto the platform she saw a small wooden door that opened to the roof which was an observation room surrounded with windows. Grandin thought that this must have been the door that she was looking for.

In the observation room Grandin could see the mountains and the stars. She felt at peace and that there was hope for her future. The observation room or "Crow's Nest" (Grandin & Scariano, 1986/2005, p. 85) became a symbol of heaven and hope for Grandin. It was a place where "the

beauty of nature” was present and helped to “conquer” (Grandin & Scariano, 1986/2005, p. 85) her fears. In the following months Grandin went up to the observation room often. There she would contemplate ideas, write in her diary, and think about her future. She contemplated her childhood, her parents’ difficulties with her, as well as her strained interpersonal relations. The evening Grandin was caught going into the observation room she was sent to the school psychiatrist. After scolding Grandin, the psychiatrist wanted to know why she had gone up there when she knew she was not allowed to. He wanted to know what was up there. Grandin responded by saying, “Me. My life. God” (Grandin & Scariano, 1986/2005, p. 89). To which the psychiatrist laughed. She was told not to go up there again. However, she still snuck into the observation room now and again. This led Grandin to think about authority and what it meant to her. She realised she was not beyond authority and needed an authority and particular way of being within herself.

Mentors and the focusing of interests

Although Grandin had reached more of an “emotional equilibrium” (Cutler, 2004, p. 151) she still misbehaved and did not pay sufficient attention to her school work. She thought school work represented boredom until she met Mr Brooks, a psychology teacher, who taught the students about animal behaviour. Grandin was fascinated and began to pay attention in his class, even to other subject matter like optical illusions. Grandin was intrigued with the distorted room puzzle and for six months tried to build her own one. The enjoyment Grandin felt in Mr Brooks class led her to try and focus more in other classes incase there was something that would interest her. Even though Grandin started to pay attention in some classes and was very active around the school, most of the other children did not like her. They would tease her and call her hurtful names. Grandin still struggled to speak in a way that sounded normal and had difficulty communicating her thoughts to others. However, when she was in the observation room she felt less pressure and would write her thoughts in her diary. She also began to wonder what would become of her life after school.

While Grandin’s odd way of speaking had drawn the other students’ attention, when she started to ask peculiar questions the staff became concerned (Carlock, 1986/2005). The headmaster

approached Mr Carlock with his concerns and asked him if he would talk to Grandin (Carlock, 1986/2005). At their first meeting Mr Carlock was struck by how direct, intense, and even forceful Grandin was (Carlock, 1986/2005). He noticed that she was neat, but did not bother to keep up with the fashions of the other adolescents (Carlock, 1986/2005). Grandin had many questions and Mr Carlock spent more hours with her at their first meeting than he had anticipated (Carlock, 1986/2005). Mr Carlock did not think that Grandin's ideas were odd, but that they were more in line with a first year university philosophy way of thinking than high school (Carlock, 1986/2005). Grandin was very involved at school in her desire to find answers to her questions (Carlock, 1986/2005). This desire was not always positively directed and involved actions like picking locks (Carlock, 1986/2005). She was respected for her determination, but was not accepted socially (Carlock, 1986/2005). This was aggravated by her "bizarre" (Carlock, 1986/2005, p. 6) behaviour and more masculine way of dressing. Despite this, Grandin worried what others thought of her and tried to learn and set rules for herself that she could put in place in social situations (Carlock, 1986/2005).

Along with Mr Brooks, Mr Carlock was Grandin's "salvation" (Grandin & Scariano, 1986/2005, p. 90). Without them she felt that she may have fulfilled her father's belief that she belonged in a school for children with retardation. Mr Carlock was not judgmental and tried to understand how Grandin experienced the world. While Grandin was uneasy with most other people and wished to be accepted, she trusted Mr Carlock "implicitly" (Grandin & Scariano, 1986/2005, p. 91). Grandin still presented with behavioural and interpersonal problems. Mr Carlock did not lecture her about correct behaviour. Instead he engaged with her on her ideas and showed her a way of being in the world that she wished to emulate. Grandin began to pay attention to how Mr Carlock interacted with others and conducted himself. Although Grandin did not understand it at the time she would make sense of things visually and symbols helped her to understand abstract ideas (Grandin, 1995/2006; Montgomery, 2012). Mr Carlock lent her philosophy books so that she could read up on the questions she was asking and meanings behind various symbols. One day Grandin was shocked when Mr Carlock complimented her on her voice sounding less flat. This confused Grandin. However, when she thought through her trying to emulate Mr Carlock's behaviour and trying to interact more with people, she realised that she was becoming more socially aware of others and herself.

Mr Carlock became Grandin's mentor and confidant. He always encouraged Grandin to move forward and see things from different perspectives. One day a boy told Grandin that the boys did not like her because she did not "have sex appeal" (Grandin & Scariano, 1986/2005, p. 92). A crying Grandin told Mr Carlock about this. Mr Carlock did not laugh or brush off Grandin's concerns. He told her that there was more to her than mere physicality and that when she grew up her appeal would also be intellectual. Grandin felt she had worth. She also began to take more interest in her subjects and felt motivated by her mentor's interest (Grandin & Scariano, 1986/2005; Montgomery, 2012; Rafols, 2012).

Prior to one of Grandin's summer holidays her mother suggested that she spend the time on Ben's (her stepfather) sister Ann's ranch. Grandin was apprehensive about being in yet another new environment (Sutton, 2006). However, the thought of riding the horses and working on the ranch appealed to her. Once there, Grandin talked incessantly. She repeated the story about Mr Brooks and the distorted room puzzle repeatedly. Grandin felt that Ann was also a mentor in the sense that Mr Brooks and Mr Carlock were, as she tried to direct Grandin's obsessive intensity into doing constructive activities (Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Montgomery, 2012; Rafols, 2012). These activities included fixing things on the ranch and helping with the younger children.

Grandin became fascinated with the squeeze chute that the animals went into for their vaccinations (Grandin, 1984a; Grandin & Scariano, 1986/2005). It held them and they calmed down. Grandin wanted to know why the wild calves would calm down when the pressure was asserted on their sides. She wondered if they felt comforted, and she wanted to try the squeeze chute (Grandin & Scariano, 1986/2005; Sutton, 2006). Ann was unsure about this experiment. However, she later wrote to Eustacia that while Grandin's request seemed odd she felt she wanted to try and accommodate her as she had been so helpful on the ranch (Cutler, 2004). Grandin climbed into the chute and Ann pulled the rope that tightened the sides. Even though Grandin told Ann how much force to use, she felt it was an exercise in learning to trust another with a form of physicality, which was exceptionally difficult for her. While in the cattle chute Grandin felt relaxed and to a large extent in control. Grandin became obsessed with the cattle

chute and wanted to build her own prototype. This became an issue of contention with her mother and some of the staff at her school.

Neither Ann nor Mr Carlock thought Grandin's project to build her own comfort machine was unhealthy. However, the school psychologist thought she was mentally ill and that she wanted to build a "prototype of the womb or a casket" (Grandin & Scariano, 1986/2005, p.99). Grandin protested to this accusation. In response the psychologist asked her if she was crazy and thought that she was a cow. Grandin was upset and the school psychologist lost his temper and told her that her mother was going to be informed. Nevertheless, Grandin felt that she had found her purpose to focus on her studies. She wanted to understand what happened to the calves, as well as herself, psychologically and physiologically during the time in the squeeze chute (Grandin & Scariano, 1986/2005; Montgomery, 2012; Rafols, 2012). Mr Carlock used Grandin's fixation to help encourage and motivate her (Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Montgomery, 2012; Rafols, 2012). He told her that if she wanted to prove the worth of the squeeze machine she would need to engage in scientific enquiry (Cutler, 2004; Grandin & Panek, 2013; Montgomery, 2012; Rafols, 2012). Grandin realised that if she wanted to go to college to be able to do experiments with a squeeze machine she would need to improve her marks drastically (Cutler, 2004; Rafols, 2012). Grandin was further motivated in her pursuit of a university career when Mr Carlock took her to the library and showed her how to look up the things she was interested in, in scientific journals (Montgomery, 2012; Rafols, 2012).

Grandin sometimes worried when she had thoughts about love while in the squeeze machine. She also worried that she would become too dependent on it. She had to remind herself that it was a contraption that she had made. Being able to handle the physical pressure of the chute allowed her to feel closer to Mr Brooks, Mr Carlock, her mother, and Ann. This only fuelled her desire to understand what was happening to her while she was in the chute. The chute also became an incentive for Grandin because she would only allow herself to use it once she had done her homework so that she could relax.

During June 1966 when Grandin was almost 19 years old she graduated from Hampshire Country School. She was chosen to give one of the speeches.

4.7.2 Discussion

During adolescence, individuals need to define for themselves who they are and their place in society (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Successful completion of the previous stages is needed for adolescents to feel secure enough in themselves to assimilate previous identities and to form a more consciously integrated identity (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Grandin had not yet resolved all the crises of the previous stages in the sense that her dystonic elements still at times outweighed her syntonic elements (Erikson, 1950/1973; Hoare, 2013; Schultz & Schultz, 2013). This along with her ego weakness caused her to retain a certain level of immaturity as she reached adolescence (Erikson, 1950/1973, 1956, 1968a). However, following the more peaceful developmental period of the previous stage Grandin's ego had retained its presence, was more coherent, and she had begun to develop an ego identity (Erikson, 1956, 1968a; Feist & Feist, 2013).

Adolescence was a particularly challenging period in Grandin's life. As a result previous crises were likely to resurface or be exacerbated (Erikson, 1956, 1964a, 1968a). In accordance with the theory even though Grandin had begun to recover and some maturation of her ego and the development of an ego identity were noticeable, the expectations of adolescence initially caused her to regress (Erikson, 1956, 1968a). During this stage Grandin faced increased aggression from her father, instability at home, and new environments that often included people who did not like or understand her. These situations initially added to her developmental difficulties and could potentially have eroded the beginnings of the ego strengths she had begun to develop (Erikson, 1950/1973, 1956, 1968a). However, Grandin showed resilience (Erikson, 1950/1973, 1956, 1968a). This resilience possibly developed as a result of her ego strengths of hope and will (Erikson, 1950/1973). This resilience was supported by her mentors and her attachment to animals who aided her resolution of developmental crises as well as circumvention of identity diffusion (Erikson, 1950/1973, 1956, 1964a, 1968a).

Growing awareness of the outer world

Grandin's increased ego presence and integration of experiences led to a greater awareness of other individual's feelings, opinions and actions, in general and in relation to herself (Erikson,

1950/1973, 1956, 1968a; Feist & Feist, 2013). This had both positive as well as negative effects on her throughout this stage. Despite Grandin's distressing experiences at Cherry Hill Girls' High School her ego did not withdraw (Erikson, 1956, 1968a). Being present enabled Grandin to test and further develop the "moral responsibility" (Erikson, 1950/1973, p. 248) she began to integrate when caring for Crusader. This was demonstrated by her showing respect and mutuality of recognition for Claudia by participating in a project that was suitable to them both (Cutler, 2004; Erikson, 1950/1973, 1964a, 1977). Grandin displayed her growing ability to integrate the outer world into her inner world by developing interests and pursuing activities that were meaningful to her such as building model airplanes, watching *Twilight Zone*, reading science fiction, and being a monitor for the assembly committee (Greene et al., 2010; Studer, 2007; Thimm, 2010). Grandin's role for the assembly committee required her to both be aware of the social conventions and rules of her school as well as to enforce them (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). This enabled her to be more aware of social boundaries and roles as well as increased her desire to fit in with her peer group (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009).

Grandin's increased desire to fit in with her peer group was usual for an adolescent (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). However, Grandin's unusual way of speaking, awkward physicality, and lack of academic competence set her apart from the other girls in her school (Erikson, 1950/1973, 1968a). Despite being more competent in feminine creative classes such as jewelry making and sewing, Grandin also enjoyed traditionally masculine activities such as woodshop. This too set her apart from her peers at the all girls school who adhered to feminine social roles (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Although Grandin's ego remaining present was a positive development, this presence along with her growing awareness decreased the protective qualities of her previously withdrawn state (Erikson, 1950/1973, 1964a, 1968a; Feist & Feist, 2013). As a result Grandin's feelings of shame, inferiority, pain, and isolation may have intensified (Erikson, 1956, 1968). This was revealed with Grandin being more aware of the girls at her school teasing her for being different and reacting violently in response (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Despite Grandin's tentative development of moral awareness, her difficulties at home and school caused her ego to once again struggle with trusting others and socially acceptable self delineation

and autonomy (Erikson, 1950/1973, 1956, 1964a, 1968a; Miller, 2010; Sollod et al., 2009). As adolescents are supposed to start taking on more responsibility and adult roles Grandin's violation of other people's boundaries such as hitting or throwing books at them was received with harsher consequences than when she was younger (Erikson, 1950/1973, 1963a; Miller, 2010; Montgomery, 2012; Sollod et al., 2009). This was observed with her being expelled from Cherry Hill Girls' High School.

Life becomes more difficult: The possibility of a negative identity

The stability of adolescents' home environments is crucial to their emotional capacities to self-regulate and make life choices (Syed & Seiffge-Krenke, 2013). Therefore, the tension between Grandin's parents as well as her father's verbal and physical aggression toward her would have increased her ego instability and difficulties adjusting to new school environments (Syed & Seiffge-Krenke, 2013). Grandin's identity may also to some extent have diffused with her father's identity as she internalised his unruly and aggressive behaviour and acted out accordingly when she was upset or overwhelmed (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). As with Grandin's school difficulties, the presence of her ego may have enabled her to be more aware of the tension at home and her father's rage (Cutler, 2004; Erikson, 1956, 1968). While this provided her with a new protective quality of being able to try and avoid trouble with her father, it may also have increased her body ego's shame, anxiety, and distrust of physicality (Erikson, 1964a, 1956, 1968a).

According to Erikson (1950/1973) adolescents with autism still need "extraordinary encouragement" (p. 193) as they may feel that life is happening to them which may further disrupt ego synthesis (Erikson, 1956, 1968a). Grandin's experiences with her peers at school and at home with her father where not supportive of her development. Being viewed as a "retard" (Grandin & Scariano, 1986/2005, p. 68) and trouble maker by her father and school, and as sick by members of the Judge Baker Guidance Clinic could have encouraged Grandin to choose the negative identity and become as she was viewed and treated (Erikson, 1956, 1964a, 1968a). At times her identity did diffuse with these roles as was displayed by her immature or violent behaviour (Erikson, 1950/1973, 1956, 1958a). Despite the distress of being expelled from school

and the challenges of entering a new environment at New Hampshire Country School, this situation provided Grandin with a turning point in her development.

The staff members of New Hampshire Country School tried to treat Grandin with more understanding and respect than the educators at her previous school. At times Grandin was able to recognise these positive and respectful counter-experiences such as when Mr Patey asked her if she would like to attend their school as well as when Miss Downey asked her side of the story when Grandin hit Phoebe in the dinner line (Erikson, 1964a, 1977). Despite Grandin being in a caring environment and being shown that her opinion mattered, she initially still struggled with negative roles and potential identity diffusion (Erikson, 1956, 1958a, 1964a, 1968a; Luyckx et al., 2013). Grandin's ego synthesis was disturbed both by yet another new environment as well as by her parents' separation and divorce (Erikson, 1956, 1964a, 1968a; Syed & Seiffge-Krenke, 2013). With Grandin's parents' divorce her ego identity had to re-establish her sense of family and what that meant to her sense of self within that family (Erikson, 1968a; Feist & Feist, 2013; Syed & Seiffge-Krenke, 2013). Reaching puberty also exacerbated Grandin's maladaptive characteristics and ability to resolve developmental crises (Erikson, 1950/1973; Hoare, 2013; Schultz & Schultz, 2013). As Grandin's body and hormones changed, her body ego struggled to re-establish a sense of unification between her mind and body (Erikson, 1950/1973, 1963a; Feist & Feist, 2013; Miller, 2010; Sollod et al., 2009). This aggravated her anxiety, sense of autonomy, and ability to trust and control her own body (Erikson, 1950/1973, 1963a; Feist & Feist, 2013; Miller, 2010; Sollod et al., 2009). This was displayed by Grandin both fighting with and hitting people to establish her place in the world and gain some sense of control, or avoiding social situations in fear of having a panic attack in public (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Grandin's struggle with identity diffusion was also displayed by her nonchalance toward her school work and future (Erikson, 1950/1973, 1956, 1958a; Luyckx et al., 2013).

The positive influence of animals on development

While Erikson (1956, 1958a) viewed adolescence as a potentially devastating time for individuals with autism, he also saw it as a potential turning point. Any developmental progress

and attainment of ego functionality that may have been “relinquished” (Erikson, 1956, p. 94) could be regained and built on. As previously mentioned Grandin’s attachment to animals, her development of ego ideals, as well as the influence of her mentors helped to strengthen her ego and enabled her potential identity diffusion to be circumvented (Erikson, 1950/1973, 1956, 1968a). According to Erikson humans may find “resources for peace” (1964a, p. 230) in nature. This was the case for Grandin who found peace as well as a sense of purpose, responsibility, and commitment when caring for and interacting with the animals at her school (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). The available data suggests that this was the first time Grandin felt and expressed feelings of “love” (Grandin & Johnson, 2005, p. 1) for another living being. While adolescents may role play surrounding their feelings of love and being in love, Grandin’s love and commitment to caring for animals became more than a role identity as she incorporated her way of relating to animals into her ego identity (Erikson, 1950/1973, 1968a; Feist & Feist, 2013).

Grandin’s relationships with the animals at her school also encouraged the development of the “moral responsibility” (Erikson, 1950/1973, p. 248) she had initiated in her interactions with Crusader and provided her with a sense of fidelity (Erikson, 1950/1973, 1963a, 1964a; Miller, 2010; Sollod et al., 2009). Grandin’s commitment and desire to maintain her attachments to animals was demonstrated by her no longer resolving arguments through violence after it had resulted in her being banned from riding horses and working with the school animals (Grandin & Panek, 2013; Grandin & Scariano, 1986/2005). This experience along with finding worth in her interactions with animals caused Grandin to re-evaluate her responses to other individuals and develop a more socially acceptable sense of will and boundaries (Erikson, 1950/1973, 1963a; McAdams, 2009; Miller, 2010; Sollod et al., 2009). Grandin’s physical interactions with the school horses, farm animals, her dog Timmy and the cat she adopted also all enabled her body ego to further integrate touch and physicality with another in mutual and non-threatening ways (Erikson, 1968a, Feist & Feist, 2013).

Grandin had become aware of others as a child and was able to form mutuality of recognition relationships through interplay with her friends such as Lyman, Eleanor, and Crystal (Erikson, 1968a, 1977). However, it was only as an adolescent that Grandin showed awareness and

acknowledgement of other individuals' feelings and even empathy toward her friends. This development may in some ways have been facilitated by her relationships with animals and the care she showed them, as well as a greater development and realisation of her own feelings (Erikson, 1956, 1963a, 1964a, 1968a). These feelings included being capable of love and having a need to be around animals (Erikson, 1956, 1963a, 1964a, 1968a). Grandin's realisation and acknowledgement of the feelings of a friend was demonstrated when Eustacia visited and Grandin asked her to not "smack" her "lips during dinner" (Cutler, 2004, p. 144) as her friend hated it. Grandin also demonstrated the capacity for empathy in her relationship with Jackie (Montgomery, 2012). Grandin's relationship with Jackie was facilitated by their shared interest in animals and nature and provided Grandin with the necessary adolescent social play (Erikson, 1950/1973, 1956, 1977). Grandin demonstrated both understanding of Jackie's situation and commitment to helping with her needs when she gave Jackie, who had always wanted a pet, a kitten and built a cat door for him so that he was able to enter Jackie's room when he was frightened (Erikson, 1950/1973, 1963a; Miller, 2010; Montgomery, 2012; Sollod et al., 2009).

Who or what do I look up to and respect: The development of an ego ideal

Despite the progress Grandin was making in some areas such as being able to be reliable and committed to animals and her few friends and cognizant of their emotions, she still struggled with relationships and was directionless regarding her future. Although adolescents' beliefs and ego ideals face much introspection during this time, Grandin had not as yet formed an ego ideal (Erikson, 1950/1973, 1956, 1968a). Grandin's curiosity, imagination, and self play in the form of introspection aided her development of an ego ideal (Erikson, 1956, 1977; Feist & Feist, 2013). This was observed by her curiosity as well as determination to find "the door" (Grandin & Scariano, 1986/2005, p. 84) that would lead to heaven and save her. Grandin's imagination aided her visual and symbolic way of thinking and facilitated her use of the observation room as a spiritual sanctuary (Erikson, 1956, 1977). The peace and safety Grandin experienced in the observation room enabled her to reflect on her life, relationships and future, as well as to develop an ego ideal in the form of God (Erikson, 1968a, 1977; Feist & Feist, 2013). According to Erikson the nature of a belief in a deity or God may be viewed as a necessary projection of an ego ideal "onto a super-human agency" (Erikson, 1964a, p. 132) who individuals may revere and

try to emulate, but never transcend. Beginning to form a belief system facilitated Grandin's development of her sense of who she was in the world, as well as her questioning of boundaries and a potential future (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). In order for Grandin's introspection not to become detrimental to her ego she needed to develop an ego ideal that was represented in a person she admired and that could support her in a tangible way (Erikson, 1968a). Mr Carlock represented such an ego ideal for Grandin as he provided her with a comparison point of who she was and who she wished to be (Erikson, 1968a; Feist & Feist, 2013). Grandin's ego ideals in the form of God as well as being represented in another human being were restorative for her ego (Erikson, 1956, 1977).

The influence of mentors on ego coherence and a constructive future

According to Erikson's theory, the generational nature of the human life cycle, as well as the expectations and tension it may create, may guide individuals to the psychosocial crisis inherent in each stage (Erikson, 1950/1973, 1964a, 1968a; Miller 2010). Grandin's mentors Mr Brooks, her aunt Ann, and Mr Carlock all provided her with nurturing guidance during this stage that influenced her identity development as well as more comprehensive resolution of the crises of the previous stages. Grandin's mentors were trustworthy, recognised her intelligence, encouraged her abilities and interests, and helped to harness her sense of will and determination for constructive activities (Erikson, 1950/1973, 1956, 1963a, 1968a; Grandin & Panek, 2013; Miller, 2010; Montgomery, 2012; Rafols, 2012; Sollod et al., 2009). As an adolescent Grandin's difficulties with trusting others as well as herself resurfaced. Ann and Mr Carlock were particularly understanding and supportive of Grandin and helped her to regain and build on the trust her weak ego had tentatively developed as a child (Erikson, 1956). Although Grandin's mentors recognised her difficulties, as well as interests and way of dressing that was different to other girls her age, they also recognised her potential and ability to contribute to her environment (Carlock, 1986/2005; Cutler, 2004; Erikson, 1956, 1968a).

Grandin and Ann's experimentation with holding Grandin in the cattle chute enabled Grandin's body ego to once again test various forms of physicality as she had done as a child when creating her realistic versions of the "magical device" (Grandin & Scariano, 1986/2005, p. 36). The cattle

chute as well as Ann's role in helping to control the pressure enabled Grandin's body ego to further integrate trustful forms of physicality and learn another way to soothe anxiety as she approached adulthood (Erikson, 1968a, 1977; Feist & Feist, 2013; Grandin, 1984a; Sutton, 2006). As Grandin's desire, as well as obsession, to build her own version of the cattle chute or a comfort machine was viewed as socially unacceptable by her mother, some of her peers and members of the school staff, Mr Carlock and Ann's support of her idea was crucial. Firstly, their encouragement enabled Grandin's ego not to diffuse with negative identities and roles such as that of the family or social misfit, or mentally ill as her school psychologist viewed her (Erikson, 1950/1973, 1956, 1968a). They encouraged her to have a concept of herself of who she was on a continuum that was separate from other people's identities and ideas of her (Côté & Levine, 1987; Erikson, 1968a). Secondly, Ann and Mr Carlock helped to channel Grandin's intensity and fixations, and encouraged her to combine them with her curiosity and intelligence. Erikson (1950/1973, 1958b) recognised intensity and being obsessive as characteristics in both individuals with autism as well as extraordinary individuals. Grandin's fixations may in part have been as a result of her weak ego's need to constantly test and re-evaluate her environment in order to integrate experiences (Erikson, 1956, 1968a). Grandin's fixations could merely have become repetitive actions. However, being encouraged to direct her intense energy with her abilities and interests led to Grandin focusing and completing high school with future goals in mind. Thirdly, as was the case for Grandin, acknowledged and recognisable creative models may drive future occupations and may potentially become extraordinary visions or counter-visions in adulthood (Erikson, 1977). Mr Carlock was particularly influential with the latter.

Grandin was able to model herself on Mr Carlock's behaviour and further resolve her ego's previous contention with acting within lawful and socially acceptable boundaries when exercising her will (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009). She not only established social rules for herself but also began to take responsibility for her own future by setting boundaries, goals, and rewards for herself such as allowing herself to use the comfort machine when she had completed her homework (Erikson, 1950/1973; Greene et al., 2010; McAdams, 2009; Miller, 2010; Sollod et al., 2009; Studer, 2007; Thimm, 2010). Mr Carlock not only provided Grandin with a suitable model and ego ideal, but also encouraged her own desires and abilities to integrate a sense of purpose and commitment (Erikson, 1950/1973,

1963a, 1958a; Luyckx et al., 2013; Miller, 2010; Sollod et al., 2009). Grandin's desire to understand what happened to herself as well as the calves in the cattle chute that enabled them to relax was integral to her identity formation as well as future (Erikson, 1950/1973, 1963a, 1958a; Grandin & Panek, 2013; Miller, 2010; Montgomery, 2012; Rafols, 2012; Sollod et al., 2009). She began to recognise herself in her creative and academic pursuits, and therefore her creative endeavours, as well as products, became integral to her identity (Erikson, 1950/1973, 1956, 1977). A commitment to animals and her own development and future, as well as being a dependable friend enabled Grandin to enter adulthood with a sense of fidelity (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009).

It is important to note that while Grandin's ego had strengthened as was demonstrated by her graduating high school, forming an ego identity and developing a sense of fidelity, she had a complex childhood as well as adolescence as a result of her ego weakness or autism (Erikson, 1950/1973, 1956, 1963a, 1968a; Miller, 2010; Sollod et al., 2009). This to a certain degree still hindered her assimilation of the various parts of herself that are required to form a stable identity and be less socially isolated (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Therefore, while the developmental crisis of each stage is present in every other stage, Grandin particularly needed to carry the developmental task of establishing a stable ego identity into the following stage (Erikson, 1950/1973, 1958a, 1963a; Miller, 2010; Sollod et al., 2009).

4.7.3 Stage 5 salient points

- a. Following the more peaceful developmental period of stage four (industry vs inferiority), Grandin's ego had retained its presence, was more coherent, and she had begun to develop an ego identity. However, adolescence was a particularly challenging period.
- b. Grandin's ego remaining present was a positive development. However, this presence along with her growing awareness decreased the protective qualities of her previously withdrawn state. Feelings of shame, inferiority, pain, and isolation may have increased.
- c. The expectations of adolescence initially caused Grandin to regress. She remained immature and reacted violently when teased. This may have been influenced by her identity diffusing with her father's and internalising his aggressive behaviour.

- d. Despite difficulties and expulsion from school Grandin showed resilience and the ego strengths she had begun to develop were not entirely eroded. This resilience was supported by her mentors and her attachment to animals who aided her resolution of developmental crises as well as circumvention of identity diffusion.
- e. Grandin's increased ego presence and integration of experiences led to a greater awareness of other individuals' feelings, opinions and actions, in general and in relation to herself. This facilitated further development of a 'moral responsibility'.
- f. Grandin's love for and commitment to caring for animals became more than a role identity as she incorporated her way of relating to animals into her ego identity.
- g. Grandin's physical interactions with the school horses, farm animals, her dog Timmy, and the cat she adopted enabled her body ego to further integrate touch and physicality with another in mutual and non-threatening ways. She learnt about her own feelings through these interactions with animals and was able to extend empathy to her friends as a result.
- h. Grandin's mentors were of particular significance with regard to acknowledging, supporting, and encouraging her abilities and interests. They aided further integration of the beneficial role that animals played in Grandin's development to extend into adulthood in terms of a life purpose and career.
- i. Grandin's struggle with ego weakness still hindered the assimilation of the various parts of herself that would have been required to form a stable identity. She therefore needed to carry the developmental task of establishing a stable identity into the period of young adulthood.

4.8 Stage 6: Intimacy versus isolation (20-35 years)

Unless otherwise specified, the data for this stage is based on Grandin and Scariano (1986/2005).

4.8.1 Findings

Many of the difficulties Grandin faced as a child remained with her throughout adulthood. However, she did progressively learn to manage her difficulties, life, and relationships more effectively. Adulthood brought with it new challenges. Despite this Grandin continued to

persevere and made sure that her voice, as well as the voices of animals, and other individuals with autism were heard.

University and the beginnings of research

After graduating from Hampshire Country School, Grandin went to stay on her aunt Ann's farm. She felt comfortable on the farm and preferred to be in a familiar environment with people she knew. Grandin's mother still had issues with the cattle chute and her squeeze machine. She expressed this in her letters. This made Grandin want to prove its worth even more. At the end of the summer Grandin entered Franklin Pierce, a small university nearby to HampshireCountrySchool. Here Grandin began to establish some friendships. The proximity to HampshireCountrySchool enabled her to visit Mr Carlock on the weekends (Grandin, 1995/2006). She felt that without his support and encouragement she would not have made it through university (Grandin, 1995/2006). Grandin was still dismayed that her mother and psychologist disapproved of her version of the cattle chute. Mr Carlock suggested that she build a more improved scientific version of the cattle chute that she could run experiments with on the university students (Grandin & Panek, 2013). This idea appealed to Grandin. Mr Carlock told her that she would need to start reading scientific journals, doing research, and that she would need to improve her mathematics skills (Grandin & Panek, 2013). Grandin began to spend a lot of time reading and on the weekends she worked in Mr Carlock's laboratory.

During this research Grandin became particularly interested in the field of sensory interaction and spent many hours in the library. Grandin's undergraduate thesis focused on sensory interaction that she measured during the experiments with other students in the squeeze machine. Grandin learnt that there was a correlation between pressure stimulus and auditory thresholds. She also found that the squeeze machine lowered some metabolic functions. Sixty-two percent of Grandin's participants found the squeeze machine to be relaxing. This helped her to feel justified in her endeavour. She used the findings to build herself an improved squeeze machine. Despite Grandin's sense of achievement with her study, staff and psychologists at the university attributed sexual connotations to the squeeze machine. This made Grandin feel guilty. However, Grandin thought that the squeeze machine was not bad because it was helping her to learn to feel

and relate to others. It eased her discomfort with physical interactions and she began to tolerate brief handshakes or a pat on the shoulder. She also felt that it helped her to learn how to be gentle and feel empathy. Grandin reflected further on this lesson in her interaction with her cat (Grandin, 1995/2006). The cat initially ran away from Grandin because she held him too tightly (Grandin, 1995/2006). Through learning about pressure from her study and in her own experience of the squeeze machine she began to be gentler with her cat (Grandin, 1995/2006). This resulted in the cat wanting to be around and held by Grandin more (Grandin, 1995/2006). This interaction with her cat helped her in her interactions with people as she had learnt to understand “reciprocity and gentleness” (Grandin, 1995/2006, p. 85). This was also another experience that fuelled Grandin’s belief that “[p]eople and animals are supposed to be together” (Grandin & Johnson, 2005, p. 5).

Even though relationships with others were improving and Grandin had made some friends who had similar interests to her, relationships were still difficult. Some students would call her “Buzzard woman!” (Grandin & Scariano, 1986/2005, p. 112). Although she tried to dress fashionably and fit in, many students still refused to talk to her. Grandin found it easier to communicate and felt more accepted with people that she was working with in a team on a project that they were all interested in. During the longer vacations Grandin volunteered at hospitals with individuals with autism (Grandin, 1995/2006; Grandin & Panek, 2013). Here she increased her relations with others and made some lifelong friendships. During one of Grandin’s first experiences volunteering she recognised herself in Jake, a seven year old boy with autism. Grandin tried to mentor Jake and help him to come out from his secret world to engage with mechanical objects which he enjoyed. Grandin felt as if she were Mr Carlock.

While majoring in psychology Grandin read Rimland’s book, *Infantile autism* (Rimland, 1986/2005). She contacted him because she wanted to discuss certain ideas surrounding the difficulty with physicality that some individuals with autism experience (Rimland, 1986/2005). Little was known about this aspect of autism at the time, but Grandin made it her purpose to understand it (Rimland, 1986/2005). Rimland was surprised that Grandin was doing particularly well in her chosen field at university (Rimland, 1986/2005). He was also surprised that she was studying psychology and not computers or mathematics (Rimland, 1986/2005). However, on

initially speaking to Grandin, the sound of her voice, the way she spoke, and her “unusually direct manner” (Rimland, 1986/2005, p. 1) gave her away. On meeting Grandin, Rimland noticed that she was intense, focused, and even obsessed with her scientific enquiry (Rimland, 1986/2005). Rimland believed that this was because she was a fascinated scientist who wanted to understand herself as much as her subject matter (Rimland, 1986/2005). After their meeting, Rimland and his wife took Grandin out for lunch (Rimland, 1986/2005). Grandin was very loud and her voice that was “unmodulated” (Rimland, 1986/2005, p.2) drew stares from the other patrons. On more than one occasion Rimland asked her if she could talk more quietly (Rimland, 1986/2005). Instead of being offended Grandin used this as another opportunity to learn about socially accepted behaviours (Rimland, 1986/2005).

Graduate school and the question of animal welfare

In 1970 Grandin graduated from Franklin Pierce University with highest honours in BA in Psychology (Cutler, 2004; Montgomery, 2012). She was placed second in her class of 400 students and was the salutatorian (Cutler, 2004; Grandin & Scariano, 1986/2005; Montgomery, 2012). After graduating, Grandin spent the summer at her mother and Ben’s house in New York. Despite having shown her mother her thesis and the results of her experiments she was apprehensive to use her squeeze machine if her mother were around. She asked her mother to try it, but she kept making excuses. After the holiday Grandin went to Arizona to start a graduate programme in psychology. Instead of being content or excited she was nervous and doubted her self-worth. She was desperate to find meaning in her life. Grandin’s distress when using the squeeze machine increased. She had built comfortable chutes to comfort herself. However, when she thought about what was done to cattle in the chutes she felt the chute “appeared cruel” (Grandin & Scariano, 1986/2005, p. 123). Grandin felt that she needed to accept the cattle chute and her need for it in order to accept herself and be comfortable with others. Her reconciliation with how cattle were handled in a chute would become part of her lifelong pursuit of animal welfare activism (Grandin, 1984b; 1992a; 2003, 2005).

At the Arizona State University Grandin initially struggled with the new environment and people. Grandin’s questioning of her beliefs and work with animals increased. She pondered how

she could perform scientific experiments on animals. In an attempt to work through her thoughts 23 year old Grandin went to the cattle feedlot and operated the chute on 130 cattle for the first time. The cattle had to be branded, vaccinated, and castrated. To Grandin's surprise she did not "freak out" (Grandin & Scariano, 1986/2005, p. 127). Grandin got along with the men she worked with that day. They complimented her work. She was pleased with herself for the work she had done with the cattle as well as for her ability to get along with the other workers. To the surprise of Grandin's classmates and lecturers she attended the psychology department party that evening. The host commented that something seemed different about Grandin and that no one expected to see her there. Grandin did not understand in what way she was different and asked the host. The host told her that for a change she had joined her classmates and engaged with them, and usually she was disinterested and could "alienate a viper" (Grandin & Scariano, 1986/2005, p. 128).

Grandin felt that her experience at the feedlot that day had changed her, but she could not explain that to the host. Reflecting on his comments on the way back to her room, she realised how different she was to others. However, she felt more at peace with this realisation than before. Grandin continued to work part time at the feedlot, operating the cattle chute. Initially Grandin was satisfied with how the animals were being treated. The longer she worked there and the more involved she became with activities at the feedlot, the more concerned she became about the treatment of the animals and whether people were being cruel to them. Grandin could not understand how people who seemed good could beat and hurt the animals. Grandin's part time work extended to selling chute equipment for a company.

Although Grandin had attended church growing up and believed that God was a force that ordered the universe, she had not given much thought to what happens to a creature, human or animal, when they died until she worked in the feedlots (Grandin, 1995/2006). One day she drove past the Swift meatpacking plant (Grandin, 1995/2006). It was the largest slaughterhouse in the South West. Grandin pulled over to look at the building and felt as if she were circling the Vatican, looking for a way in. She thought about the cattle there being held in the chutes waiting to be slaughtered and hoped that they were "allowed to die with dignity and walk up to the ramp instead of being beaten or dragged" (Grandin & Scariano, 1986/2005, p. 129). Grandin knew that

she had to get inside the Swift meatpacking plant and face what happened within its walls. She needed to face death and “try to find the meaning of life” (Grandin & Scariano, 1986/2005, p. 130). She began to dream about the Swift meatpacking plant and so decided to ask them if she could go on a tour (Grandin, 1995/2005). Grandin was denied entrance to the plant, which made her more eager to see what happened inside its walls (Grandin, 1995/2006).

The development of the animal scientist

When Grandin did manage to enter the Swift meatpacking plant, almost two years later than she had made her request, she was surprised by her own calm and that the animals were treated more humanely there than by the cowboys in the feedlots (Grandin, 1995/2006; Grandin & Scariano, 1986/2005). As Grandin’s interest in animals was growing, at the end of her second year of graduate school she changed her major from psychology to animal science. Grandin felt that the steps in her life from riding horses, working with animals at school, her experiences on her aunt’s farm and her recent experiences at university and the feedlots had led her to the point of becoming an animal scientist. Grandin began to study engineering principles and tried to improve her squeeze machine from what she was learning from working with the cattle. While Grandin was studying she started to work part time writing journal articles (Grandin, 1995/2006). She knew that she needed to “establish her credibility in the livestock industry” (Grandin, 1995/2006, p. 112). Grandin’s first goal in this endeavour was to get an article accepted in the *Arizona Farmer Ranchman* (Grandin, 1995/2006). In her straight forward manner Grandin went up to the publisher of the magazine at a rodeo and asked him if he would be interested in an article on a discussion of the impact that the designs of various chutes had on animals (Grandin, 1995/2006). The magazine was so impressed with her article that they wanted to take a photo of her at the stockyards to accompany the piece (Grandin, 1995/2006). Grandin began to write regularly and was noticed by the Corral Industries Company (Grandin, 1995/2006). They were a company that designed equipment for feedlots and asked Grandin if she would work part time as a designer for them (Grandin, 1995/2006). She gladly obliged (Grandin, 1995/2006).

The negative influence of family and realisation of what is important

While doing her Master's degree and working part time Grandin had settled into her way of life and routine in Arizona, working with the cattle and studying. However, when as a 26 year old she went to her mother's house for Christmas in 1973 she struggled and started to have panic attacks again. She felt stressed and out of control as she was away from the cattle, feedlots, and her squeeze machine. Grandin also felt that the effort she had put into studying and publishing her findings were "minimized" (Grandin & Scariano, 1986/2005, p. 132) as no one at her mother's home had even heard of the state farm journal.

As Grandin had been feeling less anxious in Arizona she did not take her squeeze machine with to her mother's house for the holidays, but with the increased tension needed to set up an old one. Her anxiety was increased by her mother giving her letters written between her parents and psychiatrist when she was a child expressing that they worried that she would never be normal. Grandin's time at her mother's house also reinforced how important cattle, chutes, and working on ranches with like-minded people were to her (Grandin, 1995/2006). In New York she felt this void. Until this point Grandin had not realised the extent of her emotional as well as physical involvement with her work with cattle, animals in general, and her co-workers. When Grandin went back to Arizona she felt that she had become more empathetic and understanding of the animals' feelings, especially their fears. Grandin wrote in her diary that some people thought that it was not necessary to be kind to animals because they were going to be killed in any event. Grandin strongly believed that treating animals kindly and humanely was imperative even if they would be slaughtered for food (Grandin, 1995/2006; Grandin & Johnson, 2005; Montgomery, 2012). This belief was fueled by her realisation that a nervous animal would calm down if she put her hands on it and petted it while it stood in line to be slaughtered at the Swift meatpacking plant. Grandin felt that touching the animals brought her "closer to the reality of her being" (Grandin, 1995/2006, p. 85). She also noticed that she too became calm when she touched the animals.

Grandin started to try learning how to operate the cattle chutes more gently. She wanted to be efficient without hurting the animals. One of the cowboys showed her how to do this. Grandin

realised that she had to be calm and relax in order to get the cattle to feel the same way. After months of going to the Swift meatpacking plant, the man who operated the stunners asked Grandin if she had ever operated a stunner (Grandin, 1995/2006). He felt it was necessary for her to do (Grandin, 1995/2006). When Grandin first operated the stunning pen she was “unnerved” (Grandin & Scariano, 1986/2005, p. 134). She did not want to say that she had killed those animals (Grandin, 1995/2006; Grandin & Scariano, 1986/2005). Grandin felt that helping animals last moments to be calm and not painful was an act of caring. She felt that this work was raising great questions for her, as well as teaching her to care (Grandin, 1995/2006; Grandin & Scariano, 1986/2005). This inspired Grandin the following year to begin designing more humane cattle and slaughter equipment.

Religion and the designing of Stairway to Heaven

The Swift meatpacking plant was unique for Grandin because it was where her design career took off. It also enabled her to establish her religious beliefs more fully (Grandin, 1995/2006). Grandin felt that her perspective as an individual with autism as well as her “visualization abilities” (Grandin, 1995/2006, p. 4) enabled her to understand the animals she worked with and design more appropriate facilities for them. She felt that her autism that maintained her alert state, allowed her to experience the world both visually and emotionally in a similar way to animals (Grandin & Johnson, 2005; Sutton, 2006). To understand the animals’ perspectives, she would kneel in front of the chute or particular entrance where animals were going for their veterinary procedures and take photos at the animals’ eye level (Grandin, 1995/2006; Grandin & Johnson, 2005; Sutton, 2006). By doing this she could see what the animals saw, what they were comfortable with, and what was potentially scaring them. This is how she learnt that distractions such as shadows, bright areas of sun or light, or misplaced coats or hats scared the cattle (Grandin, 1995/2006; Grandin & Johnson, 2005; Sutton, 2006). She could then understand why the cattle would happily go into one chute and refuse to go into another, and why some designs were effective and others were unsuccessful (Grandin, 1995/2006; Sutton, 2006).

Grandin believed that the design of successful equipment would work with animals’ behaviour and feelings instead of against them. Grandin’s design process involved taking time to let the

image form in her mind (Grandin, 1995/2006; Grandin & Johnson, 2005; Grandin & Scariano 1986/2005). Unlike in other situations she was patient with this process, as well as focused and fulfilled. As she began to draw, the image would emerge in greater detail in her mind. This was a visual or pictorial process (Grandin, 1995/2006; Grandin & Johnson, 2005). Once the image had taken form in her mind and on the page she imagined placing people and cattle in the vision. She then imagined or visualised how the people and animals would react or behave under different conditions in the equipment or plant (Grandin, 1995/2006; Grandin & Johnson, 2005). Grandin would then rotate and manipulate the image in her mind as if she were watching a movie (Grandin, 1995/2006; Grandin & Scariano 1986/2005). The visualisation of the image not only involved the design operating smoothly but also potential pitfalls, such as a collapse of a structure (Grandin, 1995/2005; Grandin & Johnson, 2005). Grandin would watch the structure in her mind break and collapse and then re-manipulate the mental image to fix the design flaws (Grandin, 1995/2006; Grandin & Johnson, 2005). Once Grandin was satisfied with the “verdict” (Grandin & Johnson, 2005, p. 17) of her visualised design and the design on her page she would begin to put words to the image (Grandin & Johnson, 2005).

With her designs Grandin won her company the contract to re-design and construct the equipment at the Swift meatpacking plant. Grandin named the conveyor restrainer system and new cattle ramp “Stairway to Heaven” (Grandin & Scariano, 1986/2005, p. 134). Grandin and her fellow workers invested many hours in the project. She thought that the project had enabled her and her co-workers to become “better friends” (Grandin & Scariano, 1986/2005, p. 134). This project raised questions surrounding life and death. Grandin’s sense of spirituality grew during this time and she felt “close to God” (Grandin & Scariano, 1986/2005, p. 134). Grandin thought that animals were also a part of creation and therefore should also be “treated with respect” (Grandin & Scariano, 1986/2005, p. 134). She felt that working on this project had helped her to mature as well as to define her “purpose” (Grandin, 1995/2006, p. 230) in life. Grandin’s roommate, who was blind, wanted to visit the plant. She touched the cattle while they were there and felt inspired to write a prayer. In the prayer she wrote that the Stairway to Heaven allowed one to not fear death and that the respect one learnt for animals while there related to learning respect for humans as well. Grandin was very moved by her roommate’s experience.

Lessons from animals and humans

Grandin's physical contact with the animals increased. She would touch them to reassure them. She also began taming calves by restraining them in the squeeze chute and then touching them. Grandin's work with the animals taught her about her own difficulties with touch and that it was possible to learn to tolerate and even like physical contact with others. Through this lesson with the animals Grandin began to experience "more "normal" emotional ties to people" (Grandin & Scariano, 1986/2005, p. 134). She was even surprised by some of her reactions in relation to people. This occurred when a friend from the autism field, Lorna King, asked her to take seven year old Jimmy who had autism on a carnival ride. During the ride Grandin forgot about her own needs and discomfort with physicality and focused on Jimmy. She was startled when she realised that her sole concern had been that Jimmy would not be scared and she had put her arm around him and held him.

Grandin's work became a "life-long dedication" (Grandin & Scariano, 1986/2005, p. 137) to ensure the welfare and humane treatment of animals (Grandin, 1984b, 1992a, 2003, 2005; Grandin & Johnson, 2009). Her Master's research focused on the design of cattle chutes and how these designs affected animal's experiences, behaviour, and potential injuries (Grandin, 1995/2006). It was one of the first research projects in the United States to focus on the behaviour of animals. Some of Grandin's university professors thought that it was not a proper subject (Grandin, 1995/2006). However, she persevered with her passion. After completing her thesis and receiving a MS degree in 1975, Grandin began to publish many articles on animal behaviour and the handling of cattle (Grandin & Scariano, 1986/2005; "Temple Grandin Ph.D Professional Resume", 2016). Grandin also began to present papers at conferences. This was not easy for her, especially in foreign countries. At times she felt that she regressed in her speech and communication.

Grandin still struggled with social relations. She was also not always welcome at plants because she was a woman and often had bulls' testicles thrown on her car or had to walk through the blood pit (Grandin, 1995/2006; Montgomery, 2012). Grandin's difficulties with understanding what was socially acceptable at the time got her into trouble when she was working for Corral

Industries (Grandin, 1995/2006). She argued with the head of the Swift meatpacking plant about design errors with equipment at one of his plants and he was offended and felt that she should know her place (Grandin, 1995/2006). Grandin decided that she would rather start her own freelance design company while she continued to write articles instead of work in a plant where her own ethics were compromised (Grandin, 1995/2006). She felt she could work to her own high standards as well as avoid many of the social nuances that she did not understand (Grandin, 1995/2006). Grandin realised that she did not sell herself and her ideas well in person and so decided to make a portfolio of the designs that she had done until that point (Grandin, 1995/2006; Grandin & Panek, 2013; Montgomery, 2012). She was going to let her work speak for itself (Grandin, 1995/2006; Grandin & Panek, 2013). This proved to be very useful in her dealings with clients and after each successful design her portfolio grew (Grandin, 1995/2006). However, when Grandin's work was not appreciated by an unsatisfied client she wanted to quit designing equipment (Grandin, 1995/2006). Jim Uhl, a building contractor who would become one of Grandin's lifelong friends, stepped in and explained to her that absolute perfection is not possible and that it is unrealistic to think that she could satisfy everyone (Grandin, 1995/2006). Grandin's need for her friends also extended to other areas of her life (Grandin, 1995/2006). When she struggled with the emotional nature of relationships with her family she needed to discuss these interactions with friends who served as social "translators" (Grandin, 1995/2006, p. 155).

Being recognised and building a new reputation

Grandin continued to integrate her theoretical and practical knowledge, as well as understanding of animals into her mental "video library" (Grandin, 1995/2006, p. 5). She first realised the importance of her "video library" (Grandin, 1995/2006, p. 5) in 1978. There was a scabies outbreak and the only treatment at the time was getting cattle to go into a dip-vat and immerse themselves in the pesticide (Montgomery, 2012). However, this was not a simple process and the cattle either refused to go in or drowned when they flipped over in the pesticide (Grandin, 1995/2006; Montgomery, 2012). Neither the stockmen nor engineers could figure out how to handle the cattle's fears or build an improved system (Montgomery, 2012). At a livestock show a manager of the Red River Feed Yard, also referred to as John Wayne's Feed Yard, approached

Grandin and asked her to design an improved dip-vat system (Grandin, 1995/2006; Montgomery, 2012). He had read some of Grandin's articles, and despite many men in the field's overt anger at a woman joining them in their work or having opinions about cattle, he hoped Grandin may have the answer (Montgomery, 2012).

The dip-vats were like a deep narrow pool filled with pesticide that the cattle had to enter into single file down a steep slope (Grandin, 1995/2006). They were designed poorly and the animals would become anxious because they would slide down a "steep, slick, concrete decline" (Grandin, 1995/2006, p. 5). Before Grandin became involved in the animal welfare movement cattle were also shocked with electric prods, pushed and yelled at, which aggravated their distress and caused more injuries and deaths (Grandin, 1995/2006; Montgomery, 2012; Sutton, 2006). When Grandin arrived at the feedlot she approached the situation from a cow's eye view as their eyes are on the sides of their heads and they have wide angle vision (Grandin, 1995/2006; Grandin & Johnson, 2005). She realised that to the cows the slope must have seemed even steeper than it was and that the seven feet deep pool looked like a drop into the ocean (Grandin, 1995/2006).

In order to design an improved system Grandin first researched all the existing information on dip-vats (Grandin, 1995/2006; Montgomery, 2012). She also checked what was considered "state-of-the-art" (Grandin, 1995/2006, p. 6) so that she did not waste time thinking of something that had already been invented. Grandin knew from designing ramps for cattle trucks that as long as the slope had purchase the cattle would not slip and would willingly go down (Grandin, 1995/2006; Montgomery, 2012). Grandin then went through the information she had read, her practical experience with animals, and the images of vats, entrances for cattle and ramps that were in her "video library" (Grandin, 1995/2006, p. 5).

Grandin's new design was different in that she considered an entrance to the dip-vat that would not scare the animals, a slope with a gentler incline, as well as cleats for the cows' hooves, and a better filtration system for the chemicals (Grandin, 1995/2006). She also considered animal behaviour principles to help prevent the animals from becoming anxious before arriving at the dip-vat or overly excited when leaving the dip-vat (Grandin, 1995/2006). She designed the alleys

in the feedlot to be curved with solid sides so that the cattle were not frightened by strange objects or people, as well as that it embraced their natural circling behaviour (Grandin, 1995/2006; Montgomery, 2012; Sutton, 2006). She also realised that cattle became excited when exiting the dip-vat because they could see their dry friends on the other side of the fence and wanted to get to them (Grandin, 1995/2006). A solid fence that the cattle could not see each other through had to be built (Grandin, 1995/2006). The cowboys did not believe that Grandin's new design would work and were surprised when the cattle easily entered the dip-vat (Grandin, 1995/2006). Grandin's designs for the feedlot were "revolutionary" (Montgomery, 2012, p. 94). Articles featuring her and her designs were published locally and nationally (Montgomery, 2012). Word of Grandin's designs and unique understanding of animal behaviour spread internationally and ranchmen from various parts of the world contacted her for consultations (Montgomery, 2012). Grandin began to have a reputation of having a "magical connection to animals" (Grandin & Johnson, 2005, p. 24).

Grandin's design career was just beginning to take off and she was determined to increase animal welfare in kosher slaughter plants as well (Grandin, 1995/2006; Montgomery, 2012). She wanted to eradicate the abusive means of "shackling and hoisting as a restraint method" (Grandin, 1995/2006, p. 178). Grandin felt that kosher slaughter did not have to be abusive and that it was not supposed to cause unnecessary pain to the animal according to rules set out in the Talmud (Grandin, 1995/2006; Montgomery, 2012). When Grandin visited the Spencer Foods Plant, which has since closed down, she was horrified (Grandin, 1995/2006; Montgomery, 2012). The cattle were chased by men with electric prods, wearing football helmets for their own safety, onto a slippery surface where they would fall (Grandin, 1995/2006; Montgomery, 2012). With the animal writhing on the floor, a heavy metal chain was attached to one of its hind legs and hoisted to hang upside down (Grandin, 1995/2006; Montgomery, 2012). A nose tong was also attached to the nose (Grandin, 1995/2006). The animals' legs often broke from either the fall or the hoisting, but they nevertheless had to hang with their full body weight from the broken limb (Grandin, 1995/2006; Montgomery, 2012). The cattle were terrified and in pain and constantly moo-ed and cried (Grandin, 1995/2006; Montgomery, 2012). This was all done in order for the rabbi to be able to slit their throats (Grandin, 1995/2006; Montgomery, 2012). Therabbis told Grandin that they hated the process as the animals were suffering (Montgomery,

2012). That evening Grandin wrote in her diary “If hell exists, I am in it” (Grandin, 1995/2006, p. 178). She vowed that she would “replace the plant from hell with a kinder and gentler system” (Grandin, 1995/2006, p. 178). Grandin began working on a new design for the plant that did not involve shackles or hoists (Montgomery, 2012). She designed a stall that could hold the animals still and a special yoke to hold their heads as well as hydraulic controls for the workmen to be able to position the cattle correctly for the rabbis (Montgomery, 2012). As Grandin was desperate for the plant to incorporate a more humane system she handed her designs over to them for free (Montgomery, 2012). The manager was not interested in changing anything at the plant and so Grandin’s designs lay in his office for the next few years (Montgomery, 2012).

Despite Grandin’s success in her work, her anxieties increased (Grandin, 1995/2006). Along with her anxiety, her physical symptoms increased as well (Grandin, 1995/2006). Each doctor Grandin consulted told her that there was nothing physically wrong with her (Grandin, 1995/2006). At the age of 34 Grandin was successful and was elected to be the first woman board member of the American Society of Agricultural Consultants (Grandin, 1995/2006). When Grandin’s anxiety grew to the extent that she could no longer function, someone suggested to her that she take a time out in each day (Grandin, 1995/2006). Initially this brought Grandin some relief as she took time for herself and watched *Star Trek* for an hour each afternoon (Grandin, 1995/2006). However, when it was discovered that she had skin cancer and needed an operation to her eyelid Grandin’s anxiety increased further and she experienced “explosive attacks” (Grandin, 1995/2006, p. 125). This was the point when she overcame her reluctance to psychiatric medication (Grandin, 1995/2006). Grandin felt that the medication slowed her fixations down, but that in order to function it was necessary at that stage of her life (Grandin, 1995/2006).

Despite Grandin feeling somewhat slowed down she continued with the PhD she registered for that year at the University of Illinois (Grandin & Johnson, 2009). Bill Greenough had become famous in the world of science and animal welfare with the experiments he did in the 1960’s and 1970’s raising baby rats in enriched environments (Grandin & Johnson, 2009). With Grandin’s increased focus on animal welfare (Grandin, 1980a, 1980b, 1980c, 1981) and having been inspired by Greenough’s research, she approached him in 1981 to be her PhD supervisor

(Grandin & Johnson, 2009). Grandin was worried about the welfare of pigs and the environments they were forced to live in on many commercial farms (Grandin & Johnson, 2009). Toward the end of the sixth stage, as a young adult, Grandin initiated her doctoral research. This research involved raising piglets in various environments and studying the influence the environments had on their brain development as well as behavioural patterns (Grandin, 1982; Grandin & Johnson, 2009).

4.8.2 Discussion

The primary importance of this stage is being able to form an intimate relationship with another and build a life with this person that will see the individual through into the following stages (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Grandin may be viewed as never having resolved the primary crisis of this stage as she has never formed an intimate romantic relationship with another individual. However, Grandin did manage to form some close friendships, became committed to other humans and animals, as well as her chosen career, which are also essential developmental negotiations of this stage (Greene et al., 2010; Hamachek, 1990; Studer, 2007). Along with these developmental negotiations of young adulthood Grandin consolidated and committed to her established ethics (Erikson, 1950/1973, 1964a, 1977). Grandin's extended identity development as well as focus on her career as opposed to a romantic relationship are developmental characteristics that Erikson (1950/1973, 1956, 1958b, 1964a, 1968a, 1969, 1976, 1977) recognised in extraordinary individuals. Grandin's protracted identity crisis resulted from the difficulties she faced growing up as an individual with autism and her need to still establish ego coherence (Erikson, 1956, 1958b, 1968a, 1977). Her prolonged identity crisis that particularly involved her need to understand her own difficulties with physicality led to an inclusion of animals' 'crises' with humane treatment and non-fearful physicality and death (Erikson, 1950/1973, 1958, 1963a; Feist & Feist, 2013; Rimland, 1986/2005). Including an element of society's crises into her own identity development caused Grandin to have a premature generativity crisis (1950/1973, 1956, 1958b, 1968a, 1968b, 1977). The syntonics elements of this stage that Grandin did manage to integrate into her ego, as well as her protracted identity crisis, and premature generativity crisis will be discussed further in this section.

Adult mutuality of recognition

The developmental negotiations of this stage that Grandin did manage such as developing friendships, a sense of ethics, and commitment to her career, did not occur in isolation (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). They were intertwined with her ego's need to form a more established and coherent sense of herself, as well as with her premature generativity crisis (Erikson, 1950/1973, 1958b, 1963a, 1968a; Miller, 2010; Sollod et al., 2009). Forming meaningful relationships was still difficult for Grandin. However, her increased self-reflection, dedication to acquiring socially acceptable behaviours, and awareness of her interests and abilities enabled her to learn how to form lasting friendships (Erikson, 1950/1973; Grandin, 1995/2006; Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Luyckx et al., 2013; Miller, 2010; Rimland 1986/2005; Sollod et al., 2009). Realising that she was more socially competent and at ease with people with whom she shared interests increased Grandin's relations and led to her forming lifelong friendships with Jim Uhl and Lorna King (Grandin, 1995/2006; Grandin & Scariano, 1985/2005; Luyckx et al., 2013). Grandin's friends aided her psychosocial development by encouraging her relations with others in the fields of autism, animal science, and design, as well as by offering her support and guidance when she felt out of her depth in interpersonal relations at work and with her family (Erikson, 1950/1973; Grandin, 1995/2006; Miller, 2010; Sollod et al., 2009). By forming close friendships Grandin extended her mutuality of recognition relationships into adulthood and prevented herself from becoming isolated (Erikson, 1950/1973, 1968a, 1977).

I am not only responsible for myself

Grandin's career provided her with a sense of purpose and direction (Erikson, 1950/1973; Greene et al., 2010; Hamachek, 1990; Studer, 2007). As Grandin's ethical development and empathy for animals were primary factors that influenced the direction of her career these will be elaborated on later in this section. Grandin's studies and career were integral to her development of her sense of who she was in the world (Erikson, 1950/1973, 1968a; Feist & Feist, 2013). Being at university, working at the feedlots, and selling chute equipment increased Grandin's interactions with other people and animals and also enabled her to avert a sense of isolation

(Erikson, 1950/1973). Grandin demonstrated the integration of her syntonic elements of being committed to her career by completing her BA and MS degrees and their associated research, as well as by registering for a PhD (Erikson, 1950/1973; Grandin & Johnson, 2009; Grandin & Scariano, 1986/2005; Hoare, 2013; “Temple Grandin Ph.D Professional Resume”, 2016).

Grandin’s career was not only a means of generating an income but became a life purpose and “a cause” (Erikson, 1958b, p. 12) which strengthened her ego synthesis. In accordance with Erikson’s (1964a, 1968a, 1969, 1977) theory on extraordinary individuals Grandin felt a great sense of responsibility, not only for herself, but also for a part of humanity. This responsibility involved her need to understand and alleviate her fears surrounding physicality as result of her autism, as well as those of animals that were going for veterinary procedures or to be slaughtered, and over time extended to animal welfare more generally (Erikson, 1964a, 1968a, 1969, 1977). This was important as Grandin’s seemingly strange fixation and personal crisis had begun to intersect with a latent crisis in society (Erikson, 1950/1973). As a result of her feelings of responsibility Grandin’s dedication to her career extended to gaining further understanding of animals and practical experience by working in the feedlots, spending time touching animals, and selling chute equipment (Erikson, 1964a, 1968a, 1969, 1977; Grandin, 1995/2006; Grandin & Scariano, 1986/2005). This led to Grandin being able to generate knowledge and contribute to her field by writing journal articles, as well as designing more suitable cattle handling equipment and facilities (Dunkel et al., 2010; Erikson, 1950/1973, 1968a, 1977; Van De Water & McAdams, 1989). Grandin’s contribution to her field and the handling of cattle may be viewed as aspects of a premature generativity crisis (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009).

Self-doubt and a protracted identity crisis

Grandin’s advancement in her studies and career, and support from her friends facilitated her integration of some of the syntonic elements from the crisis of this stage as well as further resolution of her identity crisis (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). However, Grandin initially struggled to find peace with her differences as an individual with autism, as well as using her squeeze machine and how it related to the career path she had

chosen. Grandin's protracted identity crisis may have occurred as a result of her weaker ego's struggle to assimilate the various parts of herself, as well as from the inner conflict she experienced from the disparaging views of some of her peers and university faculty, as well as her family (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Despite some staff and students attributing sexual connotations to her squeeze machine, being called hurtful names by fellow students, and various faculty members thinking that animal behaviour was not a proper subject, Grandin remained resolute in her task (Grandin, 1995/2006; Grandin & Scariano, 1986/2005). These experiences did result in conflict for her ego identity as at times they caused her to feel guilty and inferior, distrust others, and question her career (Erikson, 1950/1973, 1963a, 1968a; Feist & Feist, 2013, Sollod et al., 2009). However, the views of Grandin's family and her mother in particular had a greater negative influence on her ability to resolve her identity crisis (Erikson, 1950/1973, 1963a, 1968a; Miller, 2010; Sollod et al., 2009). This was observed by Grandin's continued worry surrounding what her mother thought about her squeeze machine and studies, as well as the events that occurred on the two occasions that Grandin went to stay with her mother and Ben in New York for the holidays.

Despite Grandin having graduated second in her class and with highest honours for her BA, she was unable to integrate her achievement into her ego identity (Erikson, 1968a; Feist & Feist, 2013; Grandin & Scariano, 1986/2005; Montgomery, 2012). The lack of support and acknowledgement of her achievement from her mother and father, as well as her mother's disdain with Grandin's squeeze machine and research caused her to feel anxious, inferior, and doubt her self-worth when she was about to enter graduate school (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). While Grandin had not fully resolved these dystonic elements in Arizona, she had found more peace there (Erikson, 1950/1973; Hoare, 2013). Nevertheless, when she was 26 years old and went home to her mother's house for the second time, her anxieties and feelings of self-doubt were reignited (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Grandin's anxiety and low self-esteem were also aggravated by her mother showing her letters that her parents had written expressing their fears that she would never be normal (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009).

In order to form a more stable identity Grandin needed to separate her sense of who she was on a continuum to that of the negative perception that her mother continued to hold of her, her chosen research, and means of relieving anxiety (Côté & Levine, 1987; Erikson, 1968a; Feist & Feist, 2013). According to Erikson (1950/1973, 1964a) personality and ego transformation can only occur through conflict. This transformation may be painful as it requires individuals to consciously face the reality of their internal as well as environmental positions in order to come to a new understanding of themselves and their situations (Erikson, 1950/1973, 1964a). By this stage Grandin had enough ego coherence to be able to reflect on her feelings, as well as her experiences at her mother's house in relation to the life she was building for herself (Erikson, 1950/1973, 1964a, 1968a; Syed & Seiffge-Krenke, 2013). She was able to realise that there was worth to her research, work with cattle, and the journal articles that she had published, despite these areas of her life being belittled by her family. Importantly for Grandin's ego identity this experience made her aware of how important animals and working with like-minded people were to her and the extent to which they aided her emotional and physical equilibrium (Erikson, 1956, 1968a; Feist & Feist, 2013; Grandin, 1995/2006; Grandin & Scariano, 1986/2005). Grandin's capacity to believe in her own worth and the worth of her ideas and endeavours was possibly developed through the support and encouragement of her mentors (Erikson, 1956, 1958b, 1964a, 1968a). The support of Ann and Mr Carlock helped guide her giftedness, nurture her syntonistic characteristics, as well as assist the resolution of her identity crisis and her contributing constructively to society (Erikson, 1956, 1958b, 1964a, 1968a; Hoare, 2013).

Animals are also deserving of ethical treatment

Grandin's unfortunate family experiences and becoming more fully aware of her commitment to and empathy with animals influenced the development of her ethics (Erikson, 1950/1973, 1964a, 1977). Individuals deny status as well as reciprocity of ethics to those they consider to be the 'other' or 'outsiders' (Erikson, 1963b, 1964a, 1966b, 1985). Animals may be viewed as creatures that are treated as being the 'other', both in scientific research and in society (Erikson, 1964a). Early during this stage Grandin began to question her work with animals and how she could perform scientific experiments on them. As a young child she had established a mutuality of recognition relationship with her mouse, Crusader (Erikson, 1968a, 1977). Grandin did not view

animals as outsiders nor did she treat them with disrespect (Erikson, 1963b, 1964a, 1966b, 1985). As an adolescent and young adult Grandin's relationships with animals became increasingly complex, reciprocal, and integrated into her ego identity (Erikson, 1963b, 1964a, 1966b, 1985; Feist & Feist, 2013). Through her desire to understand the difficulties she as well as other individuals with autism experience with touch she turned to animals and their responses to cattle chutes (Grandin, 1995/2006; Rimland, 1986/2005). Grandin further integrated her interest and sense of responsibility toward animals when she changed her post graduate major from psychology to animal science (Erikson, 1964a). This enabled her to develop her reciprocity of ethics in relation to animals as her research for her MS degree focused on how the designs of cattle chutes affected animals' experiences, behaviour, and potential injuries (Erikson, 1963b, 1964a, 1966b, 1977; Grandin, 1995/2006).

Touch does not have to hurt or cause anxiety

Through her increased interactions with animals Grandin learnt that by nurturing nature and being nurtured by nature she could experience feelings of peace, love, and trust with physicality (Erikson, 1963b, 1964a, 1969; Grandin & Johnson, 2005). As Grandin's body ego was more at ease with animals she was more responsive to learning mutual touch and affection from them (Erikson, 1968a; Feist & Feist, 2013). This was demonstrated by Grandin learning that she needed to hold her cat gently in order for him to enjoy the physical interaction and her being able to extend this lesson to her interactions with people (Erikson, 1968a; Feist & Feist, 2013; Grandin, 1995/2006). Grandin practically transferred her ability to commit to and empathise with animals to her volunteer work with autistic children (Erikson, 1950/1973; Greene et al., 2010; Hamachek, 1990; Studer, 2007). Grandin's empathy as well as generativity and care were observed when she mentored Jake who was fascinated with mechanical objects but would withdraw as Grandin had done when she was young (Erikson, 1950/1973, Miller, 2010; Sollod et al., 2009). Her empathy and ability to extend caring touch were demonstrated when she put her arm around Jimmy on the carnival ride so that he would not be scared (Erikson, 1950/1973, Miller, 2010; Sollod et al., 2009). Grandin's increased empathy for animals and through her interactions with them realising that both she and animals felt calm when she touched them caused her to question how animals were treated generally, and more specifically those that were

going to be slaughtered (Erikson, 1950/1973, 1964a, 1977; Grandin & Johnson, 2005; Montgomery, 2012). Just as Grandin wanted to be treated with empathy and for her anxieties to be lessened, she wished the same for animals (Erikson, 1963b, 1964a, 1964b).

The question of death and a life thereafter

Grandin's reciprocity of ethics towards animals also occurred in relation to the increased development of her ego ideal and spirituality (Erikson, 1964a, 1968a; Feist & Feist, 2013). Despite Grandin believing in God and having a sense of spirituality, she had not thought about what happened to a human or animal when they died until she worked in the feedlots (Grandin, 1995/2006). This became a growing concern for Grandin during this stage and her focus on the moment that an animal dies increased (Erikson, 1964a, 1968a; Feist & Feist, 2013). In order to more fully resolve her ethical stance toward animals and the role she would play in their lives Grandin questioned (a) generally how people could hurt animals, (b) how to integrate that she herself operated the stunners at the feedlot in order to understand the cattle's last moments, as well as (c) how she thought animals should be treated even if they were destined to be slaughtered (Erikson, 1950/1973, 1963b, 1964a, 1977; Grandin, 1995/2006; Grandin & Johnson, 2005; Montgomery, 2012). As Grandin empathised with animals and believed that they were also part of creation, she thought animals should also be "treated with respect" (Grandin & Scariano, 1986/2005, p. 134). While Grandin's sense of will and initiative had often been used for destructive activities when she was a child, these aspects of herself were resolved during this stage as they became more aligned with Grandin's ego ideal and ethics (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009).

Inner conflict as a driving force to help others

Erikson held the view that "any greatness also harbours massive conflict" (1958b, p. 238). Grandin's conflict not only encompassed her own difficulties with ego weakness or autism, distrust with physicality, and general anxiety, but also included the influence of animals' treatment on their emotional and physical wellbeing and their fears when facing death (Erikson, 1958b). As with other extraordinary individuals, Grandin's identity became greater than just

herself (Erikson, 1950/1973, 1956, 1958b, 1968a, 1969, 1977). Her identity extended to encompass a problem in society, specifically the humane treatment of animals who were going to be slaughtered, which she took on within herself (Erikson, 1950/1973, 1956, 1958b, 1968a, 1969, 1977). In accordance with Erikson's theory on extraordinary individuals she offered the solution to her personal conflicts to a part of her community (Erikson, 1950/1973, 1968a, 1969, 1977). This community included both the animals and the people working in the cattle industry. By doing so she began to bridge some vacuum in society at her particular time in history (1958b, 1969). This led to her premature generativity crisis and intense focus on animal welfare (Erikson, 1950/1973, 1956, 1958b, 1968a, 1968b, 1977). Grandin combined her more fully formed senses of will and initiative with her ethical stance and creativity to fulfill her sense of responsibility toward animals (Erikson, 1950/1973, 1963b, 1964a, 1977; Miller, 2010; Sollod et al., 2009).

Grandin's empathy for and reciprocity of ethics in relation to animals fuelled her determination, maintained her motivation, and informed the choices she made in her career (Erikson, 1963b, 1964a, 1966b; McAdams, 2009; Miller, 2010; Sollod et al., 2009). Her strong sense of initiative, her unusual way of relating to animals, and her creativity, enabled her to generate change for the animals she cared about (Erikson, 1950/1973, 1963a, 1977; Evans, 1981; Irvine, 2013; Van De Water & McAdams, 1989). Grandin's initiative as well as goal directed behaviour were displayed when she wanted to write an article for the *Arizona Farmer Ranchman*, eradicate the abusive means of slaughter in the kosher Spencer Foods Plant, and in her desire to get inside the Swift meatpacking plant (Erikson, 1950/1973; Grandin, 1995/2006; Greene et al., 2010; Montgomery, 2012; Studer, 2007; Thimm, 2010). Although Grandin's efforts were initially unsuccessful at the Spencer Foods Plant, she still displayed initiative as well as a sense of ethics when she handed her more humane designs for kosher slaughter to the plant manager for free (Erikson, 1963b, 1964a, 1966b; McAdams, 2009; Miller, 2010; Montgomery, 2012; Sollod et al., 2009). The proposal Grandin offered the publisher of the *Arizona Farmer Ranchman* was more successful (Grandin, 1995/2006). Grandin's initiative alone did not make this endeavour a success. She saw the world of cattle as it was, as well as how she hoped or envisioned it to be (Erikson, 1977). Her ability to understand animal behaviour, empathise with animals, and combine these factors with her developed imagination enabled her article on the impact that the designs of various chutes had on animals to be recognised as being valuable and worth further

discussion (Erikson, 1963b, 1977; Grandin, 1995/2006). This led to Grandin's creativity and knowledge in relation to animal handling being noticed by Corral Industries and her being asked to work as a part time designer for them (Erikson, 1977; Grandin, 1995/2006).

According to Erikson (1950/1973, 1956, 1968a, 1968b, 1969, 1977) for individuals to become extraordinary they mostly possess a certain unusual perception of the world and themselves as a result of personal struggles. This aligns with (a) Grandin's view that her autism that maintained her alert state, allowed her to experience the world both visually and emotionally in a similar way to animals (Grandin & Johnson, 2005; Sutton, 2006), (b) Grandin's curiosity which facilitated the unusual use of a cattle chute as a resource of calm for her body ego and the empathy with animals that resulted (Erikson, 1968a; Feist & Feist, 2013), as well as (c) her belief that animals should receive a humane slaughter and that she had a responsibility toward them in this regard. This unusual perception of the world and themselves may lead extraordinary individuals to have a compulsive drive to find their own cure for unbearable emotions and inner fragility or incoherence (Erikson, 1950/1973, 1956, 1968a, 1968b, 1969, 1977). Grandin's drive was focused on gaining as much experience with animals and facilitating their calm and welfare in both life and death, as they facilitated her calm and ego coherence (Erikson, 1950/1973, 1956, 1968a, 1968b, 1969, 1977). Grandin's two year attempt to enter the Swift meatpacking plant not only displayed her initiative and curiosity, but also her strong sense of will and drive (Erikson, 1950/1973, 1977; Miller, 2010; Sollod et al., 2009). This provided Grandin with an opportunity to gain more experience working with cattle and to demonstrate her ability as a designer for a recognised meatpacking plant when she constructed "Stairway to Heaven" (Grandin & Scariano, 1986/2005, p. 134).

Grandin's intuition and imagination, which Erikson considered "serious playfulness" (Erikson, 1977, p. 64) in extraordinary individuals, enabled her to practically use her creativity and craft in a 'playground' which extended her generativity to the cattle industry or community (Erikson, 1977). Designing the conveyor restrainer system and new cattle ramp for the Swift meatpacking plant not only furthered Grandin's career, but by nurturing nature she also enhanced her sense of spirituality (Erikson, 1964a, 1968a; Feist & Feist, 2013). Importantly this project made it possible for Grandin to begin to fulfill her dream and vision of designing more humane cattle

handling facilities (Erikson, 1977). The success of Grandin's creative process was facilitated by (a) her considering animal behaviour principles and literally placing herself in the positions animals would occupy in the handling facility, (b) her more visual way of thinking, as well as (c) her fascination with possible scenarios and ability to 'play' with and re-design ideas in her mind (Erikson, 1977; Grandin, 1995/2006; Grandin & Johnson, 2005; Sutton, 2006).

Never mind being autistic, you are a woman

Despite Grandin's success she still experienced difficulties in her industry. These difficulties were not always related to her autism. During the late 1960's and 1970's Grandin was pushing what were considered 'normal' social boundaries by being a woman working in the cattle industry (Erikson, 1950/1973; Grandin, 1995/2006; Montgomery, 2012). Despite experiences of not being accepted at plants, having to walk through the blood pit, and having bulls' testicles thrown on her car because she was a woman, Grandin did not share many men's beliefs that being a female made her less capable or should deter her from her "cause" (Erikson, 1958b, p. 12). At times in Grandin's career her gender was not her only offensive quality. Her initiative and sense of ethics were not always appreciated by others. This was observed when Grandin argued with the head of the Swift meatpacking plant about design errors with equipment at one of his plants and he was offended and angry with her (Erikson, 1950/1973, 1964a, 1977; Grandin, 1995/2006; Miller, 2010; Sollod et al., 2009). Grandin's difficulties with social relations and nuances as a result of her autism may have contributed to the way she handled the problems she noticed at the Swift plant and the manner in which she addressed the boss (Erikson, 1956, 1968a). The boss may also not have appreciated Grandin giving him her opinion because she was a woman (Erikson, 1950/1973). However, this incident along with Grandin resigning and starting her own freelance design company also revealed her strong sense of ethics that outweighed social conventions, as well as her commitment to the betterment of how animals were treated and the equipment that was used on them (Erikson, 1950/1973, 1963a, 1964a, 1977).

The historical significance of crises intersecting

According to Erikson (1950/1973) there is certain psycho-historical logic to the moment when an extraordinary individual's work or theory is accepted by a faction or the majority of society. As previously mentioned Grandin's personal crisis had begun to intersect with a latent animal welfare crisis in society and this was manifest in her career (Erikson, 1950/1973). However, when this occurred in association with the related societal crisis that was the scabies outbreak in the USA in 1978, Grandin's work and crisis rose to "representative position" (Erikson, 1950/1973, p. 327). The societal need and Grandin's capabilities as an animal scientist and designer intersected when a manager of the Red River Feed Yard, who knew Grandin was a woman and that men in their field were angered by her presence, nevertheless asked the 31 year old if she could design an improved dip-vat system for his yard (Erikson, 1950/1973; Grandin, 1995/2006; Montgomery, 2012). The combination of Grandin's empathy for and knowledge about animals with her creativity resulted in her improved dip-vat system designs being "revolutionary" (Montgomery, 2012, p. 94). As the need for Grandin's designs extended beyond the Red River Feed Yard to the rest of society, her solution as well as reputation of having "magical connection to animals" (Grandin & Johnson, 2005, p. 24) spread nationally, as well as internationally (Erikson, 1950/1973, 1977).

Grandin's proficiency in her career was not only recognised in the form of ranchmen from all over the world contacting her for consultations, but also in her election as the first woman board member of the American Society of Agricultural Consultants (Erikson, 1977; Grandin, 1995/2006; Grandin & Johnson, 2005; Montgomery, 2012). Grandin's work with animals was for the most therapeutic and had a curative effect which 'held' her, her ego synthesis, and ability to work together (Erikson, 1958b). However, as Erikson recognised in other extraordinary individuals, Grandin was also obsessive and demanding of herself (Erikson, 1950/1973, 1956, 1958b, 1964a, 1968a, 1969, 1976, 1977). While these characteristics were in some ways beneficial for her career and dedication to her cause, when Grandin's fixation became too consuming she suffered both emotionally and physically. Grandin's increased social relations and trust with physicality enabled her to turn to a friend as well as doctors for help (Erikson, 1968a, Feist & Feist, 2013; Miller, 2010; Sollod et al, 2009). Taking her friend's advice and

relaxing each day by watching *Star Trek* initially provided Grandin's ego with some relief and balance (Erikson, 1968a; Grandin, 1995/2006). However, being diagnosed with skin cancer reignited and fuelled Grandin's anxiety. This experience may have been aggravated by Grandin's body ego's long fearful struggle through childhood and into adulthood with physicality and integrating her experiences of and with her body in time and space (Erikson, 1968a; Feist & Feist, 2013). Allowing doctors to exam her, operate on her, and being willing to try psychiatric medication required Grandin to trust other individuals with her body (Erikson, 1968a; Feist & Feist, 2013). This was beneficial for both Grandin's body ego and her general ego synthesis (Erikson, 1956, 1964a, 1968a; Feist & Feist, 2013).

As previously mentioned, Grandin did not resolve the primary crisis of this stage of forming an intimate romantic relationship with another individual (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). However, she did begin to form intimate friendships, was committed to other humans and animals, as well as her chosen career, and established a resolute sense of ethics (Erikson, 1950/1973, 1964a, 1977; Greene et al., 2010; Hamachek, 1990; Studer, 2007). Despite Grandin's success and the care she had already shown animals, she had not concluded her "cause" (Erikson, 1958b, p. 12). Toward the end of this stage Grandin once again demonstrated her initiative and dedication, both to animals and her career, by approaching Bill Greenough to be her PhD supervisor (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Grandin's premature generativity crisis, commitment to her sense of responsibility toward animals' welfare, and treating animals with reciprocity of ethics were evident in her PhD research which focused on the welfare and development of pigs (Erikson, 1963b, 1964a, 1966b; Grandin, 1982; Grandin & Johnson, 2009; Miller, 2010; Sollod et al., 2009). Grandin would carry these characteristics as well as the syntonetic elements that she developed during this period into the following stage.

4.8.3 Stage 6 salient points

- a. Grandin did not resolve the primary crisis of this stage as she did not form a romantic relationship with another individual. However, she resolved other developmental negotiations of this stage such as forming close friendships, being committed to other humans and animals, her chosen career, and sense of ethics.

- b. Grandin's prolonged identity crisis that involved her need to understand her own difficulties with physicality led to an inclusion of animals' crises with humane treatment and non-fearful physicality and death.
- c. Including an element of a societal crisis into her own identity development caused Grandin to have a premature generativity crisis.
- d. Increased self-reflection, dedication to acquiring socially acceptable behaviours, and awareness of her interests and abilities enabled Grandin to learn how to form lasting friendships and avoid isolation.
- e. Grandin's studies and career were integral to the development of her sense of who she was in the world. Her career was not only a means of generating an income but became a life purpose and "cause" which strengthened her ego synthesis.
- f. Grandin's capacity to believe in her own worth and the worth of her ideas and endeavours was possibly developed through the support and encouragement of her mentors who helped to guide her giftedness, nurture her syntonetic characteristics, and assisted the resolution of her identity crisis.
- g. Through her increased interactions with animals Grandin learnt that by nurturing nature and being nurtured by nature she could experience feelings of peace, love, and trust with physicality.
- h. Grandin integrated and practically transferred her ability to commit to and empathise with animals to her volunteer work with children with autism.
- i. Grandin saw the world of cattle as it was, as well as how she hoped or envisioned it to be. Her ability to understand animal behaviour, empathise with animals, and combine these factors with her developed imagination enabled her articles and designs to be recognised as being valuable and worth further discussion.
- j. Grandin's personal crises had begun to intersect with a latent animal welfare crisis in society and this was manifest in her career. When this occurred in association with the related societal crisis that was the scabies outbreak in the USA in 1978, her work and crisis rose to "representative position".
- k. Grandin's creative endeavours and work with animals increased her participation in society as well as developmental healing and ego synthesis.

4.9 Stage 7: Generativity versus stagnation (36-60 years).

4.9.1 Findings

During stage seven Grandin became recognised as an internationally renowned livestock handling equipment designer (Grandin, 1984a, 1995/2006; Grandin & Scariano, 1986/2005; Klaaste, 2014; Montgomery, 2012). In 1984 at the age of 36 she received her first award for Meritorious Service from the Livestock Conservation Institute (now known as the National Institute of Animal Agriculture) (“Temple Grandin Ph.D Professional Resume”, 2016). She continued her PhD research and published articles on animal behaviour and physiology, and the design of cattle handling facilities (Grandin, 1984a, 1997, 2000, 2001; Grandin & Johnson, 2009). Grandin still had difficulties relating to people (Grandin & Scariano, 1986/2005). However, these difficulties became progressively less (Grandin & Scariano, 1986/2005). She had learnt that it was easier and more comfortable to interact with people who had similar interests to herself (Grandin & Scariano, 1986/2005; Sutton, 2006). Through interacting with people who had similar interests to her, Grandin learnt how to make friends and establish meaningful relationships (Grandin & Scariano, 1986/2005; Sacks, 1995). Grandin’s career became her life and preferred way of socialising (Grandin & Scariano, 1986/2005; Grandin, 1995/2006).

Grandin’s own experiences with autism and the influence animals had on her development encouraged her to focus more on understanding autism (Grandin, 1984a, 1995/2006; Grandin & Panek, 2013; Grandin & Scariano, 1986/2005). She began to write articles on autism as well as became an active speaker at autism conferences and seminars (Grandin, 1984a, 1992b; Grandin & Panek, 2013; Grandin & Scariano, 1986/2005; Sacks, 1995). By integrating her own experiences with research, Grandin suggested ways forward for autism research and therapy (Grandin, 1984a, 1992b; Grandin & Panek, 2013). Grandin did not want parents to give up on their children and wanted to dispel the belief that there was no hope for people with autism (Grandin & Panek, 2013; Grandin & Scariano, 1986/2005). When Grandin was 38 years old she wrote her first autobiography to give parents, as well as doctors and therapists insight into the autistic mind, her personal story, as well as hope (Grandin & Scariano, 1986/2005). This was the first inside narrative written by an individual with autism (Sacks, 1995, 1995/2006).

Other people's perspectives

Initially public speaking was difficult for Grandin (Grandin & Johnson, 2005). In her twenties she was criticised for the way she spoke and for repeating things (Grandin & Johnson, 2005). She had to learn new phrases and sentences and would swop her slides around to get herself to think and speak in a different order (Grandin & Johnson, 2005). When Grandin was in her late thirties a friend working in the field of autism commented on how much more at ease she was at speaking than she had been in her mid-twenties (Grandin & Scariano, 1986/2005). The friend noted that before Grandin's speech was pressured and came in "explosive bursts" (Grandin & Scariano, 1986/2005, p.147). In contrast she had become more calm, self-assured, less fixated on particular points and even humourous, which helped her audiences to focus (Grandin & Scariano, 1986/2005). Grandin's development in her late thirties was also noticed by Bernard Rimland and William Carlock. When Rimland spoke with Grandin at this stage he was surprised by her development and that she sounded less autistic (Rimland, 1986/2005). Grandin's mentor Carlock recognised that although Grandin was still intense, direct and dressed more boyishly than most women, she had become her own person not by trying to change herself but by working with the qualities she had (Carlock, 1986/2005). According to Carlock (1986/2005), Grandin had usefully focused her autistic qualities into her work and research for her PhD in Animal Science.

Completion of PhD and the move to Colorado

Throughout Grandin's adult life she had wanted her "thoughts and ideas" (Grandin, 1995/2006, p. 232) to outlive her (Sacks, 1995). While doing research for her PhD, a colleague who was working in the same laboratory as Grandin told her that all the libraries in the world contain people's "extra soma, or out-of-body genes" (Grandin, 1995/2006, p. 232). This idea along with a newspaper article that stated that "the only place on earth where immortality is provided is in libraries" (Grandin, 1995/2006, p. 232) motivated Grandin through her doctoral studies and afterwards in her career (Grandin, 1995/2006). Grandin's idea of immortality did not only include thoughts and ideas but extended to actions and the affects they have on others (Grandin, 1995/2006). Grandin had the quote from the newspaper made into a sign and placed it on her

desk so that she could look at it while working on her thesis (Grandin, 1995/2006). Grandin was awarded a PhD in Animal Science from the University of Illinois in 1989 when she was 42 years old (Grandin, 1995/2006). Bernard Rollin recommended Grandin for a lecturing position in the animal science department at the Colorado State University (Grandin & Johnson, 2005). In 1990 Grandin moved to Fort Collins, Colorado, where she took up this position (Grandin & Johnson, 2009).

Grandin began teaching a class on livestock-handling-facility design, while she continued with her private design and consultation business (Grandin & Johnson, 2009). During her first year in Colorado Grandin designed a conveyORIZED handling system for cattle called a *center track restrainer* (Grandin & Johnson, 2009). This system was more humane to animals than the previous ways they had been moved, prodded, dragged, or beaten around slaughter plants (Grandin & Johnson, 2009). Grandin also began to train plant workers and managers on humane handling of animals (Grandin & Johnson, 2009). Grandin's system and designs, as well as her methods on humane animal handling have been employed in many countries around the world, including South Africa (Grandin & Johnson, 2009; Klaaste, 2014). Throughout Grandin's career she has been determined to improve the system for animals (Grandin, 2014; Grandin & Johnson, 2005, 2009). In her determination to get her work and systems known and used by others, each time she designed new equipment she wrote an article about it and put her designs on her website for free use (Grandin & Johnson, 2009). Grandin found that she got more consulting jobs this way and was hired to make custom designs for the specific needs of animals (Grandin & Johnson, 2009). When Grandin designed the center track conveyor system she purposefully published her designs in a meat magazine (Grandin & Johnson, 2009). As her designs were then in the public domain, she ensured that there were no patent rights to them so that big companies could not buy out the designs and prevent smaller companies from using them (Grandin & Johnson, 2009).

Renewal of faith

During this stage Grandin reaffirmed her religious beliefs (Grandin, 1995/2006). Grandin's belief in science and God were renewed through a combination of quantum mechanics and her

work with animals (Grandin, 1995/2006). Quantum mechanics provided Grandin with a “plausible scientific basis for belief in a soul and the supernatural” (Grandin, 1995/2006, p. 233). Grandin also believed that if human beings have souls then animals do as well (Grandin, 1995/2006). When understanding relationships, human behaviour, and any concept that is abstract, Grandin had always needed symbols, visual imagery, or grounding in something that she could relate to (Grandin & Scariano, 1986/2005; Grandin, 1995/2006). This applied to her religious beliefs and understanding as well (Grandin & Scariano, 1986/2005; Grandin, 1995/2006). Grandin understood a combination of quantum mechanics, particle physics, good and evil in the world, and the repercussions she believed are associated with an individual’s actions as being the “cosmic consciousness of God” (Grandin, 1995/2006, p. 234). Grandin held the view that despite scientific advancement there would always be unanswered questions about life and death and therefore people would always need religion (Grandin, 1995/2006).

Even though Grandin cognitively believed in God her feelings of spirituality were only “renewed” (Grandin, 1995/2006, p. 237) when she was 44 years old and hired to take down a shackle hoist system at a plant in Alabama (Grandin, 1995/2006). Grandin fully supported the humane kosher restraint system (Grandin, 1995/2006). However, she felt that going to the startup of the plant was intellectually boring and she was not looking forward to it (Grandin, 1995/2006). However, when she was helping the rabbi perform the shechitaby keeping the animals still, her passion for her work as well as her spirituality were re-ignited (Grandin, 1995/2006). The process had felt like a meditation to Grandin (Grandin, 1995/2006). She felt at peace “as if God had touched” (Grandin, 1995/2006, p. 238) her. For Grandin this was the moment when her religious feelings and beliefs had “overwhelmed” (Grandin, 1995/2006, p. 238) any sense of logic or scientific explanation. Grandin’s understanding of the role of rabbis in the kosher plants was further illuminated by her experiences (Grandin, 1995/2006). What the rabbis did was “sacred” (Grandin, 1995/2006, p. 239) and the religiosity and ritual enabled better treatment of the animals. Grandin believed that more of these elements should be brought into other plants to ensure the humane treatment of the animals (Grandin, 1995/2006).

Difference and the road to success

Only in Grandin's mid-forties did she realise how different her thinking style was to that of other people (Grandin, 1995/2006; Grandin & Johnson, 2009). She also realised that the way she related to animals and the things she could understand about them were different to the way other people perceived animals (Grandin & Johnson, 2009). Even though Grandin was less competent in other areas, her visualisation skills and ability to relate to animals were far more developed than most people's (Grandin, 1995/2006; Grandin & Johnson, 2009; Grandin & Panek, 2013; Sutton, 2006). According to Grandin she would not have wanted "to become so normal" (Grandin, 1995/2006, p. 210) that her visual abilities would be lost. She also thought that while being childlike may have hampered interpersonal relationships, it may also have aided her creativity (Grandin, 1995/2006). It was during her forties when Grandin was hired to manage animals in feedlots that she first felt that being autistic was an advantage to her (Grandin & Johnson, 2009). While living with autism had made other areas of her life difficult, "it made animals easy" (Grandin & Johnson, 2009, p. 1).

Grandin was "more attached to ideas and work" (Grandin, 1995/2006, p. 211) than she was to human relationships. Over the years she learned how to act in social situations and during the week may have appeared to enjoy socialising (Grandin, 1995/2006; Sutton, 2006). However, she still preferred to be alone and engage in solitary activities such as writing and drawing over the weekends (Grandin, 1995/2006; Sutton, 2006). Grandin's motivation came from her search for "intellectual truth" (Grandin, 1995/2006, p. 212) even though this caused her to be anxious. While deep emotional attachments were secondary to Grandin's intellectual pursuits, helping others was important to her (Grandin, 1995/2006). Grandin found purpose and fulfillment in (a) helping animals live a good life, (b) other individuals with autism learn ways to reach their potential, (c) guiding her students in their academic and vocational pursuits, as well as (d) helping parents of children with autism with hopeful ideas (Grandin, 1995/2006; Grandin & Johnson, 2005, 2009; Grandin & Panek, 2013; Montgomery, 2012; Sutton, 2006). Grandin believed that it is what she does in life that matters and gives her value as a person as opposed to what she feels or how she has been labeled (Grandin, 1995/2006; Grandin & Panek, 2013).

In 1995 when Grandin was 47 years old her second autobiography, *Thinking in pictures*, was published. The narrative is more coherent than in *Emergence: Labeled autistic* (Grandin & Scariano, 1986/2005) and Grandin's academic background is evident through her research notes on autism and the advice she gives to readers (Grandin, 1995/2006). While the book has autobiographical elements, these are used more as anecdotes and examples that are further related to current research than purely as a personal story. Grandin (1995/2006) appeared to be more confident with the academic writing style she had developed over the years and employed for *Thinking in pictures* than the more personal narrative approach she employed for the writing of *Emergence: Labeled autistic* (Grandin & Scariano, 1986/2005).

Although Grandin had developed psychosocially, as well as in her career as a designer, author, and teacher she still experienced difficulties. When Grandin approached her 50th birthday she still found handling situations that arose in her business and with her students easier than new situations involving people (Grandin, 1995/2006; Grandin & Johnson, 2005, 2009). She struggled to respond to people in the moment and she felt panic when things did not go as she expected (Grandin, 1995/2006). She tried to create back up plans for unexpected situations, but would still withdraw with new people, especially in other countries (Grandin, 1995/2006). Even though Grandin was less anxious at this stage in her life, she was nevertheless easily distracted by noises and events in her surroundings (Grandin, 1995/2006; Grandin & Panek, 2013; Sutton, 2006). This would cause her to lose her train of thought and struggle for a while to steady herself and her thoughts (Grandin, 1995/2006; Grandin & Panek, 2013).

Despite the difficulties that Grandin still faced, in 1997 at the age of 49, she made her "most important contribution" (Grandin & Johnson, 2005, p. 267) to her field. Grandin did this by using the theory behind the Hazard Analysis Critical Control Point Analysis (HACCP) to create an animal welfare audit for the United States Department of Agriculture (Grandin & Johnson, 2005, 2009). During the same year McDonalds' executives asked Grandin to accompany them to the farms where they bought their chickens (Grandin & Johnson, 2005). Appalled by the conditions on the farms and treatment of the chickens, McDonalds asked Grandin if she could write a welfare audit for the chickens as well (Grandin & Johnson, 2005). Although chickens were less familiar to Grandin than cattle and domestic animals, she obliged and contacted a

student of hers whose parents bred chickens from their home as well as a friend Tina, who was a chicken behaviour expert, to help her with the process (Grandin & Johnson, 2005, 2009).

Even though Grandin had developed the animal welfare audit for the United States Department of Agriculture in 1997, it was not implemented until 1999 (Grandin & Johnson, 2005, 2009). In 1999 McDonalds hired her to implement it and to train their food auditors to do the animal welfare audits as well (Grandin & Johnson, 2005, 2009). Grandin felt this was a drastic and needed changing point in the meat industry and the treatment of animals at feedlots and slaughter plants (Grandin, 2000; Grandin & Johnson, 2005, 2009). At the time McDonalds purchased meat from 50 packing plants (Grandin & Johnson, 2005). McDonalds insisted that all of the plants passed Grandin's animal welfare audit or lose their contracts (Grandin & Johnson, 2005).

Grandin realised that hundred percent perfection was not possible and when expected caused more problems for the animals (Grandin & Johnson, 2005). Grandin made a list of details that each plant had to fix (Grandin & Johnson, 2005). Grandin knew that a list of one hundred nebulous items was not needed and promoted a shorter list of manageable items (Grandin & Johnson, 2005, 2009; Sutton, 2006). Some of the things Grandin told the managers sounded strange to them, such as that they needed to count 'moos' or the vocalisations that the animals made (Grandin, 2001; Montgomery, 2012; Sutton, 2006). The plant managers did not understand this and instead wanted to focus on structural changes (Montgomery, 2012; Sutton, 2006). However, Grandin explained to them that if the animals were content they would not be mooing or squealing (Grandin, 2001; Montgomery, 2012; Sutton, 2006). She also made a list of abuses which were totally unacceptable (Grandin & Johnson, 2005). While most of the plants had six or less items to fix, they still did not manage and their electric prod usage exceeded Grandin's limit (Grandin & Johnson, 2005). Grandin found that the problem was in the details and that often a plant would ignore one or two of the items because they thought they were not necessary (Grandin & Johnson, 2005). They focused on what was important to them and did not see things from the animals' perspectives (Grandin & Johnson, 2005; Sutton, 2006). Grandin believed that detail is important to animals and each one needed to either be paid attention to or rectified (Grandin & Johnson, 2005, 2009).

The plant managers were initially skeptical of Grandin's animal welfare audit (Grandin & Johnson, 2009). However, they did begin to improve (Grandin & Johnson, 2009). The enthusiasm of the managers increased when they saw how well the plants were running and began to brag to each other about their audit scores (Grandin & Johnson, 2009). Two auditors became "so motivated" (Grandin & Johnson, 2009, p. 198) that they spread the auditing system through McDonalds' international system (Grandin & Johnson, 2005). This increased the pressure on other franchises and soon Wendy's and Burger King also hired Grandin to implement the animal welfare audit in the slaughter plants that they purchased from (Grandin & Johnson, 2005, 2009; Sutton, 2006). During the implementation of the audits Grandin realised the importance of details to animals even more strongly and began to emphasise this in her writing and lectures (Grandin & Johnson, 2005, 2009).

Recognition and awards in Grandin's 40's

As Grandin entered her forties the contribution and advancements she had enabled in the livestock industry and the field of animal science were recognised as being extraordinary. As a result she began to receive numerous awards (see Table 4.1).

Animals in translation

When Grandin approached her sixties she had gained much experience about human behaviour, relationships, and acceptable ways of socialising (Grandin, 1995/2006; Grandin & Panek, 2013). People would comment that she seemed more normal and less autistic (Grandin, 1995/2006; Grandin & Panek, 2013). According to Grandin it was her continued accumulation of experiences and knowledge that improved her ability to act normal when she was in her sixties (Grandin, 1995/2006; Grandin & Panek, 2013). Over the years Grandin built on her social rules and learnt what 'normal' speech patterns sounded like (Grandin, 1995/2006). Grandin also had to learn such things as what jokes could be told to friends and which jokes were acceptable for strangers (Grandin, 1995/2006). In order to keep up the appearance of normality she also tried to remain within the categories of pets, travel, and weather when speaking to people whom she did

Table 4.1: Recognition and awards in Grandin’s 40’s

Year	Award / Recognition	Recognised by
1990	Processing Stars of 1990	National Provisioner
1990	Who's Who of American Women	Marquis who’s who
1994	Honorary Member	Golden Key National Honor Society
1994	Industry Innovator's Award	Meat Marketing and Technology Magazine
1995	Industry Advancement Award	American Meat Institute
1995	Animal Management Award	American Society of Animal Science
1995	Harry C. Roswell Award	Scientists Center for Animal Welfare
1995	The Brownlee Award for International Leadership in Scientific Publication Promoting Respect for Animals, their Nature and Welfare	Animal Welfare Foundation of Canada, Vancouver, BC
1997	CAS/Miller Com 97 Campus Wide Lecture	University of Illinois
1997	Profiled in Who's Who in America	Marquis who’s who
1997	Alpha Zeta Centennial Honor Roll	Alpha Zeta

Based on “Temple Grandin Ph.D Professional Resume” (2016).

not share other interests or work, or when meeting new people (Montgomery, 2012; Sutton, 2006). While Grandin maintained friendships with Jim Uhl and Lorna King, she also made other lifelong friends such as Mark Deesing and Red Dog who also live on her property (Grandin, 1995/2006; Grandin & Johnson, 2005; Grandin & Scariano, 1986/2005). While learning to act and sound less autistic was an achievement for Grandin, her more treasured achievements from life at this stage were the ways she had found to assist the lives of others, especially animals (Grandin & Johnson, 2005, 2009).

In 2005 when Grandin was 58 years old *Animals in translation* was published. This book was inspired by her more than 40 years of experience working with animals (Grandin & Johnson, 2005). Grandin raised questions about selective breeding, the influence humans have had on animals, as well as the influence of animals on humans (Grandin & Johnson, 2005). Grandin emphasises that animals “should be our partners in life, not just pets or objects of study” (Grandin & Johnson, 2005, p. 303). In *Animals in translation* Grandin encourages people to

empathise with animals and to try to understand their experiences (Grandin & Johnson, 2005). She explained the intelligence and emotional worlds of domestic, farm, and wild animals as people, in her view, often forget what animals are capable of and focus on what they cannot do (Grandin & Johnson, 2005). Grandin used her autism and detail-orientation to understand animals and translate their speech, thoughts, behaviour, and emotions into English (Grandin & Johnson, 2005). Grandin felt that it was her understanding of animals that enabled her to become successful despite being autistic (Grandin & Johnson, 2005). She believes that she has a responsibility toward animals and that it is her job to ensure that they have a “decent life and a decent death” (Grandin & Johnson, 2005, p. 307) with as little stress as possible. Grandin’s hope in writing *Animals in translation* was that humans will realise that animals deserve a “good life” (Grandin & Johnson, 2005, p. 307) with things to do that bring them purpose. Grandin believed humans “owe” (Grandin & Johnson, 2005, p. 307) animals that. During Grandin’s fifties she continued to receive recognition for her work with animals (see Table 4.2). In 2007 she received her first award for her contribution to the field of autism (see Table 4.2).

4.9.2 Discussion

The ego tasks of this period are imperative to the continuation and inter-living of life cycles (Erikson, 1950/1973, 1964a, 1977). This stage is related to concerns adults have for future generations (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). While in the previous stage young adults needed to commit to a partner, close friendships, and a profession, middle aged adults’ concerns may be directed toward contributing to society at large (Dunkel et al., 2010; Van De Water & McAdams, 1989). As mentioned in the previous stage, Grandin had a premature generativity crisis and had already begun to contribute to society. Grandin continued to be driven by her sense of responsibility towards animals during this stage and developing ideas to ensure and enhance their welfare (Erikson, 1964a; Grandin & Johnson, 2005). She also expanded her generativity to include teaching within her field to both university students and workers at slaughter plants, as well as within the autism field (Erikson, 1950/1973; Grandin, 1984a; Grandin & Panek, 2013; Miller, 2010; Sollod et al., 2009). Early during this stage the extraordinary care that Grandin had been showing to animals in the livestock industry, both locally and internationally, was recognised (Erikson, 1950/1973, 1964a, 1977; Miller, 2010; Sollod et al., 2009; “Temple Grandin Ph.D Professional Resume”, 2016). This was evident in her

Table 4.2: Recognition and awards in Grandin’s 50’s

Year	Award / Recognition	Recognised by
1998	F.W. Present Memorial Lecture	University of Guelph, Ontario, Canada
1998	Forbes Award	National Meat Association
1998	Geraldine R. Dodge Foundation - Humane Ethics in Action	Purdue University, West Lafayette, IN
1999	Woman of the Year in Service to Agriculture	Progressive Farmer Magazine
1999	Humane Award	American Veterinary Medical Association
1999	Honorary Doctorate	McGill University, Montreal, Quebec
1999	Named as one of the 26 industry influentials	Meat Marketing and Technology Magazine
1999	Animal Welfare Award	Animal Transportation Association
1999	Founders Award	American Society for the Prevention of Cruelty to Animals
2000	Grandin profiled in The New York Times, Scientists at Work, McGraw Hill Books, New York, NY. pp. 48-57.	Profile by Anne Raver.
2001	Joseph Wood Krutch Medal	The Humane Society of the United States
2001	Knowlton Award for Innovation	Meat Marketing and Technology
2001	Wood Gush Memorial Lecture	International Society of Applied Ethology
2002	Knowlton Award for Innovation	Meat Marketing and Technology Magazine
2002	Animal Welfare Award Royal Society for the Prevention of Cruelty in Animals	British Society of Animal Science, Yorkshire, England
2002	Alumni Illini Comeback Award	University of Illinois
2004	Honorary Doctorate of Science	University of Illinois
2004	President's Award	National Institute of Animal Agriculture
2004	The Beef Top 40: The 40 most influential people in the beef industry	Awarded on the 40th anniversary of Beef Magazine
2004	Environmental Power List	Organic Style Magazine
2006	Animals in Translation was a Top Science Book of the Year	Discover Magazine
2006	Frank H.T. Rhodes Class of 1956 Visiting Professor	Cornell University
2007	Founder's Award	Autism Society of America
2007	Secretary's Highest Award	Dept. of Health and Humane Services, Washington D.C.

Based on “Temple Grandin Ph.D Professional Resume” (2016).

receiving an award for Meritorious Service from the Livestock Conservation Institute at the age of 36 (“Temple Grandin Ph.D Professional Resume”, 2016).

Autism makes psychosocial development difficult, but not impossible

Grandin's ego weakness or autism caused interpersonal relationships and socialising to continue to be difficult for her (Erikson, 1956, 1968a). It was not that she was unable to relate to or empathise with any other people, nor that she could not form mutuality of recognition relationships (Erikson, 1950/1973, 1956, 1968a, 1977). She had demonstrated her ability to empathise with animals as well as the children with autism she did volunteer work with. She also shared interests with her co-workers and developed and sustained intimate friendships (Erikson, 1950/1973, 1956, 1968a, 1977; Grandin, 1995/2006; Grandin & Johnson, 2005; Grandin & Scariano, 1986/2005; Sacks, 1995). Her lack of awareness regarding relational nuances and social conventions, feeling uncomfortable and anxious around strangers, as well as her tendencies to either fixate on a point or become easily distracted revealed her difference, and still complicated her psychosocial development (Erikson, 1950/1973, 1956; Grandin & Johnson, 2005, 2009; Grandin & Panek, 2013; Sutton, 2006). However, her increased ego coherence, which facilitated her ability to self-reflect, combined with her determination to increase her knowledge of socially acceptable behaviours and build on the social rules she developed for herself, enabled her difficulties to lessen (Erikson, 1950/1973, 1956, 1968a). By combining these qualities with the sense of humour she began to develop as a child, and focusing on learning healthier sounding speech patterns, her ability to communicate with others, especially those she shared interests with, improved (Erikson, 1950/197, 1977; Grandin & Johnson, 2005; Grandin & Scariano, 1986/2005; Rimland, 1986/2005).

As Grandin entered her forties, she became more comfortable with herself. The realisation that her more child-like way of relating to the world at times hampered interpersonal relationships, but aided her creativity concurs with Erikson's (1956, 1958b, 1977) theory on extraordinary individuals. Grandin was able to positively integrate a different way of relating to the world, people, and animals into her ego identity (Erikson, 1968a; Feist & Feist, 2013). The realisation that her creative visual skills and ability to relate to animals, that enabled her to improve their welfare, were more valuable to her than being "normal" (Grandin, 1995/2006, p. 210) created more ease and balance for her ego (Erikson, 1968a, 1977; Feist & Feist, 2013). This along with her creative endeavours continuing to facilitate healing and ego synthesis (Erikson, 1977) may

also have been reasons for her improved personal and work relations with others during this stage.

Ethical action based on 'truth'

One of the motivating factors in Grandin's career and concern with helping others was her search for "intellectual truth" (Grandin, 1995/2006, p. 212). Grandin valued this search and the way she conducted herself in relation to it above personal attachments (Erikson, 1958b, 1969, 1977; Grandin, 1995/2006). Grandin's pursuit of "intellectual truth" (Grandin, 1995/2006, p. 212) and conducting herself in accordance with it may be viewed in relation to her sense of ethics and Erikson's (1969) view of Satyagraha. While there is not a definition for Satyagraha, Erikson (1969) was of the view that it held the fundamental principle of action based on 'truth' that did not harm other individuals (Erikson, 1969). The concept of Satyagraha was particularly relevant in relation to Grandin's generativity concerns and desire that her "thoughts and ideas" (Grandin, 1995/2006, p. 232) live on once she had passed away (Erikson, 1950/1973, 1969, 1977; Miller, 2010; Sacks, 1995; Sollod et al., 2009). Grandin's idea of immortality or not being forgotten included her actions and the influence they had on the lives of other people and animals (Erikson, 1950/1973, 1969, 1977; Grandin & Johnson, 2005, 2009; Grandin & Panek, 2013; Sacks, 1995). Interacting with animals, theoretical knowledge, and reflecting on practical experience had enabled Grandin to increase her knowledge about herself and desire to contribute meaningfully to society (Erikson, 1956, 1968a 1977). During this stage Grandin extended her deep sense of responsibility, ethics, pursuit of knowledge in relation to herself and animals, and her generative actions that she based on these factors to the autistic community and her students (Erikson, 1956, 1968a, 1969 1977; Grandin, 1984a, 1995/2006; Grandin & Panek, 2013). Grandin not only wanted to produce knowledge and act in a way that would prevent harm to animals and the autistic community, but her actions reveal her attempts to actualize, both in herself and in others, "such forces as are ready for a heightened mutuality" (Erikson, 1969, p. 413). This was also observed in her relations with her students as she tried to guide them in their academic and vocational pursuits (Erikson, 1969; Grandin & Johnson, 2005, 2009; Sutton, 2006).

The contributions Grandin made in the form of products and ideas such as her PhD research, the articles, autobiographies, and books she wrote relating to animal science and autism, as well as her designs were also aspects of her generativity as they benefited society and could be passed on to future generations (Evans, 1981; McAdams et al., 1993; Van De Water & McAdams, 1989). Erikson believed that for adults to make a meaningful contribution during this stage of their lives they need to believe that progress of the human species is possible and a worthwhile undertaking (Erikson, 1963a; Irvine, 2013; Van De Water & McAdams, 1989). Grandin's belief that such progress was possible had been demonstrated in her dedication to her students, aiding families of individuals with autism with helpful ideas, suggesting ways forward for autism research, as well as in her belief that humans could treat animals with respect (Erikson, 1963a; Grandin & Johnson, 2005, 2009; Grandin 1984a, 1992, 1995/2006; Grandin & Panek, 2013; Irvine, 2013; Van De Water & McAdams, 1989). Grandin's commitment to this belief was also evident in her scheduling speaking engagements and writing books on autism and animal welfare as both of these tasks were initially difficult for her and caused her anxiety (Erikson, 1963a; Grandin, 1995/2006; Grandin & Johnson, 2005, 2009; Irvine, 2013; Van De Water & McAdams, 1989). Nevertheless, she persisted in her quest to spread knowledge and hope (Erikson, 1950/1973, 1977).

While Grandin had extended both her sense of responsibility and care to the autistic community during this stage, her main focus remained on animals and their welfare. As a result, the majority of her generative actions were focused towards animals or areas related to them such as lecturing livestock-handling-facility design at Colorado State University and training plant workers and managers on humane handling of animals (Erikson, 1963a; Grandin & Johnson, 2005, 2009; Irvine, 2013; Van De Water & McAdams, 1989). As mentioned in the previous stage Grandin's sense of ethics often informed the choices she made in her career. In her determination to improve the system for animals and extend reciprocity of ethics to them her generativity and ethics often aligned (Erikson, 1963b, 1964a, 1966b, 1985; Grandin, 2014; Grandin & Johnson, 2005, 2009). This was evident when she designed new equipment and wrote an article about the equipment and placed the designs on her website for free in order for them to be in the public domain (Erikson, 1963b, 1964a, 1966b, 1985; Grandin & Johnson, 2009). While this did result in Grandin being requested to do more consulting jobs and custom designs, her actions were not

done out of a desire to increase her wealth (Erikson, 1963b, 1964a, 1966b; Grandin & Johnson, 2009). By ensuring that big companies could not buy out her designs and prevent smaller companies from using them, Grandin demonstrated that she continued to be driven by her “cause” (Erikson, 1958b, p. 12) as she had been during the previous stage.

Grandin’s ego ideal, in the sense of her religious beliefs, was further developed during this period (Erikson, 1964a, 1968a; Feist & Feist, 2013). Her increased scientific knowledge, in particular of quantum mechanics, supported her understanding of and belief in God and the plausibility of humans and animals having souls (Erikson, 1964a, 1968a; Feist & Feist, 2013; Grandin, 1995/2006). It was however, through her interactions and work with animals that her spirituality grew (Erikson, 1964a, 1968a; Feist & Feist, 2013). When Grandin helped a rabbi perform the shechita in a plant in Alabama that used the humane kosher restraint system, she realised that it was possible for her sense of spirituality to overwhelm her sense of logic and scientific explanation, as well as that there was value to ritual in the humane treatment of animals (Erikson, 1964a, 1965, 1966a, 1968a, 1969; Feist & Feist, 2013). Grandin’s view that what the rabbis did in kosher slaughter plants was “sacred” (Grandin, 1995/2006, p. 239) and that employing elements of their religiosity or ritual in other plants would enhance the welfare of animals, revealed her support for and advocating of creative ritualisation (Erikson, 1964a, 1965, 1966a, 1969, 1977). This once again demonstrated her capacity to employ principles of Satyagraha to aid the prevention of unnecessary suffering in the lives of animals (Erikson, 1969).

We influence each other’s history

Erikson (1958b, 1968a, 1968b, 1969) maintained that it is necessary to analyse a ‘case’ or life history in relation to its place in history. While extraordinary individuals may ‘perform’ or bring about historic events, their actions do not occur in isolation from societal factors as history and psychology influence one another, and are subject to the laws of the other (Erikson, 1950/1973, 1958b). During the previous stage Grandin’s crisis had intersected with the latent humane animal handling crisis in society that rose to “representative position” (Erikson, 1950/1973, p. 327) during the scabies outbreak in the United States of America. Despite this resulting in Grandin’s work and ideas being needed, accepted, and used in the cattle industry, she had not yet fulfilled

her goals in terms of animal welfare, nor the responsibility she felt she had to ensure their humane treatment in society (Erikson, 1958b, 1964a, 1968a, 1969; Grandin & Johnson, 2005, 2009). While Grandin was able to recognise the value of technology in society, she was also aware of the extent to which humans had moved from natural agricultural living and the greater exploitation of animals that occurred as result (Erikson, 1963b, 1964a, 1977; Grandin & Johnson, 2005, 2009). The demand for cattle, pigs, and chickens as food had resulted in them being mass produced, viewed as objects or commodities without feelings, and their welfare declined (Grandin & Johnson, 2005, 2009). Grandin's crisis, responsibility, and knowledge in relation to animals once again intersected when the United States Department of Agriculture acknowledged this problem in the animal and food industries (Erikson, 1958b, 1964a, 1977; Grandin & Johnson, 2005, 2009). When in 1997 Grandin created an animal welfare audit for the United States Department of Agriculture by using the theory behind the Hazard Analysis Critical Control Point Analysis (HACCP) she thought she had made her "most important contribution" (Grandin & Johnson, 2005, p. 267) to her field. However, her animal welfare audit was not initially implemented.

As with other extraordinary individuals Grandin's difficulties had driven her to "mobilize capacities to see and say, to dream and plan, design and construct, in new ways" (Erikson, 1958b, p. 12) as she had demonstrated in her career thus far, as well as in her development of the animal welfare audit. Her animal welfare audit, however, only rose to "representative position" (Erikson, 1950/1973, p. 327) and was implemented when Grandin's history and cause intersected with the historical changes occurring at McDonalds. The McDonald's executives recognised Grandin's capabilities and shared her view that the treatment of animals on farms, feedlots, and slaughter plants should drastically improve (Erikson, 1977; Grandin, 2000; Grandin & Johnson, 2005, 2009). As McDonalds was a powerful company in society they could insist, without incurring much resistance, that the plants and facilities they purchased meat from had to pass Grandin's animal welfare audit (Erikson, 1950/1973, 1977; Grandin & Johnson, 2005).

While McDonalds had in some ways facilitated Grandin's potential being put into action and influenced her career at this point, she too influenced the development of the McDonalds' franchise, both locally and internationally (Erikson, 1958b, 1968a, 1968b, 1969, 1977).

Grandin's giftedness in understanding animals and being able to combine her knowledge and creativity to develop, implement, and teach unique ideas led her animal welfare audit to not only improve the lives of animals, but also the efficiency and success of the plants that employed it, and therefore the success and reputation of McDonalds as well (Erikson, 1977; Grandin & Johnson, 2009). This success "motivated" (Grandin & Johnson, 2009, p. 198) the plant managers to maintain their audit scores, as well as influenced two McDonalds auditors to spread Grandin's audit through their international system. This increased societal pressure on other big franchises such as Wendy's and Burger King to hire Grandin to implement the audit in slaughter plants that they purchased meat from (Erikson, 1958b, 1968a, 1968b, 1969, 1977; Grandin & Johnson, 2005, 2009; Sutton, 2006). This also further consolidated Grandin's goal of ensuring that as many animals as possible were treated humanely.

Encouraging generativity toward animals

For the development of her audit Grandin focused on details that were of importance to animals in relation to their wellbeing and not feeling harmed, as well as the ways in which they may display distress. By doing so Grandin again demonstrated principles that may be viewed in relation to Satyagraha as she acted upon her scientific knowledge as well as what she observed as animals' 'truth' about their experiences, and determined "not to violate" their "essence" (Erikson, 1969, p. 412). Grandin extended her principles of Satyagraha and care in relation to animals in her writing of *Animals in translation* (Grandin & Johnson, 2005). She did this by emphasising that animals "should be our partners in life, not just pets or objects of study" (Grandin & Johnson, 2005, p. 303) and encouraging humans to empathise with animals. In this book Grandin and her co-author advocate and explain ways in which humans (a) can extend reciprocity of ethics to animals, (b) prevent violating an animal's "essence" (Erikson, 1969, p. 412), as well as (c) how to relate to and treat animals in a way that "actualizes both" in the human and animal "such forces as are ready for a heightened mutuality" (1969, p. 413). The success of *Animals in translation* was not only as a result of its scientific validity (see Table 4.2 for recognition). In her explanation of the emotional worlds of domestic, farm, and wild animals, Grandin was also able to reach a lay audience who either shared their lives with animals or merely had an interest in them. In doing so Grandin used her generative energy to provide

knowledge, and facilitate other individuals' generativity and care in relation to the animals they share their homes with, work with, or encounter during their lives (Erikson, 1950/1973, 1977; Miller, 2010; Sollod et al., 2009).

Grandin's extraordinary knowledge of animals and generativity toward them, as well as the advances she facilitated in the field of animal science and the cattle industry were recognised during this stage (see Table 4.1 and Table 4.2). Grandin's struggle with autism makes her achievements more surprising. However, the awards she received during her forties were based solely on her work as an animal scientist and not as an individual with autism (see Table 4.1). This was also the case in Grandin's fifties, with the exception of one award that she received for her contribution to the field of autism (see Table 4.2). Although Grandin did not have children of her own, she actively played a role in the betterment of society during this stage (Erikson, 1950/1973; Haensly & Parsons, 1993; Miller, 2010; Sollod et al., 2009). By incorporating creativity and actions that were aimed toward caring for both humans and animals into her everyday life and work, Grandin was able to experience a sense of liveliness and fulfillment (Erikson, 1977). Her generativity enabled her to have a more coherent sense of herself as well as to build on the ego strength of care which she had already begun to acquire during the previous stage (Erikson, 1950/1973; McAdams et al., 2001; Miller, 2010; Sollod et al., 2009).

4.9.3 Stage 7 salient points

- a. Grandin continued to be driven by her sense of responsibility towards animals and developing ideas to ensure and enhance their welfare. Her generativity expanded to include teaching within the field of autism, as well as university students and workers at slaughter plants.
- b. Relationships and socialising continued to be difficult. However, her increased ego coherence, which facilitated her ability to self-reflect, combined with her determination to increase her knowledge of socially acceptable behaviours enabled her difficulties to lessen.
- c. The realisation that her creative and visual skills and ability to relate to animals were more valuable to her than being 'normal' facilitated more ego balance.

- d. In her determination to improve the system for animals and extend reciprocity of ethics to them her generativity and ethics often aligned. This alignment influenced the decisions she made in her career.
- e. Grandin's spirituality grew through her interactions and work with animals.
- f. The animal welfare audit Grandin developed rose to representative position when her history and cause intersected with the historical changes occurring at McDonalds.
- g. Grandin demonstrated principles of Satyagraha by observing the 'truth' of animals' experiences and attempting not to 'violate' their 'essence' through her work.
- h. Through the incorporation of creativity and actions that were aimed toward caring for both humans and animals into her everyday life and work, Grandin was able to experience a sense of liveliness and fulfillment, as well as a more coherent sense of self.

4.10 Stage 8: Integrity versus despair (60+ years)

4.10.1 Findings

As Grandin is currently in the eighth stage, she has lived and experienced only part this stage. Therefore, the presentation of the findings of this stage oscillates between the past and present tenses.

At this stage of Grandin's life her designs of slaughter plants and methods for handling cattle, as well as a wide variety of other animals, had been used worldwide (Klaaste, 2014; "Biography: Temple Grandin, Ph.D", 2016). She continued to receive recognition and awards for her contributions to the fields of animals science and autism ("Biography: Temple Grandin, Ph.D", 2016). These awards included 10 honorary doctorates (see Table 4.3). In her sixties Grandin's professional priorities changed (Grandin & Panek, 2013). She had previously focused on designing humane cattle handling facilities (Grandin & Johnson, 2005; Grandin & Panek, 2013). While the use of such facilities is still important to Grandin as can be seen by her teaching livestock-facility design classes at Colorado State University, her main focus has shifted to teaching and passing on her knowledge ("Biography: Temple Grandin, Ph.D", 2016; Grandin & Panek, 2013). This focus has included becoming a more frequent speaker at autism events and conferences, researching and writing more on autism (Grandin, 2009a, 2009b; Grandin & Duffy,

2008; Grandin & Panek, 2013), as well as spending more time training auditors and employees of slaughter plants (Grandin & Johnson, 2009; Klaaste, 2014). As a result of Grandin’s increased teaching and giving talks she has been told more frequently that her “speaking style became more and more natural” (Grandin & Panek, 2013, p. 78). However, Grandin’s primary professional focus and lifelong concern has remained the welfare of animals (Grandin, 2014). Grandin has continued to focus her research interests on cattle (Franks & Grandin, 2015) and their humane treatment, as well as that of sheep and pigs in slaughter plants (Grandin, 2013). During this stage Grandin has also deliberately paid more attention to researching the behaviour and welfare of wild (Florcke, & Grandin, 2013; Grandin & Johnson, 2009), as well as companion animals (Grandin & Johnson, 2009; King, Buffington, Smith, & Grandin, 2014; Morris, Grandin, & Irlbeck, 2011). Her animal behaviour consultation business has also expanded to include those of domestic, zoo, and wild animals (Grandin & Johnson, 2009).

Table 4.3: Honorary doctorates received during stage 8

Year	University
2009	University of Agricultural Science, Uppsala, Sweden (Faculty of Veterinary Medicine – Degree in Animal Welfare)
2010	Duke University
2010	Lakehead University
2012	Carnegie Mellon University
2012	Western College of Veterinary Medicine
2012	Franklin Pierce University
2012	Arizona State University
2014	Washington University, ST. Louis, MO
2014	Providence College, Providence, RI
2014	Texas A and M University

Based on “Temple Grandin Ph.D Professional Resume” (2016).

Animals make us human

Building on *Animals in translation* (Grandin & Johnson, 2005) and focusing her life’s work, knowledge and experiences with animals, Grandin and co-author Catherine Johnson wrote *Animals make us human* in 2009. In this book Grandin explains the core emotions of animals, and which emotions are particular to certain types of animals such as domestic animals, poultry, cattle, as well as wildlife and zoo animals (Grandin & Johnson, 2009). Grandin describes how

this knowledge can be used to enable animals to live happy and fulfilled lives that are enriched beyond mere physical health (Grandin & Johnson, 2009). After writing *Animals in translation* (Grandin & Johnson, 2005) Grandin began to receive phone calls from zoos requesting she assist and advise them (Grandin & Johnson, 2009). With Grandin's new experiences with zoo and wild animals she altered her focus on animal behaviour and psychology to include these animals in her research, writing, and consultations (Grandin & Johnson, 2009). Grandin's students would get involved with the zoo consultations and projects (Grandin & Johnson, 2009). These projects would include training highly strung animals, such as antelope, to remain calm for their veterinary procedures (Grandin & Johnson, 2009). Grandin's lifelong commitment to animals and their welfare has continued to be recognised and appreciated during this stage (see Table 4.4).

The Autistic brain

In 1987 at the University of California, Santa Barbara, Grandin had the first MRI of her brain done (Grandin & Panek, 2013). As a biologist she was fascinated with if and how the structure and physiology of her brain caused her autism (Grandin & Panek, 2013). Grandin had been asked by several neuroscientists and autism researchers to have her brain scanned for their research (Grandin & Panek, 2013). This occurred as a result of the move to understand the anatomical and physiological causes of autism, increasingly advanced brain scanning technology, and Grandin's success in spite of her autism being acknowledged worldwide (Grandin & Panek, 2013). Grandin's scans revealed several differences in her brain structure to that of neuro-typicals (Grandin & Panek, 2013). Grandin's interest in this area of research led her to begin planning a brain scan study proposal (Grandin & Panek, 2013). Grandin proposes to study and compare the brains of children with autism who are echolalic with those of children who understand speech yet cannot speak (Grandin & Panek, 2013).

In 2013 *The autistic brain: Helping different kinds of minds succeed* was published (Grandin & Panek, 2013). Grandin is reflective on her development in general as well as a writer (Grandin & Panek, 2013). Grandin is embarrassed by the lack of structure in her writing in her forties and younger years (Grandin & Panek, 2013). However, according to Grandin this awareness has

Table 4.4: Recognition and awards for animal science and welfare in Grandin’s 60’s

Year	Award / Recognition	Recognised by
2008	Leader of Conscience Award	Franklin Pierce College, Alumni Association
2009	Sharp Cleaver Award	Colorado and Wyoming Association of Meat Processors
2009	Meat Industry Hall of Fame	Meat Industry, Chicago, Illinois
2009	Headliner Award	Livestock Publications Council, Fort Worth, Texas
2010	Fellow	American Society of Animal Science
2010	Inducted into the National Cowgirl Hall of Fame	Dallas, Texas
2010	Honorary Life Member	Colorado Cattlemen's Association
2010	Lifetime Achievement Award	National Cattlemen's Beef Association
2010	Oklahoma State University created an endowed professorship in animal behavior in honor of Temple Grandin.	Oklahoma State University
2010	100 Most Influential People	Time Magazine
2011	Special Recognition Award: In recognition of her faithful service to the meat industry and individual members and her common sense leadership in animal welfare issues.	American Meat Science Association
2011	First Place for an Instructional Story.	Livestock Publications Council.
2011	National Humanitarian Award - Pioneering Efforts that Reshaped Animal Welfare in the Livestock Industry.	American Humane Association
2011	The Halal Journal Award for Outstanding Personal Achievement.	The Halal Journal
2011	Hall of Great Westerners	Oklahoma State University
2012	Star placed in Forth Worth Stockyards Sidewalk	Texas Trail of Fame
2012	Colorado Women's Hall of Fame	Colorado State
2012	Distinguished Humanitarian Award	Liberty Science Center
2012	Science and Medicine Award	Bonfils Stanton Foundation
2013	Chairman's Award	Colorado BioSciences

Based on “Temple Grandin Ph.D Professional Resume” (2016).

enabled her to develop her writing style and be more conscious of her audience (Grandin & Johnson, 2009; Grandin & Panek, 2013). Consequently, even though her texts focus on scientific subject matter such as animal behaviour or autism, her books are accessible to lay individuals (Grandin & Johnson, 2009; Grandin & Panek, 2013). In *The autistic brain: Helping different kinds of minds succeed* Grandin draws on examples from her own life as well as the lives of

other individuals with autism and uses them to explain the possible neurological and genetic causes of autism (Grandin & Panek, 2013). Despite advances in neuroimaging and changing psychological definitions of autism, Grandin encourages readers, parents, and medical professionals to look past labels and treat each case of autism individually with difficulties, but also strengths (Grandin & Panek, 2013). Grandin places emphasis on understanding each individual's situation, psychology, and neuro-anatomy, and developing the individual's strengths or talents as this may lead to a more autonomous and fulfilling life (Grandin & Panek, 2013). Grandin is adamant that family members and professionals working with individuals on the autism spectrum should remain realistic about the particular person's situation (Grandin & Panek, 2013). However, she also provides hope and encourages individuals with autism, as well as the people involved in their lives to not give up (Grandin & Panek, 2013).

Most of the awards Grandin has received in her life have been for her contribution to animal science and welfare. By this stage Grandin had been lecturing and giving talks and writing about autism for decades. Grandin's devotion to the field of autism and the example she has set became more widely recognised at this point in her life (see Table 4.5).

Who is she?

Through her behaviour and contributions, Grandin demonstrated that she is many things and only one of those things is autistic. Her autism has in many ways influenced her development. Grandin believes that a little bit of a disorder or traits thereof "can provide an advantage" and that if "all genetic brain disorders were eliminated...there would be a terrible price" (Grandin & Panek, 2013, p. viii). However, as an adult "autism is secondary" and she will not allow it to "define" (Grandin & Panek, 2013, p. 182) her. According to Grandin she "took what nature gave" her and "nurtured the heck out of it" (Grandin & Panek, 2013, p.171). Grandin is still hyper-vigilant and loses her train of thought when surprised by sights and sounds (Grandin, 2016; Grandin & Panek, 2013). Human relationships and understanding complex emotions are also still difficult for her (Grandin, 2016; Grandin & Panek, 2013). However, by focusing on her abilities she has built a life for herself (Grandin, 2016; Grandin & Panek, 2013).

Table 4.5: Recognition and awards in the field of autism in Grandin’s 60’s

Year	Award / Recognition	Recognised by
2010	100 Most Influential People	Time Magazine
2011	Peek Award for Disability in the Media	Utah Film Center, Salt Lake City, Utah
2011	Double Helix Medal for communication with the public on autism.	Cold Spring Harbor Laboratory
2011	Chairman’s Award for communicating with the public about autism.	Colorado Bio Science Association, Denver, CO
2011	Promoting the Power of Education Award	Arapahoe Community College, Denver, Colorado
2011	Friend of Occupational Therapy Award	College of Occupational Therapy, Colorado State University
2012	Science and Medicine Award	Bonfils Stanton Foundation
2012	Lifetime Achievement Award	CARD Florida Center for Autism
2013	Distinguished Alumni Medalion	National 4-H Council
2013	Chairman's Award	Colorado BioSciences
2014	Teachers College Medal for Distinguished Service	Columbia University, New York

Based on “Temple Grandin Ph.D Professional Resume” (2016).

Advancing the field of autism and helping individuals with autism, their families and the professionals in the field is of importance to Grandin (Grandin, 2016; Grandin & Panek, 2013). However, in order to safe-guard other parts of her identity she sets aside “cattle time” (Grandin & Panek, 2013, p. 182) during various parts of the year. During this time she does not take speaking engagements within the autism field and focuses exclusively on animals, research, and teaching (Grandin & Panek, 2013). Grandin believes that “[a]nimals saved” (Grandin & Johnson, 2005, p. 4) her and influenced her development as much as autism did (Grandin & Panek, 2013). This enabled that as an adult her “primary identity is as an expert on livestock- a professor, a scientist, a consultant” (Grandin & Panek, 2013, p. 182). All of which, at the age of 69, she continues to do and be (“Biography: Temple Grandin, Ph.D”, 2016).

4.10.2 Discussion

As Grandin is currently in the eighth stage, she has lived and experienced some of this stage’s findings, but some are still in process. Grandin has not yet concluded this stage as she is still alive. Therefore readers should not view this discussion as complete.

A continued becoming...

This final stage occurs in late adulthood and involves the integration of all the previous stages (Erikson, 1950/1973; Miller 2010; Sollod et al., 2009). While it is not possible to have completed all the previous stages equally well, accepting this as part of life as opposed to being viewed as a failure is needed for the development of integrity (Brown & Lewis, 2003; Erikson, 1950/1973; Hall, 1983). Grandin had not fully resolved all the crises of the previous stages. The most evident of these being that she has not formed an intimate romantic relationship with another individual. While traditionally forming a romantic bond develops the ego strength of love, Grandin did acquire this ego strength as she felt love for and showed love toward animals (Erikson, 1950/1973; Grandin & Johnson, 2005; Miller, 2010; Sollod et al, 2009). Her body ego remained fairly hyper-vigilant her entire life (Erikson, 1968a; Feist & Feist, 2013). However, her struggles had become far less in this area. Her body ego was able to integrate experience, learn communication skills, as well as become more at ease with physical contact, both with humans and animals (Erikson, 1968a; Feist & Feist, 2013). Despite Grandin still having difficulties at this stage of her life and not having resolved all the psychosocial crises equally well, during her life she has developed in ways that would not be expected of an individual who was severely autistic as a child (Erikson, 1950/1973, 1956, 1968a). While her beginnings were filled with absence and a withdrawn ego state, she is now, conversely, present and very involved in the lives of others (“Biography: Temple Grandin, Ph.D”, 2016; Erikson, 1956, 1968a, 1977; Grandin & Johnson, 2009; Grandin & Panek, 2013). Grandin could not, nor did she want to, become un-autistic. However, through her interactions with animals, investment in her wellbeing from mentors, and finding fulfillment in her career and ‘cause’, her ego became more stable and coherent (Erikson, 1956, 1958b, 1964a, 1968a). Grandin was able to carry this ego coherence into her final stage and continue to strengthen it.

Older adults become more reflective as they need to form a coherent life story (Hamachek, 1990). The trait of reflexivity is one that Grandin learnt during her time in the observation room at her school as an adolescent and used to aid her development throughout her adulthood (Grandin & Scariano, 1986/2005; Hamachek, 1990). The autobiographies that Grandin had written as an adult, as well as the personal anecdotal information she used in her other books,

may also be viewed as forms of reflexivity. A reflexive overview of her life with autism and her life's work, knowledge and experiences with animals thus far, were displayed in her books *The autistic brain: Helping different kinds of minds succeed* (Grandin & Panek, 2013) and *Animals make us Human* (Grandin & Johnson, 2009). Both books make apparent Grandin's growth as a writer, scientist, and teacher in relation to her first autobiography *Emergence: Labeled autistic* (Grandin & Scariano, 1986/2005). In these books Grandin not only reveals a certain contentment with and acceptance of her life, despite having struggled with autism, but also continues to contribute to other lives through her generativity (Erikson, 1950/1973; McAdams, 2009; Miller, 2010; Sollod et al., 2009).

Extended generativity crisis

Just as Grandin's generativity crisis occurred prematurely, it may also be viewed as having extended into her final stage. At the age of 69, Grandin has not yet relinquished her "cause" (Erikson, 1958b, p. 12) or responsibility toward animals. She has also in many ways extended her sense of responsibility to the lives of her students and the autistic community during this stage (Erikson, 1964a). Although Grandin no longer focuses on designing humane animal handling facilities, she now uses the time and energy required for designing to teach and pass on her knowledge (Erikson, 1950/1973, 1977; Evans, 1981; McAdams et al., 1993).

What does greatness encompass?

Grandin's extraordinary contribution to the humane treatment of animals, as well as the fields of animal science and autism have continued to be recognised, both locally and internationally, during this stage of her life (see tables 4.3, 4.4, and 4.5). In accordance with Erikson's theory, by combining her own and society's needs with "personal gifts", Grandin's ethical creative actions made "for historical greatness" (Erikson, 1958b, p. 13). Her conflict, trauma, and the difficulties she faced as a result of her ego weakness or autism, influenced her development as an extraordinary individual (Erikson, 1956, 1958b, 1968a, 1969, 1977). However, while the suffering of an individual may be needed for the advancement of an area of society, Erikson (1958b) cautioned against supporting such a notion uncritically. Grandin's life was at times,

especially as a child and adolescent, lonely, terrifying, painful, and confusing. This should not be taken lightly, nor should the constructive and healing influence of her imagination, animals, and mentors on her development be forgotten or diminished (Erikson, 1956, 1958b, 1968a, 1969). Grandin's development of integrity during this stage was facilitated by her having integrated and made peace with her challenging experiences and aspects of herself, as well as the positive influences in her life (Erikson, 1950/1973, 1968a; Hoare, 2013; Schultz & Schultz, 2013).

The wisdom of a woman with autism

Surprisingly, for an individual who had ego failure as an infant, Grandin has developed and continues to develop her ego identity (Erikson, 1956, 1968a, 1974; Feist & Feist, 2013). Grandin's ego identity or sense of herself has undergone much transformation from her birth until this point in her life (Erikson, 1968a, 1974). She now has a greater sense of who she is and is able to articulate this. By reflecting on the influence of autism on her development as well as the role animals had in 'saving' her (Grandin & Johnson, 2005), Grandin has learnt how to safeguard the "primary identity" (Grandin & Panek, 2013, p. 182) she holds at this stage of her life. By wholeheartedly pursuing her "cause" (Erikson, 1958b, p. 12), extending reciprocity of ethics and care toward animals, and including the autistic community and her students in her sense of responsibility to society, Grandin had already found meaning, fulfillment, and increased peace in her life (Erikson, 1964a, 1969; Miller, 2010; Sollod et al., 2009). As an older adult, her reflexivity and the ways in which she has learnt to protect not only animals, but also her ego identity, continue to enhance her ego coherence and enable a content "state of mind" (Erikson, 1950/1973, p. 259) with the life she has lived. Although Grandin has not yet completed this stage, at this point with the maturation of her ego strengths, she may be viewed as having attained the ego strength of wisdom (Erikson, 1950/1973; Hall, 1987; Miller, 2010; Sollod et al., 2009).

4.10.3 Stage 8 salient points

- a. Despite still experiencing difficulties at this stage of her life, Grandin has developed in ways not expected of an individual with severe autism / ego failure.

- b. Through her interactions with animals, investment in her wellbeing from mentors, and finding fulfillment in her career and “cause”, her ego became more stable and coherent as she progressed through the eight stages of psychosocial development.
- c. While traditionally forming a romantic bond develops the ego strength of love, Grandin did acquire this ego strength during her life as she felt love for and showed love toward animals.
- d. As Grandin’s generativity crisis occurred prematurely, it also extended into her final stage. This caused her to increase her focus on passing on her knowledge.
- e. By combining her own and society’s needs with “personal gifts”, Grandin’s ethical creative actions made “for historical greatness”.
- f. In spite of beginning life with ego failure Grandin continues to develop an ego identity.
- g. Grandin’s reflexivity and the ways she has learnt to protect animals as well as her ego identity continue to facilitate her ego synthesis and contentment with the life she has lived.

4.11 Life summary

Stage 1 (Trust versus mistrust):

Mary Temple Grandin was born on 29 August 1947 when little was known about autism. The first stage of her life was pervaded by ego failure and a basic sense of mistrust (Erikson, 1950/1973, 1956, 1968a, 1977). However, her ego failure did not align with a sense of basic mistrust to the extent that it would result in totalism (Erikson, 1956, 1968a). The cause of Grandin’s autism is unknown. The combination of being sensitive, her genetic make-up, structural brain differences, and limited contact with her mother may have caused her ego failure and therefore separation or negation of the mutuality of recognition relationship (Erikson, 1977). While having several caregivers, erratic contact with her mother, and the tension between her parents may not of themselves have caused Grandin’s ego failure, these factors possibly aggravated it and her mistrust (Erikson, 1950/1973, 1968a). Grandin’s body ego was unable to integrate experience and she was unable to interact with other individuals or take part in autocosmic play (Erikson, 1950/1973; Sutton, 2006). Her inability to take part in autocosmic play potentially influenced her ego assimilating more dystonic elements and becoming less balanced (Erikson, 1950/1973; Hoare, 2013). As Grandin was unable to take part in the interplay

of seeing and being seen, which enables hope to be formed, she was not able to establish mutuality of recognition (Erikson, 1950/1973, 1964a, 1977). As a result she was unable to begin to form an ego identity (Erikson, 1968a; Fesit & Feist, 2013). However, her severely withdrawn state may have provided her ego with a protective element (Erikson, 1956, 1968a).

Stage 2 (Autonomy versus shame and doubt):

As a result of Grandin's sensitive ego state, her father's growing disdain with her, and further inconsistent care from her mother, her distrust in people and the world were initially reaffirmed during the second stage (Erikson, 1950/1973, 1964a; Miller 2010; Sollod et al., 2009). Eustacia's conversations with Veevee and Ruby as well as taking Grandin to the clinic brought external societal hope into the home environment. Grandin's ego began to tentatively integrate this sense of hope as she started to interact with the outside world despite her previous ego failure and severely withdrawn state (Erikson, 1956, 1968a). These interactions were both constructive and destructive. Her ego beginning to test the environment enabled the foundations for mutuality of recognition relationships and the development of a sense of will to be formed (Erikson, 1950/1973). Grandin's withdrawn state prevented her from being present enough to realise the disdain of her family and to feel shame. In this case Grandin's ego failure provided her with defensive and protective qualities against a sense of shame and doubt which could have aggravated her withdrawn state and inability to trust (Erikson, 1950/1973, 1964a, 1968a; Feist & Feist, 2013). Her ego found repetition and constant testing of the environment through play necessary in order to continually reintegrate experience (Erikson, 1950/1973, 1956, 1977). These experiences were integral to Grandin being able to develop an ego identity (Erikson, 1968a, 1977; Feist & Feist, 2013). Despite Grandin's speech and communication being impeded, she developed a sense of will (Erikson, 1956; Miller, 2010). Eustacia's attending to Grandin, Miss Cray's daily work with her, and Mrs Reynold's nursery school and speech therapy all provided Grandin with consistency, constant boundaries, and potential social interactions (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). These interactions facilitated more ego stability, trust, and autonomy than were previously possible (Erikson, 1950/1973, 1956, 1968a).

Stage 3 (Initiative versus guilt):

During the third stage Grandin still had insufficient trust and autonomy to initiate activities and relationships and find a sense of purpose (Erikson, 1950/1973, 1964a). For the larger part of this stage Grandin was unable to speak. This further impeded her ability to develop social relations, initiative and purpose, and delayed the development of her ego identity (Erikson, 1950/1973, 1956). The continued environmental consistencies at home and nursery school enabled a partial resolution of the dystonic elements that she had internalised in the previous stages (Cutler, 2004; Erikson, 1950/1973, 1958b; Grandin & Panek, 2013; Hoare, 2013; Miller, 2010; Sollod et al., 2009). The regular psychosocial interaction, which provided Grandin with consistent recognition, was needed in order for her to learn that she was part of a community, to recognise others, and to understand herself as an active agent in the world (Erikson, 1956, 1968a). This social interplay facilitated the development of mutuality of recognition and hope. As a result Grandin's trust and presence increased and her body ego's integration of experiences became more unified (Erikson, 1950/1973, 1968a; Feist & Feist, 2013). This development supported her learning to speak when she was almost five (Erikson, 1968a; Feist & Feist, 2013).

Grandin's learning to understand the meaning of words also facilitated her understanding the difference between right and wrong (Miller, 2010; Sollod et al., 2009). However, her disruptive behaviour still impacted her ability to form relationships. Nevertheless, her positive developments enabled her to enter kindergarten. This environment, however, expected more of Grandin than she was developmentally capable of. This resulted in her being punished and laughed at when she did not meet the academic or behavioural requirements of kindergarten. Being less withdrawn may have caused her ego to be less protected than before from feelings of shame and low self-esteem when being punishment or laughed at (Erikson, 1950/1973, 1956, 1968a; Miller, 2010; Sollod et al., 2009). Despite the difficulties she faced and not being on the same developmental level as her peers at school, Grandin's ego was less dominated by dystonic elements and she showed signs of improvement (Erikson, 1950/1973; Hoare, 2013; Schultz & Schultz, 2013).

Stage 4 (Industry versus inferiority):

The fourth stage was a more peaceful time in Grandin's development. The consistency of her surroundings and regular psychosocial interactions continued to aid the development of trust and willingness to test the environment, and therefore reintegrate experiences (Erikson, 1956, 1968a). Her mind and body became more synchronised and her ego increasingly willing to remain present (Erikson, 1950/1973, 1968a, 1977). As a result her autonomy began to be more aligned with goal directed decision making and for the first time of her own volition she interacted with and formed relationships with other individuals (Erikson, 1950/1973, 1968a, 1977). Despite developmental improvements Grandin was still trying to assimilate experiences and find ego coherence (Erikson, 1950/1973, 1956, 1968a). As a result her ego weakness caused her to vacillate between a sense of industry or inferiority (Erikson, 1950/1973; 1956, 1968a; Miller, 2010; Sollod et al., 2009). Her friendships, creativity, and imagination enabled her ego to retain some sense of balance during this stage (1950/1973, 1956, 1977).

Grandin still often crossed socially acceptable boundaries and reacted with destructive behaviour. However, her increased presence also became more controlled and constructive. Grandin's friendships enabled her to initiate activities, develop a sense of purpose, and importantly, to play (Erikson, 1950/1973, 1977; Miller, 2010; Sollod et al., 2009). By playing with the other children and Crusader, Grandin began to learn to interact and practice interactions for future relationships and encounters (Erikson, 1977). These play encounters provided Grandin with a means to develop emotionally, cognitively and physically, and to resolve developmental tasks (Erikson, 1964a, 1977). By looking after Crusader Grandin developed a sense of purpose and displayed initiative as well as competence (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009). Grandin's relationship with Crusader enabled her to trust another living creature with a form of physicality and may have been one of her body ego's initial experiences in learning to integrate touch (Erikson, 1968a, Feist & Feist, 2013). Grandin's interactions with her friends and Crusader enabled her to learn to respect some other individuals and lay the foundation for the development of a "moral responsibility" (Erikson, 1950/1973, p. 248). Grandin's healing and development were also facilitated by her imagination. Instead of throwing a tantrum or withdrawing Grandin's imagination and developing creativity facilitated a way for her ego to remain present and calm when she was overwhelmed (Erikson, 1968a,

1977). Despite the developmental difficulties that Grandin faced as a result of her ego weakness and often feeling like a failure, she displayed isolated and rapid advancement of “special faculties” (Erikson, 1950/1973, p. 200).

Stage 5 (Identity versus role confusion):

As Grandin entered adolescence she had not yet resolved all the crises of the previous stages and was still immature (Erikson, 1950/1973, 1956, 1968a). However, following the more peaceful developmental period of the previous stage Grandin’s ego had retained its presence, was more coherent, and she had begun to develop an ego identity (Erikson, 1956, 1968a; Feist & Feist, 2013). Grandin’s increased ego presence and integration of experiences led to a greater awareness of other individual’s feelings, opinions and actions, in general and in relation to herself (Erikson, 1950/1973, 1956, 1968a; Feist & Feist, 2013). Grandin’s increased desire to fit in with her peer group was usual for an adolescent (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). However, Grandin’s unusual way of speaking, awkward physicality, and lack of academic competence set her apart from the other girls in her school (Erikson, 1950/1973, 1968a). Although Grandin’s ego remaining present was a positive development, this presence along with her growing awareness decreased the protective qualities of her previously withdrawn state (Erikson, 1950/1973, 1964a, 1968a; Feist & Feist, 2013). As a result Grandin’s feelings of shame, inferiority, pain, and isolation may have intensified (Erikson, 1956, 1968). This was revealed with Grandin being more aware of the girls at her school teasing her for being different and reacting violently in response, which resulted in her expulsion from school (Erikson, 1950/1973; Miller, 2010; Sollod et al., 2009).

Entering a new environment at New Hampshire Country School provided Grandin with a turning point in her development. Despite Grandin being in a caring environment and being shown that her opinion mattered, she initially still struggled with negative roles and potential identity diffusion (Erikson, 1956, 1958a, 1964a, 1968a; Luyckx et al., 2013). Grandin’s attachment to animals, her development of ego ideals, as well as the influence of her mentors helped to strengthen her ego and enabled her potential identity diffusion to be circumvented (Erikson, 1950/1973, 1956, 1968a). Grandin’s relationships with the animals at her school also encouraged the development of the “moral responsibility” (Erikson, 1950/1973, p. 248) she had initiated in

her interactions with Crusader and provided her with a sense of fidelity (Erikson, 1950/1973, 1963a, 1964a; Miller, 2010; Sollod et al., 2009). Grandin's mentors provided her with nurturing guidance and encouraged her to combine her abilities with her passion for animals with a future career in mind. A commitment to animals and her own development and future, as well as being a dependable friend enabled Grandin to enter adulthood with a sense of fidelity (Erikson, 1950/1973, 1963a; Miller, 2010; Sollod et al., 2009). Her ego weakness, however, caused her to carry the developmental task of establishing a stable ego identity into the following stage (Erikson, 1950/1973, 1958a, 1963a; Sollod et al., 2009).

Stage 6 (Intimacy versus isolation):

Grandin may be viewed as never having resolved the primary crisis of young adulthood as she has never formed an intimate romantic relationship with another individual. However, she did manage to form some close friendships, became committed to other humans and animals, as well as her chosen career and ethics. These are also essential developmental negotiations of this stage (Greene et al., 2010; Hamachek, 1990; Studer, 2007). Grandin's extended identity development as well as focus on her career as opposed to a romantic relationship are developmental characteristics that Erikson (1950/1973, 1956, 1958b, 1964a, 1968a, 1969, 1976, 1977) recognised in extraordinary individuals. Grandin's protracted identity crisis resulted from the difficulties she faced as an individual growing up with autism and her need to still establish ego coherence (Erikson, 1956, 1958b, 1968a, 1977). Her prolonged identity crisis that particularly involved her need to understand her own difficulties with physicality led to an inclusion of animals 'crises' with humane treatment and non-fearful physicality and death (Erikson, 1950/1973, 1958, 1963a; Feist & Feist, 2013; Rimland, 1986/2005). Including an element of society's crises into her own identity development caused Grandin to have a premature generativity crisis (1950/1973, 1956, 1958b, 1968a, 1968b, 1977).

Grandin's career provided her with a sense of purpose and direction (Erikson, 1950/1973; Greene et al., 2010; Hamachek, 1990; Studer, 2007). Her ethical development and empathy for animals were primary factors that influenced the direction of her career and research. Grandin's career was not only a means of generating an income but became a life purpose and "a cause" (Erikson, 1958b, p. 12) which strengthened her ego synthesis. The negative views expressed

about her research and squeeze machine by some staff and students and her mother, in particular, had a negative influence on her ability to resolve her identity crisis (Erikson, 1950/1973, 1963a, 1968a; Miller, 2010; Sollod et al., 2009). To form a more stable identity Grandin needed to separate her sense of who she was on a continuum to that of the negative perception that her mother continued to hold of her, her chosen research, and means of relieving anxiety (Côté & Levine, 1987; Erikson, 1968a; Feist & Feist, 2013).

Through her increased interactions with animals Grandin learnt that by nurturing nature and being nurtured by nature she could experience feelings of peace, love, and trust with physicality (Erikson, 1963b, 1964a, 1969; Grandin & Johnson, 2005). Grandin's empathy for and reciprocity of ethics in relation to animals fuelled her determination, maintained her motivation, and informed the choices she made in her career (Erikson, 1963b, 1964a, 1966b; McAdams, 2009; Miller, 2010; Sollod et al., 2009). Her strong sense of initiative, her unusual way of relating to animals, and her creativity, enabled her to generate change for the animals she cared about (Erikson, 1950/1973, 1963a, 1977; Evans, 1981; Irvine, 2013; Van De Water & McAdams, 1989). When Grandin's personal crisis intersected with the societal crisis that was the scabies outbreak in the USA in 1978, her work and crisis rose to "representative position" (Erikson, 1950/1973, p. 327). The success of and need for Grandin's designs contributed to her reputation as having a "magical connection to animals" (Grandin & Johnson, 2005, p. 24) spreading both nationally and internationally.

Stage 7 (Generativity versus stagnation):

During the previous stage Grandin had a premature generativity crisis and had already begun to contribute to society. During the seventh stage Grandin continued to be driven by her sense of responsibility towards animals and developing ideas to ensure and enhance their welfare (Erikson, 1964a; Grandin & Johnson, 2005). She also expanded her generativity to include teaching within her field to both university students and workers at slaughter plants, as well as within the field of autism (Erikson, 1950/1973; Grandin, 1984a; Grandin & Panek, 2013; Miller, 2010; Sollod et al., 2009). Grandin's ego weakness or autism caused interpersonal relationships and socialising to continue to be difficult for her (Erikson, 1956, 1968a). However, her increased ego coherence, which facilitated her ability to self-reflect, combined with her determination to

increase her knowledge of socially acceptable behaviours enabled her difficulties to lessen (Erikson, 1950/1973, 1956, 1968a). The contributions Grandin made in the form of products and ideas such as her PhD research, the articles, autobiographies, and books she wrote relating to animal science and autism, as well as her designs were also aspects of her generativity as they benefited society and could be passed on to future generations (Evans, 1981; McAdams et al., 1993; Van De Water & McAdams, 1989). The animal welfare audit Grandin developed was of particular importance to ensuring the welfare of animals and further facilitating her generativity. Her animal welfare audit rose to “representative position” (Erikson, 1950/1973, p. 327) and was implemented when Grandin’s history and cause intersected with the historical changes occurring at McDonalds. While McDonalds had in some ways facilitated Grandin’s potential being put into action and influenced her career at this point, she too influenced the development of the McDonalds’ franchise, both locally and internationally (Erikson, 1958b, 1968a, 1968b, 1969, 1977). Grandin’s generativity during this period enabled her to have a more coherent sense of herself as well as to build on the ego strength of care which she had already begun to acquire during the previous stage (Erikson, 1950/1973; McAdams et al., 2001; Miller, 2010; Sollod et al., 2009).

Stage 8 (Integrity versus despair):

During late adulthood Grandin had not fully resolved all the crises of the previous stages. The most evident of these being that she has not formed an intimate romantic relationship with another individual. While traditionally forming a romantic bond develops the ego strength of love, Grandin did acquire this ego strength as she felt love for and showed love toward animals (Erikson, 1950/1973; Grandin & Johnson, 2005; Miller, 2010; Sollod et al, 2009). Despite Grandin still having difficulties at this stage of her life and not having resolved all the psychosocial crises equally well, over her life she has developed in ways that would not be expected of an individual who was severely autistic as a child (Erikson, 1950/1973, 1956, 1968a). Just as Grandin’s generativity crisis occurred prematurely, it may also be viewed as having extended into her final stage. At the age of 69, Grandin has not yet relinquished her “cause” (Erikson, 1958b, p. 12) or responsibility toward animals. She has also in many ways extended her sense of responsibility to the lives of her students and the autistic community (Erikson, 1964a). Although Grandin no longer focuses on designing humane animal handling

facilities, she now uses the time and energy required for designing to teach and pass on her knowledge (Erikson, 1950/1973, 1977; Evans, 1981; McAdams et al., 1993). Grandin's development of integrity during this stage was facilitated by her having integrated and made peace with her challenging experiences and aspects of herself, as well as the positive influences in her life (Erikson, 1950/1973, 1968a; Hoare, 2013; Schultz & Schultz, 2013).

4.12 Chapter summary

This chapter dealt with the data processing and display concerning Grandin's life data as well as the analysis thereof. The data was collated and analysed in accordance with Erikson's (1950/1973) eight stages of psychosocial development. The data display and analysis of each stage were followed by salient points. This chapter concluded with a life summary.

CHAPTER 5

CONCLUSION

Animals are more than ever a test of our character, of mankind's capacity for empathy and for decent, honorable conduct and faithful stewardship. (M. Scully)

5.1 Chapter preview

This chapter provides an overview of the study and addresses the extent to which the research objectives were met. The value of this study, including various contributions to knowledge, as well as the limitations will be discussed. Recommendations for future research will also be provided.

5.2 Overview of the study

This manuscript began by providing the reader with a general orientation to this psychobiographical study, including an introduction to the research subject, Temple Grandin. The reader was also presented with reasons for the choice of Grandin as a research subject. An overview of Erikson's (1950/1973) theoretical framework was provided. This included a detailed description of the eight stages of psychosocial development, his contribution to psychobiographical research and theories on ego failure, creativity, animals and nature, as well as extraordinary individuals. With regard to the research methodology, the psychobiographical approach was described and discussed. The mixed method approach (Ponterotto, 2005, 2013; Yin, 2006) utilised for this study as well as Miles and Huberman's (1994, 2002a, 2002b) method of data processing and analysis were outlined. Erikson's (1950/1973) theory of psychosocial development and the mixed method approach (Ponterotto, 2005, 2013; Yin, 2006), which included Miles and Huberman's (1994, 2002a, 2002b) method of data processing and analysis, were employed for the conduction of this study. This could be viewed in the form of the data collection and analysis of Grandin's life.

5.3 Extent to which the research objectives were met

The primary aim of this study was to describe and interpret the life of Temple Grandin through the use of Erikson's theory of psychosocial development (Erikson, 1950/1973; Miler, 2010;

Sollod et al., 2009). This objective was met through the use of the morphogenic nature of the psychobiographical approach which requires a dialogical interaction between biographical and autobiographical data with the chosen theory (Allport, 1962; Runyan, 1982). The achievement of this objective made a contribution to our understanding of (a) the psychosocial development of Temple Grandin, as well as psychological knowledge and insight into (b) the development of extraordinary creativity, and (c) the psychological development of a person with autism, and (d) highlighted the influence play, mentors, and animals may have on autism and developing ego synthesis. The latter was enabled by investigating the development of Grandin's creativity as well as the role that animals and mentors played in facilitating her integration of syntonic characteristics at various psychosocial stages (Erikson, 1950/1973, 1956, 1977, Hoare, 2013).

The second objective was to assess the suitability and usefulness of Erikson's theory (1950/1973) to interpret Grandin's personality development across her lifespan, and in doing so make a contribution to personality and developmental theories through analytical generalisation (Denzin, 1990; Irvine, 2013; Roberts, 2002; Syed & Seiffge-Krenke, 2013; Yin, 2014). While there were certain limitations to Erikson's (1950/1973) theory of psychosocial development with regard to the interpretation of Grandin's life data, which will be discussed in section 5.5.1, the researcher found the theory particularly useful and relevant. Psychosocial theory (Erikson, 1950/1973) was not only suitable and useful for the interpretation of Grandin's entire life thus far, but also (a) aided the morphogenic nature of the psychobiographical approach, (b) contributed to understanding Grandin's development as an extraordinary individual, as well as (c) the development of her creativity, (d) how she transitioned from having ego failure as an infant to fairly stable ego coherence as an adult, and (e) the ways in which animals may influence development and healing. Despite certain limitations, the achievement of this objective illuminated situations and events that encourage healthy personality development despite being severely autistic as a young child and experiencing traumatic events growing up.

In Chapter 1, the researcher's desire to respond to Fellman's (1986) statement posed to psychobiographers was noted. This statement or question regarded the incorporation of investigations into psychological problems and means of alleviating distress into psychobiographical studies (Fellman, 1986). Through the research process and attainment of the

first and second research aims the researcher was able to act in relation to Fellman's (1986) question as well as make a psychological contribution to the fields of autism and human-animal interaction.

The attainment of the first and second research objectives and producing research which responded to Fellman's (1986) statement in conjunction with the completion of this study made the final research objective possible. This was to make a contribution to the growing academic field of psychobiography in South Africa. The attainment of the third research objective is supported through the researcher's reflections on the value and limitations of the psychobiographical approach to this study in sections 5.4.1 and 5.5.1. These sections may provide psychobiographers with points to consider when conducting future studies.

5.4 Value of the study

5.4.1 Methodology and the psychobiographical approach

The general value of the psychobiographical approach was incorporated into the methodological discussions of Chapter 3 and therefore will not be reiterated in this section. More specifically, the use of the psychobiographical approach provided a view of Grandin's life that has not previously been presented. The morphogenic nature of the psychobiographical approach as well as that it is employed to investigate longer-term developmental process and considers the impact of historical, societal, and political influences was of particular value to this study and to knowledge generation (Clark, 2007; Manganyi, 2013; McAdams, 1988a; Ponterotto, 2013; Runyan, 2006). This enabled consideration and illumination of (a) the development of Grandin's creativity and passion for animals and how they contributed to her developing a stable identity and becoming generative in adulthood, (b) the influence of the lack of knowledge surrounding autism in the 1940's and 1950's on Grandin's home environment and development, (c) Grandin's role and experiences as a woman in a field dominated by men, (d) as well as the way in which personal crises may intersect with societal crises and have revolutionary consequences. These considerations were supported through the use of Erikson's (1950/1973) psychosocial theory and enabled a plausible explanation for the development of an extraordinarily creative individual, in this case Temple Grandin. In the field of human-animal interaction there have been questions

posed surrounding the long term influence of animals on development and healing (Esposito et al., 2011; Griffin et al., 2011; Wilson & Barker, 2003). While this is a single case study and findings may not be generalisable, the longer-term developmental focus of the psychobiographical approach was valuable in assisting theoretical knowledge generation in this area.

The mixed method approach (Ponterotto, 2005, 2013; Yin, 2006) which was employed to support and facilitate the psychobiographical approach was useful to the conduction of this study. Ponterotto (2005, 2013) suggested that the mixed method approach is particularly relevant to facilitate the complex nature of psychobiographical research. This was confirmed through this research process as it enabled a dynamic way of interacting with and interpreting the data. As is the case with psychobiographical studies there was a vast amount of data and an integrated methodological approach assisted with ‘sorting’, focusing on pertinent information, and increasing the depth of analysis. The integration of various methods facilitated a methodological ‘holding’ and increased the reliability and validity of the study.

5.4.2 Psychosocial theory of development

It has been mentioned throughout this conclusion thus far that Erikson’s (1950/1973) theory of psychosocial development was of value to this study. The researcher wishes to reiterate this point and elaborate on it further. Grandin’s development was complex. She not only developed an ego identity and ego coherence despite her severe autism, but also developed extraordinary talents and contributes to society at large. There were also many factors that hindered as well as supported her development. This complex and extraordinary development required a complex theory for thorough illumination of her life to be possible. Even in 2016 the causes of autism and ways of healing are not definitive despite many advances in the field. Erikson’s (1950/1973, 1956, 1968a, 1977) theory provided a means of understanding ego failure or autism and potential ways in which an individual with autism can become an active agent and to varying degrees heal and develop. Grandin’s imagination, propensity for play, and attachment to animals had a large impact on her integration of syntonic characteristics and ability to heal. Erikson’s (1950/1973) theory not only provided a thorough understanding of her development at each stage, but also

valuable theoretical insight into how animals and her imaginative play aided her negotiation of developmental tasks and ego synthesis.

Erikson's theory (1950/1973) was also valuable as it provided insight into Grandin's development on an individual level as well as provided a means of understanding her interaction with societal structures and crises at a particular time in history. This led to an understanding of how a creative individual may bring about extraordinary change in an area of society. Erikson's (1950/1973) theory also enabled an exploration and understanding of the influence of her ego failure, home environment, wider social context and the role played by significant people and animals on her life. The latter was a significant finding as it revealed that despite a difficult infancy and childhood significant people *and* animals can have a positive influence on an individual's development and resolution of developmental crises. Even though Grandin did not always resolve the crisis of a specific stage at the developmental period suggested by Erikson (1950/1953), the theory compensates for this as any stage may be resolved at a later point in an individual's life.

Erikson's theory contributed to knowledge generation and aided the illumination of the importance of early and continuous intervention in an individual with autism, as well as the potential role of play, animals, and mentors on development and healing. These areas will be discussed further in sections 5.4.3- 5.4.6

5.4.3 Early and continuous intervention

The study of Grandin's life highlighted that early and continuous interventions are needed for developmental healing to occur in an individual with severe autism. However, it also made apparent that early intervention may not always be possible, for reasons such as parents having insufficient knowledge of autism or ignoring the extent of their child's problems because of their own shame surrounding what may be 'wrong' with the child. A greater awareness of and knowledge about Autism Spectrum Disorder in society may help to combat such hindrances to children receiving necessary care. Early intervention is suggested in order to prevent developmental delay as far as possible, as well as to encourage the weak ego away from a

position where active distrust aligns with a withdrawn state to the extent that it results in totalism and becomes a permanent way of being (Erikson, 1956, 1968a).

Despite Grandin coming from a wealthy family, who therefore had easier and greater access to various interventions, her case reveals that not all forms of therapy or intervention will work. This study did, however, reveal that learning to trust the environment and people in it are necessary for the ego to leave a withdrawn state and begin to interact with the environment. While consistency and reliability of people and the environment are needed by all infants in order to develop trust (Erikson, 1950/1973; Miller, 2010), these conditions may be even more necessary for individuals with ego failure. The study of Grandin's life was revealing in this regard. Consistent care and external hope may be internalised and aid the development of trust. Activities or interventions which may seem simple or even silly such as exchanging cups, as Grandin's mother did with her, or having newspaper or sand to play with, may allow the ego to gain a sense of the trustworthiness of experiences in the moment by testing the environment (Erikson, 1950/1973, 1956, 1968a). Repetition and constant testing of the environment are not necessarily pathological behaviours and may be needed for the ego to continually reintegrate experience. Children with autism, such as Grandin, often have difficulties with physicality. Grandin's experiences reveal that being allowed to repetitively play with objects such as newspaper, sand, or cups may facilitate the body ego learning to differentiate the boundary of the individual's body from that of other objects and locate itself within time and space (Erikson, 1968a; Feist & Feist, 2013).

Interventions which may encourage the individual to test the environment and begin to interact with another, as Grandin did when she exchanged the cups with her mother, are necessary for various reasons. Firstly, it enables the body ego to experience itself as an active agent in the world, separate from another, yet part of a community. It also facilitates the development of a mutuality of recognition relationship with another which is integral to developing hope, trust, and beginning to develop an ego identity (Erikson, 1950/1973, 1956, 1968a, 1977). These interventions may need to consistently continue, and change (to suit the child's developmental stage) throughout the individual's childhood and adolescence, as was the case for Grandin. This is because a weak ego may need much time and testing of the environment to assimilate

experiences and syntonic characteristics, as well as to develop an ego identity (Erikson, 1968a; Hoare, 2013).

This study also revealed that speech therapy was particularly useful to Grandin's psychosocial development (Erikson, 1950/1973). Even when she still could not speak, learning and understanding more words enabled her to begin to understand the difference between right and wrong, which facilitated more socially acceptable behaviours. After some time Grandin did learn to speak as a result of speech therapy. This encouraged the development of her autonomy, ego identity, and being able to interact with and form relationships with other individuals. As a result it also led to new opportunities and psychosocial interactions. Speech therapy may be a valuable form of therapy for other individuals with autism.

Grandin was able to develop a strong self-reflective element as an adolescent during her time spent in the observation room. As an adult this reflexivity aided her self-interventions and healing such as learning social rules and working on her speech patterns. Grandin was also able to reflect on what made social interactions easier for her, how she could make friends and what eased her body ego's anxieties, such as being around animals or using her squeeze machine. Realistically this level of reflexivity may not be possible for all individuals with autism. However, Grandin's adulthood makes apparent that continued interventions as well as certain consistencies of environment, people, animals, and a safe place may still be needed for the adult with autism to function and continue to develop.

5.4.4 Play, creativity, and healthy personality development

As was mentioned in Chapter 2, Erikson (1956, 1968a, 1977) reasoned that there is a connection between pursuing creative abilities and recovering from ego failure or autism and that it is significant, and therefore requires further research. This research enabled such an investigation to take place. The findings of this research support Erikson's (1956, 1968a, 1977) idea as well as other research that suggests that there is a connection between creativity and the development of a healthy personality (Csíkszentmihályi, 1996a, 1996b; Kóváry, 2011; Maslow, 1999; Richards, 2006; Schultz, 2005c; Winnicott, 1971/2005), and that creative individuals may encompass adaptive characteristics (Capps, 2012b; Murray & Johnson, 2010; Richards, 2006). The findings

of this study also contribute to the understanding of (a) how extraordinary or ‘big’ creativity (Erikson, 1977; Feldman, Csíkszentmihályi, & Gardner, 1994) may develop in an individual, and (b) how play and creativity may aid in coping as well as healing and negotiating developmental crises. Related to the latter, this study revealed that there may be an association between the development of hope and resilience with play and imaginative endeavours.

The importance of studying an extraordinarily creative individual such as Grandin through an idiographic and long term developmental approach such as psychobiography was demonstrated by certain benefits of play and creativity to healthy personality development being discovered. It is important to stress the value that play had on the development of an individual such as Grandin who had ego failure and as a result was absent and did not interact with her caregivers. Grandin’s play did not always look like play, but rather a random repetitive action or a fixation. However, autocosmic play, such as letting sand slip through her fingers, enabled her to begin to interact with her environment and aided her body ego’s integration of experience (Erikson, 1968a, 1977; Feist & Feist, 2013). Grandin’s testing of and interacting with the environment through play encouraged the development of trust and her ego’s ability to begin to be present. This trust and presence that Grandin began to develop through play facilitated further play encounters with the microsphere and interplay with other individuals such as her mother and later with her friends and Crusader. Despite retreating to her absent state, the interplay with her mother of exchanging the cups enabled mutuality of recognition to be formed (Erikson, 1968a, 1977). This is of significance in an individual with ego failure or autism. It is suggested that however developmentally delayed or simple and obsessive the play of an individual with autism may seem, it should not necessarily be discouraged. Through patient encouragement and careful introduction of new people and objects to interact and play with in the microsphere, the absent ego may become more trusting, present, and develop mutuality of recognition.

As a young child playing with her friends and Crusader provided Grandin with opportunities to learn to interact and practice interactions for future relationships. Grandin enjoyed playing and in order to continue playing with others she needed to remain present and recognise other individuals. Play also aided Grandin’s ego synthesis (Erikson, 1968a, 1977) by (a) encouraging her to be present, (b) facilitating an understanding of herself as an active agent in the world, (c)

increasing her development of mutuality of recognition relationships, (d) enhancing her communication skills, and (e) providing her with a means to develop emotionally, cognitively, physically and resolve developmental tasks. Even when Grandin had developed mutuality of recognition and was able to and enjoyed playing with her friends and Crusader, solitary play was still important and necessary for her ego balance (Erikson, 1964a, 1956, 1968a, 1977). Solitary play as a child and adolescent such as telling herself stories, imagining various comforting magical devices, and her introspection in the observation room were beneficial to Grandin's ego coherence as they (a) also encouraged her presence, (b) facilitated a mastery effect on emotions, and (c) created self-awareness.

Through her imaginative play Grandin developed her creativity. She utilised her creativity in formal tasks at school, by building her own squeeze machine (or adult version of the magical device), and in extraordinary ways throughout her career. The benefits of her creativity to healthy personality development were in relation to (a) being able to make her imaginings communicable which was significant in an individual who struggled to speak / communicate, (b) stable identity development, (c) creating reflective knowledge, (d) a coherent sense of self, and (e) increasing her self-worth and sense of purpose. These findings support Erikson's (1956, 1968a) opinion that encouraging the development of the talents and creative abilities of an individual with autism may strengthen the ego, aid communication and relating to others, and possibly provide a potential occupation.

5.4.5 Human-animal interaction

A value of this study is that it provides conceptual theoretical knowledge to the field of human-animal interaction as well as adds to the growing proof of concept (O'Haire, 2013b) that animals may facilitate developmental healing in individuals with autism. Despite the benefits of animals to human health being researched, shown, and acknowledged there are still many questions within the field of human-animal interaction. The long term benefits of interacting with animals on children's development and human health requires further research and knowledge generation (Esposito et al., 2011; O' Haire, 2013a; Wilson & Barker, 2003). The long term focus of this psychobiographical study contributed to knowledge generation in this area. Researchers have also raised questions such as (a) what psychological and physical benefits may occur for humans

as a result of interacting with animals (Esposito et al., 2013), (b) is it only companion animals that may facilitate psychological and physical wellness (Beck & Katcher, 2003), as well as (c) how is it that animals mediate human health (Beck & Katcher, 2003; Fine & Beck, 2015), and (d) why are animals more able to connect and interact with individuals with autism than other humans are (Johnson, 2003; O’Haire, 2013b; Prothmann, Ettrich, & Prothmann, 2009)?

Theoretical answers to the above questions based on the analysis of this study’s findings will follow. The researcher does not posit that these ‘answers’ are definitive nor that further research is not required in this area. However, they may provide some understanding in these areas of human-animal interaction and assist further research.

What psychological and physical benefits may occur for humans as a result of interacting with animals?

This study revealed that animals may assist with the negotiation and resolution of developmental tasks as well as facilitate healing from ego failure. As a child Grandin’s interaction with animals aided her development of mutuality of recognition (Erikson, 1968a), ego presence, and awareness of other’s needs as was observed in her relationship with Crusader. As Grandin’s interactions with companion and farm animals increased at New Hampshire Country School, she became more aware of her own feelings such as being able to love another living being, that it was possible to enjoy physical contact, and learnt to be empathetic. In terms of Grandin’s development, animals also encouraged her to act within social and lawful boundaries and form a “moral responsibility” (Erikson, 1950/1973, p. 248) as well as a sense of purpose and fidelity. This was most noticeably observed when she was suspended from riding horses and working with animals because she had punched another child and resolved never to behave in such a manner again as she did not wish to be separated from animals. Through her interactions with animals her “moral responsibility” (Erikson, 1950/1973, p. 248) developed into an astute sense of ethics as she matured. Animals may assist healing and psychosocial development in the above mentioned ways as they are also living creatures and may provide a sense of belonging, attachment, someone to play and work with, and more specifically a relationship as another human may do. However, it seems that animals are able to do this possibly with more patience

and without judgment, and therefore to do not incite feelings of anxiety, shame, or self-doubt and rather encourage the integration of syntonic characteristics (Erikson, 1950/1973; Hoare, 2013; Schultz & Schultz, 2013).

This was a psychological study and therefore the researcher cannot speak in scientific terms to the physiological benefits of humans interacting with animals. However, the findings of this study do suggest that animals can help to calm the physical symptoms of an individual's anxiety and encourage physical activity and wellbeing. In terms of an individual with autism or ego failure such as Grandin, who struggled with physicality and being overwhelmed by her senses, animals may facilitate the body ego's (Erikson, 1968a; Feist & Feist, 2013) integration and even enjoyment of touch or physicality.

Is it only companion animals that may facilitate psychological and physical wellness?

This study supports research that suggests that companion animals may facilitate psychological healing and wellness. In terms of Grandin this was observed from an early age when not understanding why the neighbour's dachshund was not a cat because it was small facilitated her learning that size was not what distinguished cats from dogs. She was also able to learn and demonstrate an animal's behaviour despite her ego weakness when she acted as Andy the family dog for her class pet show. Her psychosocial development was also encouraged and displayed through her interactions with the dog, Timmy, and cats she adopted as an adolescent. Companion animals such as cats and dogs encouraged Grandin's ego presence and provided her with a sense of belonging and purpose and means of learning about the world outside of herself and withdrawn state. Importantly, the study also demonstrated that rodents, such as Crusader, as well as farm animals may play an integral role in healing from ego failure, easing the body ego's anxiety with physicality, forming a stable ego identity, and developing psychosocially. This study also demonstrated that companion animals *as well as* a rodent and farm animals were capable of encouraging Grandin's development as an active agent in the world and incorporating her into a community.

How is it that animals mediate human health? / Why are animals more able to connect and interact with individuals with autism than other humans are?

The answers to these questions are related and therefore will be answered together to avoid unnecessary repetition. The general ability of animals to mediate psychological healing and wellness may be one of or related to the reasons that they are able to interact with individuals with autism more readily than humans are. The ability of animals to facilitate psychological development and healing may alone be because as living beings they can provide a sense of belonging, an attachment figure, or relationship (Erikson, 1950/1973, 1964a, 1977) as humans do. Therefore it is suggested that it stands to reason that they may fulfill some of the same psychological roles that humans do in each other's lives. However, the abilities of animals to facilitate psychosocial interaction and healing may be enhanced by their lack of judgment, increased patience, "restraint" (Erikson, 1964a, p. 150), and inner balance (Erikson, 1963b, 1964a). These factors may contribute to why and how animals are able to encourage presence, trust, mutuality of recognition, and physical contact in individuals with autism or ego weakness, as well as in individuals who have been traumatised.

According to Erikson, animals have more ego synthesis than humans do and this combined with their integrity encourage in them a sense of morality towards both other animals and humans (Erikson, 1963b, 1964a, 1969). If, as Erikson (Erikson, 1963b, 1964a, 1969) suggests, animals are capable of having a sense of morality and have more ego balance than humans, they may be less threatening and have a greater openness or availability to the emotional needs of humans and more specifically humans whose egos are struggling for coherence. Erikson also posits that in animal nature is the "precursor" (1964a, p. 147) to the person's ego. This may be a reason why if an animal is able to connect and interact with an individual with ego failure on a regular basis, such as occurred in Grandin and Crusader's relationship, the animal may assist with the development of an ego identity (Erikson, 1968a).

Although Grandin transitioned from communication being impossible to always being difficult in varying degrees, from a young age she was able to communicate with animals and establish mutuality of recognition relationships. She did not always have such mutual communication and

understanding with other humans. The research suggests that animals do not require the same level of verbal communication as humans do to interact. They themselves are able to interact without the use of words. The ability of animals to communicate effectively without words (or even sound) may be appealing to some individuals with autism whose senses may feel overwhelmed.

5.4.6 Mentors

The analysis of Grandin's life demonstrated the significance of mentors or individuals who serve as role models. The negative influence on development that significant individuals may have was made evident when Grandin internalised her father's and Miss Cray's inappropriate and aggressive ways of crossing boundaries and acted accordingly. Grandin's interactions with these significant individuals also displayed that people in the position of potential role models may increase an individual's anxiety, decrease self-esteem, and maintain the body ego's alert state (Erikson, 1968a; Feist & Feist, 2013) as was the case for Grandin. Her mother was another significant individual whose influence was revealed to be detrimental to her development when her mother's hurtful opinions of her research and squeeze machine negatively affected her ability to resolve her identity crisis. Conversely, Grandin's relationships with mentors Mr Brooks, Ann, and Mr Carlock displayed that mentors may aid the circumvention of identity diffusion (Erikson, 1950/1973, 1956, 1968a) and facilitate psychosocial development more generally, as well as ego recovery in an individual with autism.

Mentors may play a significant role at various stages in an individual's development. In terms of this research Grandin's mentors came into her life during adolescence and supported her into young adulthood. For Grandin this was a crucial time as adolescence was particularly difficult and she had begun to regress. This research made apparent the beneficial role mentors may play in ego recovery and support such as (a) facilitating the generational nature of the human life cycle (Erikson, 1950/1973, 1964a, 1968a), (b) being trustworthy and empathic and thereby providing stability for a young and weak ego to negotiate and resolve previous developmental crises, (c) being aware of an individual's difficulties as well as talents and encouraging the development of the latter, (d) providing nurturing guidance which may assist with inter-personal

relationships and career choices, as well as (e) providing an ego ideal and model of socially appropriate and ethical behaviour.

Mentors may be beneficial to any individual. However, this research made apparent that the role they may perform in the life of an individual such as Grandin, who was often not accepted by others because of her difference, struggled with socially acceptable delineation, and had a difficult home and school life, may be of increased significance and necessity. It was also revealed that if the individual with autism has managed to form a meaningful and trusting relationship with a mentor, continued support from the mentor into adulthood may (a) prevent the fragile ego from regressing and (b) further encourage the development of a stable ego identity if the individual has a protracted identity crisis as Grandin did. It is supposed that mentors may provide a psychosocially beneficial role to other individuals with autism. While not all individuals with autism may reach the level of psychosocial development necessary to become mentors themselves, Grandin's involvement as a mentor encouraged her self-awareness, empathy, self-worth, and sense of purpose. Therefore while being mentored may be essential to psychosocial development and healing of the ego, in turn becoming a mentor may also have psychosocial value.

5.5 Limitations of the study

5.5.1 Methodology and the psychobiographical approach

Various limitations of the psychobiographical approach were addressed in Chapter 3 (Research design and methodology), and therefore will not be re-iterated in this section. As mentioned in section 3.13, any unexpected ethical concerns that arise during the research process would be discussed in this concluding chapter in order to add to the growing awareness surrounding psychobiographical research ethics. Despite the researcher having Grandin's consent for the research and the necessary information being available in the public domain, the researcher reached an ethical quandary when needing to sort, choose, and analyse data that related to people who had an impact on her development, but had not given their consent for their behaviour and lives to be analysed. A more in-depth focus and analysis of such people may have portrayed them in a psychologically unhealthy light, which may be considered defamatory. As this

manuscript will also be in the public domain the researcher questioned how ethical such analysis would be without the specific individuals' consent. This may have limited the inclusion of pertinent data, or a more in-depth analysis of certain data. The researcher did, however, attempt to retain the context and environment of Grandin's development while being aware of such ethical considerations.

At the outset of the research process, the researcher had not considered that consent from other individuals may be needed. The researcher became increasingly aware of this during the 'main' data collection process. The initial focus of a thesis is often on preliminary data collection for a proposal and may be followed by a focus on the literature review and methodology chapters. A suggestion to future researchers is to broaden the preliminary data collection for the proposal to focus on potentially significant individuals to ascertain early in the research process if additional consent is needed.

5.5.2 Psychosocial theory

While the researcher found Erikson's (1950/1973) theory of psychosocial development to be particularly useful to the illumination of Grandin's development, it does not provide a theoretical framework for the time spent in utero. Therefore in terms of this study, a more in-depth analysis of the influence of environmental factors during Grandin's time in utero on her emotional and physical development could not be theorised. Such factors included the historical context, her parent's relationship, and Grandin's mother's experiences while she was pregnant with her. Despite not being analysed, the context of Grandin's birth was nevertheless deemed necessary and provided in order to present a fuller understanding of her life.

5.5.3 The researcher

As previously mentioned, the conduction of a psychobiographical study is a complex process. There was a vast amount of data which could not all be utilised within the scope of a doctoral thesis. In relation to the previous points, the researcher is still a student and learning, and this may have been a limitation to the overall study. The researcher's inexperience may have contributed to some relevant data not being recognised and therefore salient points being

undiscovered and as a result not considered. The researcher's level of experience may also have affected the depth of analysis of the life data.

Like Grandin, the researcher has a passion for animals. This may have been a benefit to the study with regard to the researcher being able to empathise with Grandin in this regard. However, it may also have facilitated researcher bias. In order to remain objective the researcher utilised reflexive practices. This was aided by discussions with the researcher's supervisor as well as peers undertaking psychobiographical research.

5.6 Future research

As this study may be viewed as a starting point to understanding Grandin's personality development, the initial recommendation is that related studies focusing more intensively on areas of her development such as her creativity or interaction with animals, be conducted. This would enable (a) a more in-depth analysis of sources related to particular areas of her development, as well as (b) additional theoretical approaches to be used for the interpretation of the data to further provide insight into Grandin's psychological development.

The researcher realises that being able to analyse Grandin's life through the psychobiographical approach may be a rare opportunity to investigate the development of an extraordinary individual with autism. However, it is recommended that if possible in the future more psychobiographical studies be done on extraordinary individuals with autism. More in-depth studies may provide valuable insight into the optimal development of individuals with Autism Spectrum Disorder as well as enable comparisons to be made. It is also recommended that (a) more psychobiographies are conducted on extraordinarily scientifically creative individuals in general, as well as (b) extraordinarily individuals who experienced traumatic childhoods whose creativity or relationships with animals aided healthy personality development. This would enable researchers to explore similarities and differences. This would also facilitate researchers being able to investigate if there are particular developmental stages that are integral to the development of extraordinary creativity as well as the long term influence of animals on development respectively. Such psychobiographies could further illuminate how creativity or relationships with animals may aid adaptation, coping, and resolving developmental crises. With regard to the

latter point, such research may also be beneficial to the development or refinement of therapy models.

Grandin's life and development occurred in a wealthy and culturally different society to South Africa. While the findings of this study are not generalisable, they do provide theoretical knowledge and insights, as well as a 'map' of the healing and optimal development of one individual with autism. This could potentially facilitate the generation of hypotheses and be valuable to future autism research within South Africa. Firstly, this study found that early and continuous intervention was essential. With regard to this point it is suggested that research be conducted into the awareness of and responses to symptoms of autism of South Africans as this may influence the possibility of accessing interventions early in the development of an individual with autism. Various formal therapies and interventions for individuals with autism are not available in all areas of the country and also may not be accessible because of financial limitations or other constraints. However, interventions or resources for healing such as animals, the various forms play and imaginative / creative endeavours may take, as well as people who may act as role models or mentors are available within the South African society. The researcher is not suggesting that such resources merely be inserted into lives of individuals with autism or that they will necessarily facilitate healing in all individuals on the autism spectrum. However, it is suggested that research be conducted in South Africa as to if and how animals, mentors, and creative endeavours may be available to individuals with autism, as well as if and how they may assist with psychosocial healing.

5.7 Concluding remarks

This chapter provided an overview of this study, the value and limitations of this research, as well as future recommendations. In certain academic circles the value of psychobiographical research is still questioned or negated. It is nevertheless imperative to the future of psychobiographical research that it rightfully establish itself as a research genre and methodology within psychology. If this does not occur, the full extent of the potential benefits that psychobiography may contribute to the field of psychology will not be experienced or be able to be utilised. It is hoped that this study will contribute to a better understanding of the usefulness of psychobiographical research to developmental and personality psychology,

supporting proof of concept and hypothesis generation, as well as research into various fields such as autism, creativity, and human-animal interaction.

It is not a simple task to summarise an extraordinary life. The life of Temple Grandin is clearly extraordinary, but hers is also an unfinished life. However, if in closing a summation is needed, the researcher will refer to lessons learnt from Grandin's life that may be represented in the words of Balcombe (2006/2007) and Heisenberg (1962):

“To treat animals as objects would undermine my belief that they are, like humans, unique individuals, whose lives are made better or worse by their circumstances”(Balcombe, 2006/2007, p. 3).

“Whenever we proceed from the known into the unknown we may hope to understand, but we may have to learn at the same time a new meaning of the word “understanding””(Heisenberg, 1962, p. 201).

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APPENDIX A
CONSENT FOR RESEARCH

Dear Dr Grandin

I am a PhD (psychology) student at Rhodes University in South Africa (www.ru.ac.za).

I wish to conduct psychobiographical research on your life (focusing more specifically on your life experiences and psychological development) for my thesis. In essence, psychobiographical research allows for the scientific study of life histories with the aim to discover and formulate the central story, structured according to psychological theory. Psychobiographical research usually focuses on extra-ordinary individuals, such as yourself, who have contributed significantly to a particular field.

Data collection is primarily based on public domain texts such as literature written about you and that you have written yourself. The study will be supervised by Professor Roelf van Niekerk. I am therefore emailing to ask if you would please consider consenting to the conduction of this study?

Sincerely

Nicola Wannenburg

APPENDIX B
SALIENT POINTS FROM GRANDIN'S LIFE CYCLE

Stage 1 salient points:

- a. Pervaded by ego failure and a basic sense of mistrust.
- b. As a result of tension between her parents and having different caregivers in the first two months, Grandin learnt that the world was neither secure nor reliable.
- c. Cause of ego failure unknown. Grandin's sensitivity combined with genetics, structural brain differences, and limited contact with her mother could have caused her ego failure and negation of mutuality of recognition relationship.
- d. Little being known about autism at the time as well as Eustacia choosing to ignore Grandin's symptoms could have aggravated her ego failure and mistrust.
- e. Disjunction between Grandin's physical experience of being in the world and her body ego's integration of such experience.
- f. Inability to take part in autocosmic play / interplay of seeing and being seen. Therefore hope could not be formed and more dystonic elements were assimilated by her ego.
- g. Inability to begin to form an ego identity as healthy infants would in this period.
- h. Withdrawn state was severe, but may have provided Grandin's ego with protective and survival elements.

Stage 2 salient points:

- a. Grandin's distrust in the world was reaffirmed as a result of a sensitive ego state, growing disdain from her father, and further inconsistent care from her mother.
- b. New environmental and social changes brought external hope into the home environment. Grandin began to tentatively integrate this sense of hope.
- c. A sense of hope enabled her to start testing her environment and lay the foundations for mutuality of recognition relationships and development of a sense of will.
- d. At times interacted with her environment through autocosmic play. Other times demonstrated destructive autonomous behaviour to create her own sense of order and control over the environment.
- e. Withdrawn state prevented Grandin from being present or aware enough to realise the disdain of her family and to feel shame.

- f. Ego found constant testing of the environment necessary in order to reintegrate experience. Playing (exchanging the cups with her mother) was the beginning of mutuality of recognition and her participation in society.
- g. Impaired communication did not impede the development of a sense of will.
- h. New consistencies (Eustacia's growing awareness and care, Miss Cray's daily supervision, Mrs Reynolds' nursery school and speech therapy) provided Grandin with constant boundaries and potential social interactions. This encouraged her development of trust.

Stage 3 salient points:

- a. Initially insufficient trust and autonomy to initiate activities and relationships and find a sense of purpose.
- b. Inability to communicate through speech for the majority of the stage. Therefore, Grandin was unable to define who she was or who was she in relation to others. This delayed the development of her ego identity.
- c. Defiance of boundaries possibly revealed Grandin's frustration with not being able to communicate effectively, her body ego's discomfort with unwanted physical contact, and her attempt to regain a sense of her own power and control.
- d. Eustacia's more consistent care and Mrs Reynolds' and Miss Cray's work enabled partial resolution of dystonic elements.
- e. Regular psychosocial interaction provided Grandin with consistent recognition. This was needed in order for her to learn that she was part of a community, to recognise others, and to understand herself as an active agent in the world.
- f. Increased trust in the environment enabled her ego to be present for longer periods of time. As a result Grandin's body ego was more able to integrate physical experience and differentiate herself from other individuals. This supported her learning to speak.
- g. Being less withdrawn may have caused her ego to be less protected than before from feelings of shame and low self-esteem.
- h. Toward the end of this stage Grandin's ego was less dominated by dystonic elements. Increased reliability of the environment facilitated the beginnings of mutuality of recognition and a sense of hope and will. This enabled her ego to remain intact.

Stage 4 salient points:

- a. Despite this being a more peaceful time in Grandin's development her ego weakness caused her to vacillate between a sense of industry and inferiority. This may have caused confusion for her ego identity.
- b. Grandin's autonomy began to accompany goal directed decision making and for the first time, of her own volition, she interacted with other individuals and formed relationships.
- c. Grandin's maladaptive tendencies such as shameless and defiant behaviour continued. At times it was a result of her feeling out of control and other times because she enjoyed it.
- d. By playing with the other children and Crusader, Grandin began to learn to interact and practice interactions for future relationships and encounters. These encounters incorporated her into society and encouraged the development of a moral responsibility.
- e. Grandin's involvement with Crusader facilitated her ego remaining present and the development of purpose, initiative, competence and learning to care for another. To some extent she may have internalised a sense of his morality and integrity through her creative ritualisation with him
- f. Grandin's relationship with Crusader enabled her to trust another living creature with a form of physicality and may have been one of her body ego's initial experiences in learning to integrate touch.
- g. Grandin's imagination and creativity provided her with a healthier means of expressing and dealing with feelings of inferiority and being out of control. Telling herself stories out loud and dreaming of / attempting to create a magical device that could comfort her enabled her to resolve difficulties through her imagination.
- h. Despite often being incompetent and feeling like a failure, Grandin's friendships and imagination enabled her ego to retain some balance.

Stage 5 salient points:

- a. Following the more peaceful developmental period of stage four (industry vs inferiority), Grandin's ego had retained its presence, was more coherent, and she had begun to develop an ego identity. However, adolescence was a particularly challenging period.
- b. Grandin's ego remaining present was a positive development. However, this presence along with her growing awareness decreased the protective qualities of her previously withdrawn state. Feelings of shame, inferiority, pain, and isolation may have increased.

- c. The expectations of adolescence initially caused Grandin to regress. She remained immature and reacted violently when teased. This may have been influenced by her identity diffusing with her father's and internalising his aggressive behaviour.
- d. Despite difficulties and expulsion from school Grandin showed resilience and the ego strengths she had begun to develop were not entirely eroded. This resilience was supported by her mentors and her attachment to animals who aided her resolution of developmental crises as well as circumvention of identity diffusion.
- e. Grandin's increased ego presence and integration of experiences led to a greater awareness of other individuals' feelings, opinions and actions, in general and in relation to herself. This facilitated further development of a 'moral responsibility'.
- f. Grandin's love for and commitment to caring for animals became more than a role identity as she incorporated her way of relating to animals into her ego identity.
- g. Grandin's physical interactions with the school horses, farm animals, her dog Timmy, and the cat she adopted enabled her body ego to further integrate touch and physicality with another in mutual and non-threatening ways. She learnt about her own feelings through these interactions with animals and was able to extend empathy to her friends as a result.
- h. Grandin's mentors were of particular significance with regard to acknowledging, supporting, and encouraging her abilities and interests. They aided further integration of the beneficial role that animals played in Grandin's development to extend into adulthood in terms of a life purpose and career.
- i. Grandin's struggle with ego weakness still hindered the assimilation of the various parts of herself that would have been required to form a stable identity. She therefore needed to carry the developmental task of establishing a stable identity into the period of young adulthood.

Stage 6 salient points:

- a. Grandin did not resolve the primary crisis of this stage as she did not form a romantic relationship with another individual. However, she resolved other developmental negotiations of this stage such as forming close friendships, being committed to other humans and animals, her chosen career, and sense of ethics.

- b. Grandin's prolonged identity crisis that involved her need to understand her own difficulties with physicality led to an inclusion of animals' crises with humane treatment and non-fearful physicality and death.
- c. Including an element of a societal crisis into her own identity development caused Grandin to have a premature generativity crisis.
- d. Increased self-reflection, dedication to acquiring socially acceptable behaviours, and awareness of her interests and abilities enabled Grandin to learn how to form lasting friendships and avoid isolation.
- e. Grandin's studies and career were integral to the development of her sense of who she was in the world. Her career was not only a means of generating an income but became a life purpose and "cause" which strengthened her ego synthesis.
- f. Grandin's capacity to believe in her own worth and the worth of her ideas and endeavours was possibly developed through the support and encouragement of her mentors who helped to guide her giftedness, nurture her syntonetic characteristics, and assisted the resolution of her identity crisis.
- g. Through her increased interactions with animals Grandin learnt that by nurturing nature and being nurtured by nature she could experience feelings of peace, love, and trust with physicality.
- h. Grandin integrated and practically transferred her ability to commit to and empathise with animals to her volunteer work with children with autism.
- i. Grandin saw the world of cattle as it was, as well as how she hoped or envisioned it to be. Her ability to understand animal behaviour, empathise with animals, and combine these factors with her developed imagination enabled her articles and designs to be recognised as being valuable and worth further discussion.
- j. Grandin's personal crises had begun to intersect with a latent animal welfare crisis in society and this was manifest in her career. When this occurred in association with the related societal crisis that was the scabies outbreak in the USA in 1978, her work and crisis rose to "representative position".
- k. Grandin's creative endeavours and work with animals increased her participation in society as well as developmental healing and ego synthesis.

Stage 7 salient points:

- a. Grandin continued to be driven by her sense of responsibility towards animals and developing ideas to ensure and enhance their welfare. Her generativity expanded to include teaching within the field of autism, as well as university students and workers at slaughter plants.
- b. Relationships and socialising continued to be difficult. However, her increased ego coherence, which facilitated her ability to self-reflect, combined with her determination to increase her knowledge of socially acceptable behaviours enabled her difficulties to lessen.
- c. The realisation that her creative and visual skills and ability to relate to animals were more valuable to her than being ‘normal’ facilitated more ego balance.
- d. In her determination to improve the system for animals and extend reciprocity of ethics to them her generativity and ethics often aligned. This alignment influenced the decisions she made in her career.
- e. Grandin’s spirituality grew through her interactions and work with animals.
- f. The animal welfare audit Grandin developed rose to representative position when her history and cause intersected with the historical changes occurring at McDonalds.
- g. Grandin demonstrated principles of Satyagraha by observing the ‘truth’ of animals’ experiences and attempting not to ‘violate’ their ‘essence’ through her work.
- h. Through the incorporation of creativity and actions that were aimed toward caring for both humans and animals into her everyday life and work, Grandin was able to experience a sense of liveliness and fulfillment, as well as a more coherent sense of self.

Stage 8 salient points

- a. Despite still experiencing difficulties at this stage of her life, Grandin has developed in ways not expected of an individual with severe autism / ego failure.
- b. Through her interactions with animals, investment in her wellbeing from mentors, and finding fulfillment in her career and “cause”, her ego became more stable and coherent as she progressed through the eight stages of psychosocial development.
- c. While traditionally forming a romantic bond develops the ego strength of love, Grandin did acquire this ego strength during her life as she felt love for and showed love toward animals.

- d. As Grandin's generativity crisis occurred prematurely, it also extended into her final stage. This caused her to increase her focus on passing on her knowledge.
- e. By combining her own and society's needs with "personal gifts", Grandin's ethical creative actions made "for historical greatness".
- f. In spite of beginning life with ego failure Grandin continues to develop an ego identity.
- g. Grandin's reflexivity and the ways she has learnt to protect animals as well as her ego identity continue to facilitate her ego synthesis and contentment with the life she has lived.