A LONGITUDINAL VIEW OF SEX ROLE DEVELOPMENT: DEMOGRAPHIC
DIFFERENCES AND THE INFLUENCE OF SOCIAL RELATIONS

by

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DEDICATION

This dissertation is dedicated to my wonderfully amazing family and friends who have provided me the unconditional love and unwavering support needed to succeed in this adventure called life.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER I

INTRODUCTION AND OVERVIEW

Background

Development is characterized by individual change in several domains, including

the sex role traits of an individual. The development of sex role traits is important

because at birth every individual is classified into a gender category (male or female),

and is, therefore, expected to adhere to specified socially defined sex roles. One of the

first examples of this is the stereotypical ideas that young boys are supposed to wear blue

and play with trucks, while young girls are expected to wear pink and play with dolls.

These distinctions are established early in life, and continue to permeate throughout the

lifespan, as demonstrated by the stereotype that men are expected to earn more money,

and women are expected to be more nurturing towards children. These sex role

behaviors and attitudes influence other developmental factors and opportunities such as

choice of career, selection of social environment and interactions, and timing of

developmental transitions. Sex roles dictate what behaviors are acceptable for each

gender grouping, often creating harsh consequences for those who violate accepted

behaviors. Across the lifespan, variations in sex role conceptualizations are best

explained within the framework of developmental stages.

Life Stages and Sex Role Development

Childhood

Ruble, Martin, & Berenbaum (2006), in a review of gender, gender labels, and sex roles, report that children understand gender labels by their second birthday. Sex roles and knowledge of gendered behaviors are acquired through multiple sources, both proximal and distal. Proximal sources are often parents, siblings, and peers. By providing gendered toys, room furnishings, parents (knowingly and unknowingly) reinforce societal views of gender development and sex roles. Children may also imitate their same-sex parents' behaviors, which may serve as a transmission of parental beliefs to the child. This observational learning may influence children's ideas of gender and sex roles. Siblings are also strong gender socialization agents. Distal sources include social interactions with representatives of institutions, groups, and non-related individuals (Maccoby, 1998; Ruble, Martin, & Berenbaum, 2006). Schools, media, teachers, and peers may influence how children view gender and sex roles, and in turn, influence them to act in ways that would be consistent with social stereotypes (e.g., girls liking pink, boys being aggressive). These social interactions are reinforced with social acceptance, prompting children's strict adherence to gendered distinctions. This understanding of gender and sex roles is then expanded into children's behaviors and interactions with others, further shaping their ideas of sex roles and development. Accumulating social interactions with members of their social network as well as ongoing cues from the social environment and increasing cognitive abilities, provide the foundation and continuing development of children's perception of sex roles. These provide the basis for their adult relationships.

Adolescence

As children move into adolescence and early adulthood, their ideas of sex roles are still influenced by contextual factors, such as messages from the media and their close social relations (parents, peers) (Huston & Alvarez, 1990; Witt, 1997). Though adolescents are more cognitively complex than children, they are also more attuned to a wider variety of social influences. Lueptow (1984) uses social learning theory (Bandura, 1969) to describe the social influences affecting adolescent sex role development arguing that adolescents learn by observing parents, peers, and media. At the same time, as adolescents are navigating social influences, they are also developing their own personal identities. Erikson's (1950) developmental theory of personality outlines adolescence as a time to confront the conflict of identity vs. role confusion; during this stage, adolescents must formulate their independent self-identities and make concrete judgments about who they are as individuals. During this time, adolescents are integrating their knowledge of sex roles and their knowledge of self to create an identity that will be evaluated by society. Because of this evaluation, adolescents often feel pressured to adhere to the socially prescribed, stereotypical sex roles (Ruble, Martin & Berenbaum, 2006; Worell, 1989). Of course, across different societies and cultures, sex roles may vary due to what is expected of males and females (Matteson, 1975). These societal pressures, along with biological changes associated with puberty may influence sex role endorsements throughout adolescence. The mastery of socially accepted sex roles may be functional at this stage of development. As the adolescent moves into adulthood, however, those perceptions may continue to evolve as they experience changes in social roles (Worell,

3

1989). Few scientists, however, have studied the development of sex roles in early and middle adulthood from a lifespan perspective.

Adulthood

Adulthood is a time when developmental change is less apparent than in childhood and adolescence, however, the changes that adults experience are just as significant as in previous stages. These changes are most often observed in social roles rather than biological or cognitive development. In the frame of sex role development, adults are more cognitively complex beings than children and adolescents, and, therefore, better able to reason and evaluate the contexts within which they find themselves. Adults are also physically mature, with increased biological understanding of the self and others. Along with this increased cognitive ability to understand sex roles, and understanding of male and female physiology, adults have more life experiences which may help to shape their sex role conceptions. Adults may adhere to sex roles in a stereotypical manner (similar to adolescence), but it is assumed that they also understand that sex roles are malleable and context dependent. For this reason, adulthood may be a time when adults move away from the stereotypical sex roles, as they are experiencing changing social roles and contexts that call for an adjustment in sex role perceptions.

During adulthood, as noted by Erikson's (1950) developmental stage theory, and role theory (as presented by Biddle, 1986), individuals are experiencing shifts and increasing demands in their social roles. Erikson (1950) notes that during adulthood, individuals are struggling with the conflicts of intimacy vs. isolation, generativity vs. stagnation, and integrity vs. despair. Of these three, two (intimacy vs. isolation and generativity vs. stagnation) of these conflicts have a common factor: they suggest a major

4

shift in social roles. For intimacy vs. isolation, adults may take on the role of spouse/partner, and likewise, for generativity vs. stagnation, adults may take on the role of parent/caregiver. With the acquisition of new roles, and even the juggling of multiple (and possibly conflicting) roles, adults may reconsider what are appropriate sex roles. Other factors that may drive changes in sex roles include, but are not limited to, career choices and shifts within the peer group. Role theory (Biddle, 1986) posits that individuals shift their behaviors and thoughts to align with their personal identities and the situational context. For adults, this may mean that their understanding of sex roles may adjust with the change and addition of social roles (e.g. parenthood, marriage).

Continuity vs. Change: Sex Roles as Personality Traits

While there is a large body of literature addressing sex roles and development, much of that literature integrates research on personality traits and development. Historically, sex roles have been represented and conceptualized as personality traits through measurement and interpretation. Caspi (1987) writes that research investigating personality development should include an awareness of social and developmental tasks as well as contextual factors throughout the life course. Similarly, Caspi and Bem (1990) discuss change and stability in personality traits across the life course, noting that within personality traits, there are differing levels of change and stability. Four types of continuity are discussed: absolute stability (stability in the amount of a trait over time), differential stability (stability relative to others in the group), structural stability (stability in the relationships between traits) and ipsative stability (stability within the individual; person centered approach) (pg. 550-552). Because of these differing levels of change that can be investigated, development of sex roles can vary depending on any of the types

of change or stability that is considered. For example, a researcher may not find change when comparing an individual to a group, however, there may be change observed at the individual level. In the context of sex role development, this project is focusing on the absolute stability of sex roles. Caspi and Bem (1990) also note that change in personality may be influenced by individual differences (maturity, social norms) and age/time between measurements, developmental stage, social transitions (where existing traits are likely to be highlighted during these times, pg. 560), and historical factors. Finally, the authors note that personality characteristics are shaped by interactions with the environment and life experience.

In more recent investigations of personality change and stability, studies have noted that personality traits continue to change throughout the lifespan (e.g. Caspi, Roberts, & Shiner, 2005; Roberts & Caspi, 2003; Roberts, Walton & Viechtbauer, 2006). Though there is an increase in consistency of personality traits around age 50 (Roberts & DelVecchio, 2000), there is still opportunity for change well into late adulthood (Roberts & Caspi, 2003). When considering the development and stability of personality traits, Roberts and Caspi (2003) note that while environmental influences, genetic influences, person-environment transactions, proactive personal environment transactions, and dispositional mechanisms promote stability, responses to contingencies, watching ourselves, watching others, and listening to others promotes change. Similarly, Magnusson (1990) writes that an "interactional perspective" of personality development recognizes the reciprocal relationship between the individual and the environment.

Conceptualizing Sex Roles within Development

The conceptualization of sex roles is important for understanding sex roles in the context of developmental psychology. While sex role assessment and measurement is relatively well established in the literature, there are still under-investigated areas, including lifespan development of and demographic influences on sex roles. One of the most widely known measures of sex role traits is the Bem Sex Role Inventory (1974). Bem (1974), in her initial investigation of sex roles, studied sex role endorsements in a European American college sample using the Bem Sex Role Inventory (BSRI). The BSRI is a self-report measure that was created to assess individual endorsement of masculine and feminine personality traits. It includes 60 items that are the basis for 3 separate scales to measure masculine, feminine, and neutral traits (20 masculine, 20 feminine, 20 neutral). These are based on gender stereotypes and social standards for gender behavior and attitudes. Bem (1974) classified respondents as either masculine, feminine, androgynous, or undifferentiated based upon their endorsements of traits that they felt were central to their sense of self. While this study provided insight into early adult development and personality traits representing sex roles, it was not expressly applied to all ages/stages of adult development.

In subsequent studies that have explored sex role traits using the BSRI with adults, many have followed Bem's original sampling procedure, focusing solely on college age samples (Auster & Ohm, 2000; Harris, 1996; Konrad & Harris, 2002; Lubinski, Tellegen, & Butcher, 1983; Tellegen & Lubinski, 1983). These studies have investigated broad issues including conceptualizations of masculinity and femininity, ethnic differences in sex role endorsement, and measurement issues in the study of sex

roles. None of the studies listed above, however, included individuals who were not

college students. In the initial sample, Bem (1974) normalized the measure on Stanford

University students, who were mostly in their early 20's. In order to replicate her

findings as well as use her measure in the most accurate manner, many studies have opted

to utilize a convenience sample of college students. Though this is the most common

method when investigating the BSRI, it does not provide insight that can be generalized

to the majority of adult development. Likewise, longitudinal studies of sex role

development have been lacking due to sampling issues.

There is a need to extend this line of research further into adulthood with more

diverse samples. As previously stated, the literature is replete with studies of child and

adolescent development of sex roles, and investigations of college students and sex roles.

Although there is a great deal of information available about the formation and

development of sex role concepts and gender identity in youth, few investigations have

extended these studies to sex role endorsements and developmental changes occurring in

middle and late adulthood. The studies that have examined adults and their changing sex

role endorsements have utilized cross sectional data, therefore individual change could

not be directly observed or even inferred (Puglisi, 1983; Sedney, 1985; Urberg &

Labouvie-Vief, 1976; Zucker, Ostrove, & Stewart, 2002). Only age differences could be

observed. For example, Puglisi (1983), using cross sectional data, found variations in sex

role concept (beliefs about ones masculinity and femininity) by age.   He notes, however,

that a longitudinal sample of adult development would provide more information

concerning specific developmental changes that individuals' experience.

Sinnott (1986), reviewing research in this area, also commented on the importance of moving away from cross sectional studies, because they do not allow for the investigation of individual change. It is informative to study sex role development within an individual longitudinal framework in order to assess intra-individual change and thus a more complete picture of human development (Nessleroade, 1990; Neugarten, 1973). In a discussion of investigating change over time, with regard to sex roles, Sinnott (1986) notes that "three factors-social expectations of sex roles, particular current and past life events, and normal developmental changes occurring over the life span-can influence people to change their sex-role attitudes and behaviors" (pg. 50). This sentiment exemplifies why a longitudinal perspective on sex role development is the most accurate, as it accounts for personal and situational factors and their change over time.

Demographic Factors and Sex Role Development

There is a dearth of sex role literature that examines demographic differences in the development of sex roles. Specifically, few studies have investigated race differences in sex role endorsements. And while studies have investigated gender and age differences in sex roles, as noted previously, few have considered these effects within a longitudinal sample. Race, age, and gender may influence individual endorsement of sex role traits. Previous studies have established that gender plays a significant role in sex role endorsement, with higher proportions of women endorsing feminine traits, and men endorsing masculine traits (Bem, 1974). This finding, which is the expected pattern, has been found to be contingent on age, with older respondents less likely to follow this gender pattern. Since this finding has most often been investigated within a cross-sectional framework, little is known about individual change over time.

In addition to gender and age, race may also be a factor in sex role development. The issue of race will be explored in this dissertation, as previous studies have suggested that different races have diverse conceptualizations of sex roles and gender ideologies (Hammond & Mattis, 2005). Harris (1994) concluded, in his investigation of the Bem Sex Role Inventory (1974), that African American college students did indeed endorse sex role traits in a different manner than Caucasian students. Harris concluded, however, that a modified version of the Bem Sex Role Inventory was appropriate for use with an African American college sample (this modified version consisted of 10 of the original 40 items). Similarly, Hammond & Mattis (2005), in an investigation of masculinity ideology, found that African Americans conceptualize masculinity and masculine traits differently than Caucasians. While not expressly investigating sex roles, this study does highlight underlying factors that are common to sex roles. Hammond & Mattis (2005) further highlight the historical and social context of African Americans within the United States, which may influence their ideas of sex roles and masculinity. For example, African Americans are more likely to experience racism and social inequality. Over time, African Americans have created a view of masculine and feminine roles that may cross socially delineated boundaries to facilitate their healthy functioning within the context. These views, however, may not align with Caucasian perceptions of roles due to social histories.

The African American experience in the United States may require a higher level of flexibility in sex role traits than that observed among European Americans. Traditional sex roles for men and women may not be the best person-context fit and/or may not facilitate healthy development for all groups. For African Americans, traditional

sex roles may not be reflected in day to day obligations and activities, and certain sex role characteristics may not be seen as distinctly different between men and women. It will be informative to examine how differences and similarities in sex roles develop within individuals who have varying demographic characteristics, and to examine how their sex role trait endorsements change over time.

Other Factors Impacting Sex Role Endorsements

Outside of age, race, and gender, studies have investigated other factors that impact how an individual may endorse sex roles. In particular, there have been numerous studies that have linked sex role endorsements with occupational status and education (e.g. Feather & Said, 1983; Roberts, Caspi, & Moffitt, 2003; Zuo, 1997, 2004; Zuo & Tang, 2000). Occupation has been a topic of interest because of the role demands of certain jobs and careers. Also of interest is how the possession of certain sex role traits (or lack thereof) may affect career retention and advancement. Coupled with an individual's occupation is their level of education. Used often in social science research as a proxy for societal status, level of education has been associated with health and access to resources, as well as life decisions for women (see Stewart and Vandewater, 1993). Education is especially important because it is a personal factor that is acquired, not innate. For this reason, this study will examine the effects of education on sex role development.

Social Relations and Sex Role Development

Studies of sex role development have acknowledged the environmental (parents, schools, peers) influences on sex role traits and beliefs (Baltes, Lindenberger, & Staudinger, 1998; Kohlberg, 1966; Ruble, Martin, & Berenbaum, 2006).   The social

11

environment and social interactions reinforce stereotypical gendered behaviors and traditional sex roles. Most research has focused on how the parents, schools, and peers socialize young children, and examined the sources from which children receive images and messages of sex roles (Maccoby, 1998; Ruble et al., 2006). Though this research has provided insight into how children acquire knowledge of sex roles and sex typed behaviors, few studies have investigated the network composition or the quality of their relations as a contextual factor. Nor has the influence of social networks on adult sex role traits been examined. The structure and quality of social relations have been found to impact health and well-being, and have been linked with numerous biopsychosocial outcomes (see House, Landis, & Umberson, 2003). The convoy model of social relations (Kahn & Antonucci, 1980) provides a theoretical framework which describes how individuals are surrounded by social networks which travel with them through time. Individuals also occupy roles within the social network, with those roles potentially changing and developing as their social networks change and develop (e.g., becoming a parent, sister, coworker). These roles that individuals occupy then dictate certain expected behaviors and actions.

Previous studies have linked social relations to social roles and life transitions (Antonucci, 1985, 1990, 2001; Antonucci & Mikus, 1988), and have found that social relations significantly contribute to healthy development by providing different types of support such as emotional and instrumental (tangible) support. In criticisms of sex role studies by Bem, Spence and Helmreich (1980) note that feminine traits are often parallel to measures of expressiveness and emotionality, while masculine traits are parallel to instrumentality. One interesting hypothesis is that social support may act to reinforce or

subdue sex role endorsements. For example, relationship quality may influence

individual perceptions of sex roles. If individuals have high quality relationships, they

may feel unconditionally accepted by their social network, creating feelings of freedom

within sex role endorsement. This relationship is illustrated by Antonucci and Jackson's

(1987) theory of self-efficacy, in which the authors suggest that positive social relations

provide feedback to the individual, making the individual feel more efficacious.

Similarly, network structure may also influence sex role endorsement. The structure of

the social network (i.e., size of network, proportion of family, proportion of females,

average age of network) may influence their sex role endorsements. These structural

elements will be investigated in this dissertation. For example, individuals with larger

networks may endorse less traditional sex role traits, as they may have more role

flexibility within the network. Conversely, individuals who have more family in their

social networks may endorse higher traditional sex role traits, as they are following the

socially accepted family roles. For proportion of females in the network, an individual

whose social network is comprised of a higher proportion of women may endorse

feminine traits in a different manner than an individual whose social network consists of

men and women equally or who have more men in the networks. Finally, individuals

with younger networks may endorse sex role traits in a manner that is more consistent

with younger stages of development, meaning their endorsements may be more

traditional and sex typed.   This study will investigate how the structure and quality of

social relations (friends, and close relatives) are associated with sex role endorsements

using the convoy model of social relations framework (Kahn & Antonucci, 1980). With

social expectations influencing sex role development, the social network of an individual

may play a significant role in their sex role endorsements.   Hence, over time, changes in the social network may in turn influence changes in sex roles.

Overview of Research Questions

The present study contributes to the literature in sex role development by including demographic characteristics as well as social relations using longitudinal data (i.e., two waves of data collected 12 years apart). This work is designed to contribute to the understanding of an individual's sex role endorsement. Specifically, the present study investigates sex role development using a two wave panel sample of African American and Caucasian adults aged 18 and older. Despite the abundance of studies examining how young children acquire sex roles (Ruble et al., 2006), and how college students perceive sex roles, a lifespan developmental perspective is often lacking. This study takes a lifespan perspective to examine the development of sex roles and investigates how demographic characteristics may influence sex roles.   Finally, this study also examines how social relations influence the development of sex roles. There is a need to examine whether adults' conceptualizations of sex roles are influenced by social relations. This will aid in an overall better understanding of the influence of the social context within development. Specifically, the following research questions are addressed in this dissertation project: (1) does the likelihood that adults will endorse traditional sex roles change over the lifespan?, (2) What are the variations between age, sex, and racial groups when investigating changes in endorsement of traditional sex roles over the lifespan?, and (3) How are the structure and quality of an individual's social relationships associated with sex role development?

CHAPTER II

LITERATURE REVIEW

This chapter first examines theories of sex role and personality development, as well as theories of social relations. Within each theory, methodological issues will be discussed as appropriate. Next, an integration of theories will be presented to offer a thorough understanding of the relationship between various conceptualizations and theories. Finally, demographic differences in sex role and lifespan development will be discussed.

Definitions

Sex role development has been conceptualized many different ways, with multiple theories to illustrate the acquisition of sex roles as well as developmental changes that occur throughout the lifespan. These theories include, but are not limited to Kohlberg's (1966) Cognitive Theory of Sex Role Development, Bem's (1981) Gender Schema theory, Erikson's (1950) Eight Stages of Psychosocial Development, Havighurst's (1972) developmental tasks, and Kahn & Antonucci's (1980) Convoy Model of Social Support. In their explanation of masculine and feminine identity and roles, Money & Ehrhardt (1972) define gender/sex roles as "everything that a person says and does, to indicate to others or to the self the degree that one is either male, female, or ambivalent; it includes but is not restricted to sexual arousal and response, gender role (the public expression of gender identity) and gender identity (the private experience of

gender role) (p. 4)." In a similar manner, Bem's (1974) Sex Role Inventory identifies sex roles in terms of personality traits that an individual endorses based on how much the individual feels a trait describes them. In this case, personality can be defined as "the ways in which human beings behave, experience, believe, and feel with regard to themselves, others, and the material world" (pg. 1082) (Baltes et al., 1998). Finally, Block (1984) defines sex roles as "the constellation of qualities an individual understands to characterize males or females in the culture (pg.2)" Based on these definitions, theories of sex role development, personality development, and social relations are reviewed. All of the theories and models presented view development as a lifespan concept, with an emphasis on individual variation and contextual influences.

Theories and Models

Theories and models of sex role development cover a broad gamut. Kohlberg (1966) conceptualizes sex role development within a cognitive framework. He focused on how sex role perceptions are based on cognitive organization of social-role concepts gained through experience with universal environmental factors (p.82). Bem (1981) proposed the gender schema theory, which, similar to Kohlberg (1996), places sex role development within a cognitive framework. The gender schema theory notes that individuals have the propensity to organize information in terms of gender. This propensity often then leads to classification of actions and traits as either masculine/male or feminine/female, creating a gender dichotomy that in turn influences sex role endorsement.

Within lifespan developmental theory, Erikson (1950) conceptualized human development in stages that encompass changes that occur throughout the lifespan. Often

viewed as a personality theory, Erikson's theory explains how individuals progress successfully through developmental stages according to resolution of age and stage appropriate conflicts. Havighurst (1972) and Neugarten (1976) posit, in a way that complements Erikson's stage theory, that as individuals develop, they are functioning within the societal boundaries of "on-time" and "off-time" transitions and milestones.

Finally, Kahn & Antonucci's (1980) Convoy Model of social relations conceptualizes social support within a lifespan framework. They theorize that an individual's social support network travels like a convoy throughout development. Based in attachment and role theories, the Convoy Model posits that social support provides a secure base for an individual that is important for development. Each of these theoretical perspectives is considered in greater detail below.

Theories of Sex Role Development

Cognitive Theory of Sex Role Development

In 1963, Kohlberg proposed a cognitive theory of moral development, a stage theory of cognitive development. The theory of moral development included 3 stages of moral reasoning: preconventional (moral reasoning based on punishment and rewards; individual is focused on self-preservation), conventional (moral reasoning based on societal expectations and norms; individual is focused on fitting in with larger society), and postconventional (moral reasoning based on universal principles; individual is focused on the good of the people, human rights). Each stage includes 2 substages that further explain how individuals cognitively assess moral situations.

Rooted in this theory of moral development, Kohlberg's (1966) cognitive theory of sex role development posits that individual differences in sex roles are due to age,

intellectual maturity, and social maturity (p. 84). This theory also accounts for contextual and environmental factors that influence social learning of sex roles (p. 85). Kohlberg states that children use not only their knowledge of gender differences (biological), but also prior experiences and environmental cues to form basic sex role concepts and values; however, at any point environmental experiences also stimulate restructuring of these concepts and values (p. 85). Kohlberg integrates cognitive development by stating that children learn early the differences between boys and girls, however, they must reach a certain level of cognitive development to be able to understand sex-role appropriate behaviors and demands (p.93). Within his theory, Kohlberg lists 5 mechanisms by which sex role development leads directly to the development of masculine and feminine values: (1) the tendency to "schemize" interests and respond to new interests that are consistent with the old ones, (2) the tendency to make value judgments consistent with a self-conceptual identity (3) the tendency for prestige, competence, or goodness values to be closely and intrinsically associated with sex-role stereotypes, (4) the tendency to view basic conformity to one's own role as moral, as part of conformity to a general socio-moral order, and (5) the tendency to imitate or model persons who are valued because of prestige and competence, and who are perceived as like the self (p. 111). Kohlberg based his views partially in the idea that children were active seekers of reward and positive regard ("being good"; in accordance with children' stages of moral development), however, he also recognized that other factors outside of cognitive development are working to reinforce sex roles. Kohlberg's theory, though created to explain sex role development in children, can be applied to sex role changes that may occur during adult development. As one ages, one's cognitive processing becomes more complex, and can

18

therefore conceptualize sex roles in terms of what is considered 'masculine' and/or 'feminine' in a more complex manner. From a developmental perspective, cognitive maturity becomes an indicator of possible sex role fluctuation and as associated with sex role categories becoming less rigid as individuals become more flexible about what is considered masculine and feminine and less restricted about categorical placements.

Methodological Issues

There are several methodological issues within the cognitive theory of sex role development. First, though Kohlberg's theory outlines the stages of cognitive development, he does not explicitly discuss cognitive change across the entire lifespan. Kohlberg describes how individuals progress through cognitive stages, with emphasis on early childhood development and adolescence. Though Kohlberg posits that individuals become increasingly more complex by utilizing previously acquired information, there is no explicit discussion of the changes that occur in adulthood. Murphy and Gilligan (1994) found that, in their examination of adults and moral development, that adults experience regression to previous stages in early adulthood. As is often the case with stage models, Kohlberg does not expressly state the consequences for individuals not progressing through the stages in a linear fashion.

In the cognitive theory which forms the basis for the sex role development theory, Kohlberg does not discuss the implications for skipping stages nor does he address non-linear development. Kolhberg does, however, address the fact that some individuals may not progress through all of the stages, or (most commonly) reach the final stage (which includes higher order thinking and great cognitive flexibility). An example of this within the context of sex roles would be when individuals realize that gender does not dictate

sex role endorsements and/or behaviors. Rather, some individuals might rationalize that their perceptions of sex roles are based on personal preferences and what is most functional in their environment. Another issue of stage-based theories is the lack of the attention to the co-existence in multiple stages. Kohlberg does not address the idea that individuals may function on one level in certain contexts, and on another level in others. For example, in the presence of parents, an adult child may adhere to stereotypical sex roles, but in the presence of friends may reject those same sex roles. The ability to co-exist in multiple stages of sex role development may dictate change and stability in individual sex role endorsements.

Murphy and Gilligan (1980) address gender issues within Kohlberg's theory of moral development. Much of their work can be extended to his theory of sex role development. Kohlberg's theory does not explicitly take into account demographic factors of race and gender or factors of context (e.g. role models, schools, religion). Murphy and Gilligan (1980) note that gender differences in moral development may be due to the fact that men tend to focus on justice and rights, while women tend to focus more on care and details of interpersonal relationships. In addition, they argue that women have a tendency to view moral development from the perspective of others. This gender difference may also influence sex role understanding and endorsement.

Gender Schema Theory

The gender schema theory, as proposed by Bem (1981) states that sex roles are based on gender schemas held by the individual. The author defines a schema as "a cognitive structure, a network of associations that organizes and guides an individual's perception" (p 355). Individuals perceive sex roles based on information that they

receive from the environment and how it fits into existing schema regarding gender. The

gender schema theory, however, also proposes that an individual's self-concept gets

assimilated into the gender schema, suggesting that as individuals learn societal gender

norms, they begin to link society's gender schema to their individual self schemas. In an

explanation of her theory, Bem states that

> "what the gender schema theory proposes, then, is that the phenomenon of sex
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> typing derives, in part, from gender-based schematic processing, from a
>
> generalized readiness to process information on the basis of the sex-linked
>
> associations that constitute the gender schema. In particular, the theory proposes
>
> that sex typing results, in part, from the fact that the self-concept itself gets
>
> assimilated into the gender schema" (p.355).

This quote may be interpreted as meaning that as one's cognitive processes

become more complex, and interaction with the social environment increases, one's own

understanding of oneself as a gendered individual in society changes. This theory

proposes that, based on societal norms of gender roles and individuals' view of self and

gender, people create a "gender schema" through which they view themselves and others.

Bem classifies this as a process theory, meaning that specific input is considered,

evaluated and processed thus leading to new conceptualizations of sex roles. Within a

lifespan framework, and similar to Kohlberg's Cognitive Theory of Sex Role

Development, which posited that cognitive systems become more complex with age, the

gender schema theory proposes that an individual changes their schema to fit the input

they receive throughout development and the changing/current societal expectations. In

conjunction with the BSRI, Bem (1981a) argued that an individual's endorsement of sex

role traits indicates that sex roles can have different meanings at the individual level. Individuals may view sex roles differently based on their experiences and environmental exposures, as well as cognitive traits. Sex typed individuals (those who strongly endorse and/or adhere to sex role stereotypes), therefore, may respond in a different fashion than non-sex typed individuals on the sex role inventory.

Methodological Issues

While Bem's theory of sex role development is used in conjunction with the Bem sex role inventory, there have been criticisms of the congruence between the theoretical assumptions and what the measure captures. Spence and Helmreich (1981) note that while Bem's sex role theory (1981) outlines a course of development in which individuals learn how to be masculine and feminine through social learning, as measured on one unitary continuum of gender schema, the Bem Sex Role inventory (1974) measures masculine and feminine on two different continua, one representing masculine and one representing feminine. From these two separate dimensions, ideas of androgyny and undifferentiation emerge. Spence and Helmreich state "the same set of measures cannot simultaneously define a single unitary continuum and two independent continua, masculine and feminine" (p.366). This simply means that the gender schema theory and conceptualization of the BSRI are incongruent according to Spence and Helmreich. Spence and Helmreich also note that the BSRI is a measure of instrumentality and expressiveness, but does not directly measure masculinity or femininity and has no relationship with an individual's global self-images of masculinity-femininity, sex role attitudes, or with sex role preferences.

Lifespan Developmental Theories

Erikson's Eight Stages of Psychosocial Development

Erikson (1950) proposed the "Eight Stages of Man" outlining individual development in successive stages during which personality conflicts are confronted. Using a lifespan framework, Erikson proposed that successful progression through these stages would lead to healthy personality outcomes and ego strength (p.214). Erikson's proposed conflicts within development are rooted in both social and biological changes that individuals face throughout the lifespan. The eight stages include: Trust vs. mistrust, Autonomy vs. Shame and Doubt, Initiative vs. Guilt, Industry vs. Inferiority, Identity vs. Role Confusion, Intimacy vs. Isolation, Generativity vs. Stagnation, and Integrity vs. Despair. For the purposes of this paper, I focus only on the last 4 stages that have been noted to occur from adolescence through late adulthood: Identity vs. Role Confusion, Intimacy vs. Isolation, Generativity vs. Stagnation, and Integrity vs. Despair. In these adult stages, re-evaluation and formation of new ideas is critical for successful development. Identity vs. Role Confusion occurs during the adolescence stage of development, usually around the time of pubertal maturation. Within this stage, the individual is faced with the conflict of either becoming who they feel they are or who they are in the eyes of others. This stage is also the basis for the formation of ego identity, which is defined as the convergence of inner continuity and the continuity of one's meaning for others (p. 228). This stage is often tied with occupational identity and the ability to find a satisfying career that is a reflection of true self.

The intimacy vs. isolation stage occurs during young adulthood, and encompasses the conflict between finding close relationships and intimacy ("experiencing self-abandon", p. 229) or the avoidance of intimate relationships leading to isolation and self-

absorption. This stage focuses on the emotional and physical closeness of relations, and finding a partner of lasting social significance with whom one can potentially share aspects of a significant relationship such as a relationship based on mutual trust and shared goals such as having children (p.231). Generativity vs. Stagnation occurs during adulthood and entails the conflict between establishing and guiding the next generation (parent-like responsibility) and a failure to enrich the subsequent generation, causing a withdrawal from generative activity and a sense of unfulfilled accomplishment (p. 231). Finally, Ego Integrity vs. Despair describes the conflict between sense of lifetime accomplishment, order, and meaning and the sense of insufficient time and lack of lifetime accomplishment (which is often manifested as a fear of death). This stage is most evident in late life, especially when an individual is nearing death. Within each of these stages, individuals are presented with a personality conflict that supposedly corresponds with their developmental maturity level. In the process of conflict resolution, the individual has the opportunity to reassess him or herself as well as his/her personality, which may include the reassessment of sex roles. As development occurs, the individual may change the way he/she views sex roles based on the most successful way to overcome a stage conflict.

Methodological Issues

Erikson's stage model, though a thorough description of lifespan development, does not allow for individuals to skip stages nor to proceed through the stages unless each one is successfully completed. Simply put, if individuals do not resolve the conflicts presented in each developmental stage, they will not be adequately prepared to handle the conflict in the subsequent stages. This then affects the progression through development,

creating a cycle of developmental failure. While this is posited as a universal theory, Erikson's eight stages may not reflect the individual experience. For example, instead of resolving the conflicts in the order of each developmental stage, adults may find themselves able to resolve an early life conflict better in later stages. In the case of late resolution, stage progression may not be disrupted. An example of this scenario would be an individual who has a child at 16. Though they have accomplished the task outlined in the developmental stage "generativity vs. stagnation," they may not have resolved the conflict of "identity vs. role confusion" or "intimacy vs. isolation."

Erikson's theory is also based on heterosexual, socially dictated relationships, and only discusses "normative development". The ideals presented in the theory are traditional; the ordering of the stages and the conflicts presented are consistent with conservative, stereotypical ideals of development. The stages dictate that individuals first resolve the conflict of their own identity, and then engage in an intimate relationship with another individual. Next, individuals have children and/or mentor younger individuals, and finally end with positive reflections of the life cycle. With the changing landscape of society, more often, individuals are straying from the strict ordering of developmental that Erikson dictated. For example, with more and more individuals bearing children outside of marriage, they may experience developmental conflicts in a less stringent order, or may experience an entirely different set of conflicts. Likewise, adults who remarry may replay earlier developmental stages.

Finally, this theory does not account for contextual and demographic factors. Cultural differences may dictate different stage progressions or even developmental tasks. Similarly, context of development may dictate that certain stages are not

experienced or are skipped. For example, individuals with lower education and residing in impoverished areas may not experience the proposed conflicts in the same order that Erikson proposed, or they may experience conflicts that are not explicitly noted within the theory. Another possible conflict relates to the role of culture. Some cultural tenants may result in the exclusion or rather, a differential display, of stages. For example, in the case of the intimacy vs. isolation stage, if a young person is in a situation of an arranged marriage, the display of conflict during this stage may be one that is different than the Western view of searching for intimacy. Finally, Schiedel and Marcia (1985) note that gender may play a role within the developmental stages proposed by Erikson, with a particular focus on the Intimacy vs. Isolation stage. The findings from this work suggest that both sex of respondent and the respondents sex role categorization (as proposed by Bem, 1974) were associated with variations in intimacy ratings. These findings indicate that within Erikson's stage theory there may be differences by sex regarding development through the stages.

Developmental Transitions/Social Clocks

Two overarching concepts often used to describe the timing of developmental transitions are the theories of developmental tasks (Havighurst, 1972) and social clocks (Neugarten, 1976). A development task, as written by Havigurst (1972), is "… a task which arises at or about a certain period in the life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while failure leads to unhappiness in the individual, disapproval by the society, and difficulty with later tasks "(pg.2).   Simply put, as individuals develop, they are constantly facing developmental tasks that are based on past experiences and that will dictate future

situations. The developmental task theory, similar to Erikson (1950), accounts for both the biological processes and social expectations that individuals face throughout development. For example, in early and middle adulthood, women may face the developmental task of having children. The decision will be based on their previous life experiences with family and children as well as biological ability/menopause, and it will also impact the rest of their developmental trajectory (e.g., taking the role of being a mother or not).   The developmental task theory seems to complement Erikson's (1950) eight stages of personality development. Both propose that individuals encounter developmental tasks throughout the lifespan that are based on previous experiences which set the stage for future situations.

Similar to the developmental task theory, the Social Clock theory is one that encompasses how an individual develops within the social context. Neugarten (1976) proposes that social clocks dictate the timing of certain life events, such as child birth and retirement. Neugarten highlights that timing of life events can be classified as being either "on-time" (normative; occurring during the socially prescribed developmental stage), or "off-time" (non-normative; occurring during a time in development that does not match with the task). An example on an individual being on-time would be a student graduating high school at 18 years old. An off-time transition would be if a student graduated high school at 50 years old. Of course, it is completely possible for an individual to graduate high school at 50 years old, however, the majority of individuals who are graduating from high school are 18 years of age. Being labeled as on-time or off-time may have implications for development. By not completing tasks within the socially dictated time, individuals may be ostracized from certain social groups or may

face being viewed as non-normative by society. Likewise, if viewed within in the same context as Erikson's (1950) theory, individuals who do not accomplish the socially dictated takes on-time may jeopardize their success in future developmental tasks.

Methodological Issues

Many of the methodological issues within both the developmental task and social clock theories are similar to the issues with Erikson's (1950) theory of development. The developmental task theory and social clock theories assume normative development, and propose developmental expectations based on stereotypical gendered tasks. Neither of these theories accounts for racial or cultural differences with society, nor do they account for sociodemographic differences in the timing of tasks (e.g. higher levels of education may experience delays in the experience of some tasks). For example, Stewart and Vandewater's (1993), in a investigation of college educated women, found that women who were identified as being on the "family clock" (more likely to have children at an earlier age; as compared to women on the "career clock" who were focused on career achievement or jointly on the career and family clocks) were more likely to concern themselves with being generative, and less likely to have a graduate school education as compared to women on the career clock. Conversely, women on the career clock were more invested in identity development, and less likely to have children. The family and career choices that the women in this study selected impacted how they progressed through/perceived Erikson's stages of personality development. These differences in education as well as the inferred gender differences may impact the timing of developmental transitions. Similarly, in earlier research investigating motives (conceptualized as aspects of an individual's personality), Veroff, Depner, Kulka, and

28

Douvan (1980) report that among adults who have higher education, there is a positive association with higher achievement motivation (the meeting of standards in competition with self and others). Also, when investigating women, affiliation motivation (emotional connections to people similar to self) decreased with age, especially after age 55. Over time, Veroff et al. report that women increased in their achievement motivation, and men decreased in their affiliation motivation. The authors tie these findings to Erikson's theory of personality development (needs to be generative), but do note that the role of education is influential in the responses of individuals.

Theory of Social Relations

Convoy Model of Social Relations

Throughout the lifespan, individuals interact with others and create a social network. This network can influence individual development from infancy to old age. It has been recognized that social relations are not uni-dimensional, but rather encompass multiple facets of an individual's interactions with others within his or her social network. Kahn and Antonucci (1980) first conceptualized social support as a convoy that surrounds and travels with an individual throughout the lifespan. Developed from basic principles of attachment theory and role theory, the Convoy Model of Social Relations recognizes that the need for close, secure relationships extends throughout the lifespan and across changing social roles. As an individual develops, he/she experiences various social roles and subsequently various role demands, which may require the addition or relinquishing of certain social relations and social supports. Hence, the convoy model posits that, from birth, a social network continuously surrounds an individual; however, the characteristics and quality of that network may change throughout development.

Antonucci (1985) describes social relations in terms of an individual's network structure, functions, and adequacy of social relations. Structure of support is defined as the network composition over the life course, and includes characteristics such as network size and stability. Function of social support is defined as the actual support provided, received, or exchanged by members of the convoy. Finally, adequacy is defined as the level to which the individual finds the support they are providing/receiving adequate (quality of relations with network members). Kahn and Antonucci (1980) describe the three types of support a person can provide and/or receive: aid (instrumental support), affect (emotional support), and affirmation (acknowledgement or agreement with another's statement or act).

Within the Convoy Model of Social Relations (Antonucci, 1990; 2001), the distinction between the structure of support and the quality of support is important to recognize. While the structure of the social network can influence the type and amount of support that an individual receives, that does not guarantee that an individual will receive support, or the type of support needed (Birditt & Antonucci, 2008). Kahn & Antonucci (1980) note that the structure of the social network, which includes size, stability, homogeneity, symmetry, and connectedness, helps to explain: 1) how the network physically changes over time, and 2) how properties of the network help to shape development. These objective measures of social relations are complemented by subjective measures of relationship quality. The quality of relationships within the Convoy Model of Social Relations captures individual perceptions of their social relations by assessing their satisfaction with support received.

Both the structural aspects and the quality of relationships of the social network are influenced by individual traits and the demands of the context (Ajrouch, Blandon, & Antonucci (2005); Antonucci, Ajrouch, & Janevic (2002). Both structure and relationship quality has been found to be associated with well-being, and to influence health and personal outcomes (House, Landis & Umberson, 2003). Kahn & Antonucci (1980) proposed and later evidence confirmed (e.g. Antonucci, 2005 for a review) that perceived quality of relationships is one of the most important indicators of social relations. For example, an individual with a large network and low quality social relations is likely to have worse outcomes than an individual with a small network and high quality relationships.

An individual's changing social structure and relationship quality may be highly dependent on their role within the social structure and society. Individuals occupy many roles through the lifespan, with each containing its own set of expectations. An example that is provided by Kahn & Antonucci (1980) is the role of parent. Though it is a role that is common in society, it has very different meanings for individuals throughout development. An individual at 18 years of age will view and experience the role of parent very differently than at 81. As an individual develops, their roles may change, hence requiring an adjustment in their social support needs.

Development, Social Relations and Sex Roles: An Integration of Theory

Throughout development, every individual is affected by his or her context. Specifically, Bronfenbrenner and Morris (2006) propose the bioecological model of human development, a model with four interrelated components: proximal processes (core of the model; interaction between the individual and the environment), person

31

characteristics (dispositions, resources of ability, demand) environmental contexts (immediate and remote), and time (microtime, mesotime, macrotime). These four elements function interactively, each affecting the other (e.g., proximal processes vary according to the three other components). In this model, Bronfenbrenner and Morris (2006) view individual experience as being the standard of evaluation, as it is the basis for individual subjective and objective interpretation of the environment. This model outlines the interaction between the individual and the surrounding environment, and how the interplay shapes development.

Similarly, Baltes, Lindenberger, and Staudinger (1998) recognize the interaction between culture, context and individual development. With the recognition that contextual factors effect development, it is logical to draw the conclusion that social relations (in the immediate context) can affect sex role development in individuals. As previously noted, the Convoy Model (Antonucci, 1985; Antonucci, 2001; Kahn and Antonucci ,1980), proposes that social relations are linked to roles ("a set of activities that are expected of a person by virtue of his or her occupancy of a particular position in social space," p. 385) that individuals occupy within the social network as well as within society. Within these roles, such as worker, child, or parent, there are sets of rules for tone, dress, and other display characteristics, which may or may not map on to their individual sex role endorsements. While occupying a role status, individuals also acquire a convoy of social relations that are adjacent to their social roles and perceptions of sex roles. As role status changes, so does the individual's role within the convoy, with some network members remaining stable and other showing variation. In the same framework as Erikson, who proposed that changes occur throughout the lifespan depending on

developmental stage, the convoy model conceptualizes social relations as dynamic based upon both situational and personal characteristics. These too, are somewhat malleable over the life span. In this case, situational characteristics include role status. Personal characteristics include personality traits and developmental stage. The few studies that have examined the link between social relations and sex roles have often tied the changes in sex roles to life transitions regarding children (Antonucci & Mikus, 1988; Feldman & Aschenbrenner, 1983; Feldman, Biringen, & Nash, 1981). Specifically, in two studies of transitions to parenthood, Palkovitz & Copes (1998) and Palkovitz, Copes, & Woolfolk (2001) found that men reported fathering as being a catalyst for adjustments in their sex role endorsements and a major transition in their adult development. These findings suggest a strong relationship between an individual's sex role endorsements and the social network, in that the role that an individual occupies may be associated with their responses of sex role endorsements. Gutmann (1975) notes that as individuals change social roles, their sex roles adjust accordingly. The author writes that parenthood may work to shape individual views of their own personal sex roles, with young parents leaning more towards stereotypical sex roles, and middle aged parents moving towards less traditional sex roles (women becoming more aggressive, men becoming more passive). The simultaneous development of the individual, sex roles, and the social network creates an intersection that has not been discussed in the literature. The interplay between social network dynamics (as proposed by the Convoy Model) and sex role development (as proposed by the theories of Kohlberg and Bem) within various developmental stages and transitions (as proposed by Erikson, Havighurst, and

Neugarten) indicate the connectedness of developmental concepts, and the need to investigate them as a collective unit.

Demographic Variation in Sex Role and Lifespan Development

Age

Across the lifespan, individuals become increasingly complex, with increased understanding of self and others (Kohlberg, 1966). Within a social framework, an individual is experiencing changes as well. Erikson's "Eight Stages of Man" (1950) outline a path of development in which an individual must undergo several transitions of self in order to achieve success. Many of the tasks associated with success are age dependent (e.g. childbirth, career development). Similar to Erikson (1950), Baltes et al. (1998) recognize the interplay between contextual factors and biological tasks within development. Likewise, Levinson (1978) outlines the developmental shifts that occur in the lifespan of men. Authors who have detailed development have pointed out various transitions that occur throughout development. Zucker, Ostrove, and Stewart (2002) found that variations in sex roles within a sample of college educated women mapped on to Erikson's theory of adult development. Similarly, other studies have noted age/developmental stage differences occurring in sex roles with various results. Changes in sex roles such as gender convergence (when men endorse more feminine traits and women endorse more masculine traits; when both men and women have similar sex role trait endorsements, e.g. Puglisi, 1983), gender transcendence (when personality traits are not based on social norms of masculine and feminine, (e.g. Fischer & Narus, 1981; McBroom, 1984), and the maintenance of sex role endorsements (e.g. Urberg & Labouvie-Vief, 1976) are illustrative. Most of these studies contend that sex role

flexibility is necessary for successful development and aging. Though it is recognized

that age and developmental tasks are not necessarily synonymous, it can be noted that

they are closely related. For example, certain tasks are only pertinent during certain

chronological ages (i.e. childbirth).

Race

Racial differences arise in areas surrounding individual development. Although

most studies investigating sex roles have been conducted with European American

college students, those studies which have examined race and sex roles have found

evidence of divergent racial notions of masculine and feminine. Previous studies have

shown that African Americans and European Americans differ in their conceptualizations

of sex roles (Hammond & Mattis, 2005; Harris, 1994, 1996; Hunter & Davis, 1992;

Hunter & Davis, 1994; Hunter & Sellers, 1998; Konrad & Harris, 2002), specifically that

African Americans tend to blur the line between masculine and feminine traits, with both

men and women identifying certain masculine traits as being descriptive of both

masculine and feminine roles. For example, Harris (1994) found that African American

subjects considered many of the Bem Sex Role Inventory (1974) traits, such as assertive,

independent, and gentle, to be descriptive of both sexes. Studies have found that African

Americans were also more likely than European Americans to endorse the notion that

masculinity was based on responsibility to family, while European Americans were more

likely to endorse 'hegemonic masculinity' or the idea that masculinity is based on

individual acquisition of social power (Hammond & Mattis, 2005). The differences in

race and sex role endorsement may be due to many factors, notably cultural differences in

gender expectations, poverty/socioeconomic status, and historical context (Blee &

Tickamyer, 1995; Hammond & Mattis, 2005; Harris, 1996; Lemelle, 2002; Mahalik, Pierre, & Woodland, 2001). These authors suggest that, historically, African Americans have not clearly divided sex roles between men and women due to social context and economic need. Likewise, social stereotypes of sex roles vary between races. For example, African American women are stereotypically viewed as being more aggressive and assertive than Caucasian women, traits that are often associated with men. Similarly, African American men are stereotypically viewed as taking on more domestic responsibilities within the household, a trait often associated with women/being feminine. African American men and women have both participated in the work force and household upkeep for economic reasons, suggesting that African Americans may have divergent views from Caucasian Americans regarding the roles of each sex. Also, because of the widely recognized disparities in income, education, and wealth between African Americans and Caucasians on average, African Americans have traditionally and historically 'violated' sex roles by having both men and women participate in the workforce in order to augment household income. The neutralizing of sex roles among African Americans may be a result of African American women having equal position within the household as compared to men.

Sex

Biological sex is a physical distinction between men and women, which in turn may influence individual characteristics and behavior. Outside of these biological differences, social elements also influence how men and women view sex roles. From a young age, boys and girls are reinforced for certain patterns of thinking and behaving, creating a rudimentary separation of male and female accepted norms (Maccoby, 1998;

36

Ruble, Martin & Berenbaum, 2006). For men and women, society has a set of norms that they are expected to follow. Throughout history in the US, women and men usually have been relegated to very rigid standards of behavior and thinking, which were the basis for masculine and feminine classifications created by Bem (1974). The traits highlighted by Bem (1974) as well as other stereotypical traits used to describe masculinity and femininity have often been classified as being either instrumental (task based) or emotional (feeling based). This classification further reinforces the notion that men and women are distinct in their sex roles. Evidence for this socialization can be observed through individual dress, values, goals, and behaviors.

As time has evolved, women have gained more opportunities within the social structure, allowing them greater flexibility with respect to their views and ideas of sex roles (feminist movement, access to resources). However, for the most part, men have not benefitted from similar progress. With the changing and evolving ideas of sex roles and individual level changes in endorsements, sex roles may vary by gender in numerous ways. Though stereotypically women are more feminine and men are more masculine, with age women are often viewed as becoming more masculine or androgynous, while men are viewed as becoming more feminine or androgynous as well (often referred to as gender convergence) (Fischer and Narus, 1981; Hyde, Krajnik, & Skuldt-Niederberger, 1991; McBroom, 1987; Puglisi, 1983). Similarly, due to cultural norms and societal changes, gender differences may arise because of how various generations, ages, and races conceptualize femininity and masculinity and their underlying traits.

Summary

      With developmental theory providing a foundation for understanding sex role and personality development, individual changes over time can be observed in a systematic fashion with solid explanation and support. Similarly, the convoy model explains the dynamic nature of social relations based on developmental stage and social roles. The theories reviewed above establish the multiple transitions that occur throughout development, how they relate to sex role development and the formation of the social network. In the next section, I discuss the present study, which investigates the longitudinal development of sex roles with regard to age, race, sex, and cohort in conjunction with social relations.

CHAPTER III

THE PRESENT STUDY

Overview

The present study addresses several gaps in the literature regarding sex roles and development, and adds to the limited literature discussing the relationship between social relations and sex roles. This study evaluates the universality of the BSRI as a measure of sex roles that is appropriate and consistent across age/cohort, race, and gender groups. Many of the previous studies regarding sex roles and developmental changes have occurred within college-aged samples or with cross-sectional samples (Campbell, Gillaspy, & Thompson, 1997; Gross, Batlis, Small, & Erdwins, 1979; Harris, 1996; Hoffman & Borders, 2001) allowing for only partial views of individual development.

Within studies that have investigated sociodemographic factors and sex roles, previous studies have suggested that minority groups, namely African Americans, conceptualize masculinity and femininity differently than European Americans (Hammond & Mattis, 2005; Harris, 1994, 1996; Hunter & Davis, 1992; Hunter & Davis, 1994; Hunter & Sellers, 1998), however only Harris (1994;1996) tested these racial differences using the BSRI. This study will investigate the differences of sex role trait endorsement between African Americans and European Americans, men and women, and among various age groups in development.

Secondly, this study will take a longitudinal approach to the investigation of how sex role endorsements change over time as measured at two time points over 12 years. Previous studies either focus on one time point with college students, cross sectional studies using individuals of various ages, or short term, e.g. one year longitudinal studies. The length of time between Wave 1 and Wave 2 of data allows an examination of how various life stages are associated with sex role endorsement. Finally, this study will investigate the association between social relations and sex role development. A modicum of studies has merged research on social relations and sex role development. Levinson (1978) analyzed how men's sex roles may develop across time in conjunction with marriage and childbirth. There are few studies, however, that have examined this relationship empirically. The present study will map the changes within sex role endorsements on to the fluctuations of social networks to evaluate the association between how one perceives sex roles and one's social relations. This association will be evaluated across demographic factors of age, race, and sex, to obtain a more nuanced view of sex role development and change. In this study, sex roles will be evaluated with both sex role categories (as outlined by Bem, 1974) and continuous measures of masculine and feminine.

Research Questions and Hypotheses

The present study addresses the follow research questions:

(1) *Does the likelihood that adults will endorse traditional sex roles change over the lifespan?*

It is hypothesized that individuals' sex role endorsements will change over time, with more individuals being classified as androgynous (denoting an increase in

endorsement of masculine and feminine traits) or undifferentiated (denoting a decrease in endorsement of masculine and feminine traits) over time. Within the continuous measures of masculine and feminine, it is hypothesized that over time, the mean for both sex roles will decrease, indicating that individuals are becoming less traditional or increase, indicating that individuals are becoming more androgynous. It is expected that feminine and masculine trait endorsements will shift respectively, however it should be noted that it is also assumed that not all individuals, especially when accounting for their Wave 1 responses, will experience significant changes in endorsement in both masculine and feminine traits over time.

 (2) *What is the association of sex, race, and age on changes in endorsement of traditional sex roles over the lifespan?*

It is hypothesized that sex role endorsements will vary by demographic factors. Specifically, older adults will more likely be in the androgynous category as compared to masculine, feminine, and androgynous categories of sex roles. Previous theories and research suggest that with age, individuals become less concerned with learned and social ideas of sex roles, and more concerned with their own personal identity (Bem, 1981; Erikson, 1950; Fischer & Narus, 1981). Within continuous masculine and feminine sex role scores, older adults will increase in both categories, indicating that they are becoming more gender neutral. For race, it is hypothesized that African Americans will have less traditional sex role endorsements than Caucasians due to cultural beliefs and social circumstances, meaning that African Americans will be more likely to be classified as either undifferentiated or androgynous. For sex, it is hypothesized that women will be more likely to fall within the feminine grouping, while men will be more likely to be

classified as masculine. Likewise, women will have higher scores on the continuous feminine measure, and men will have higher scores on the continuous masculine measure. Investigation of sex differences will be conducted in attempt to replicate findings from previous studies that have investigated similar questions regarding sex differences. Based on theories presented and previous literature, changes in sex role endorsements are expected.

Across time, it is hypothesized that there will be variations in sex role endorsements. Though some individuals may remain stable in their endorsement of sex roles, a significant number of individuals in the first wave of data are in developmentally different stages of life as compared to12 years later, creating a need to adjust their self-ratings of sex role traits. Both men and women will become less sex typed in their endorsements of sex role traits, where women's endorsement of stereotypically masculine traits will increase and men's endorsement of stereotypically feminine traits will increase. This movement from traditional/sex typed to androgynous groups across time will also be observed in European Americans (more so than African Americans), and for older adults (as compared to their younger counterparts).

(3) *How are the structure and quality of an individual's social relationships associated with sex role endorsement?*

It is hypothesized that social relations will be associated with sex roles at Wave 1 and Wave 2. In all stages of development, social relations have a significant impact on physical and psychological well-being, and how individuals view themselves and the environment. It is hypothesized that at both Wave 1 and Wave 2, sex role trait endorsements, both categorically and continuously, will be significantly related to the

structure and quality of relationships. Specifically, it is hypothesized that higher

relationship quality will be positively related to being classified as feminine, and higher

feminine sex role endorsements. The relationship is hypothesized because of the nature

of the questions that assess relationship quality. Higher scores on positive quality may be

assessing similar qualities as feminine sex role traits i.e., feelings of being supported;

feminine trait of 'sensitive to the needs of others'. Likewise, feminine trait

endorsements may be hinged on the interaction that an individual has with the social

network. This association is not expected to emerge as strongly for male sex role trait

endorsements because of the nature of the masculine sex role traits, where the traits are

not as intuitively related to interactions with individuals who may be considered to be

within the social network. Similarly across time, as an individual develops, so does their

social convoy. Each individual has a lifetime of experiences and perceptions that shape

how he/she perceives the self and environmental situations. By evaluating the changes in

the social network in conjunction with changes in sex role endorsements, this study will

assess if the two are developmentally connected. By investigating changes in the

structure and quality of the social network, the variations in sex role development can be

explained in more detail.

<center>**Conceptual Model**</center>

 The conceptual model presented in Figure 3.1 outlines the hypothesized relationships

among sex roles, demographics, social relations and time. As previously noted,

education is included in the model as an underlying factor that may influence individual

sex role endorsements. For this model, all pathways of possible relationships are

<center>43</center>

included, however, only those indicated by solid lines will be investigated within this

project.

Figure 3.1: Conceptual Model
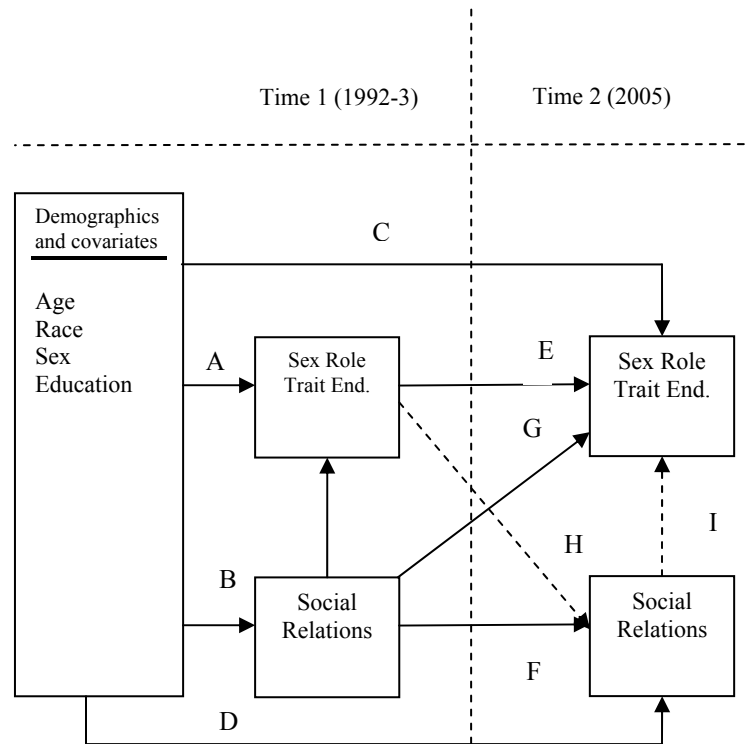
Note: End. is abbreviation for endorsements

A: Demographics will influence W1 sex role endorsements
B: Demographics will influence W1 social relations
C: Demographics will influence W2 sex role endorsements
D: Demographics will influence W2 social relations
E: W1 sex role endorsements will influence w2 sex role endorsements
F: W1 social relations will influence W2 social relations
G: W1 social relations will influence W2 sex role endorsements
H: W1 sex roles will influence W2 social relations
I: W2 social relations will influence W2 sex role endorsements

CHAPTER IV

METHOD

Design and Participants

The data for the present study are drawn from the Social Relations and Mental Health Over the Life Course Study, a two wave panel study designed to examine social relations, sociodemograhic factors, life events, daily hassles, depressive symptomatology, illness, functional health/disability, and perceived physical and mental health across the lifespan, as well as interrelationships among these variables and their effects on well-being (Antonucci & Akiyama, 1992, 2005). The Wave 1 data were collected from 1992 to 1993 by the University of Michigan Survey Research Center in face-to-face interviews that lasted approximately 60 minutes. Stratified (age, sex) probability sampling techniques were used to obtain a regionally representative sample from the Detroit Metropolitan area (N=1702), consisting of 1498 adults (13-93 years old) and 205 children (8-12 years old). Older adults (age 60+) were oversampled. The response rate for Wave 1 was 72%. Wave 2 consisted of follow-up telephone interviews that lasted approximately 60 minutes, and had a response rate of 78%. Of the original sample, 925 of the original participants completed the second interview, while 317 were deceased, 90 refused to participate, and 71 could not be contacted. The remaining 95 participants were either permanently incapacitated, unable to complete the interview, unavailable for the complete study time, refused through an informant/lack of contact, or were incarcerated.

Study Sample

The sample for the current study consists of two waves of longitudinal data, consisting of 875 of the same individuals who participated in both waves. The sample is 26.5% African American (N=232) and 73.5% European American (N=643); 39.3% are men and 60.7% are women. Participants were aged 18-87 years (*M*=45.38, *SD*=15.59). In Wave 2, the participants were aged 30-100 years (*M*=57.41, *SD*=15.56).

Measures

Demographic Variables

A table summarizing the means, standard deviations, and percentages of sample demographics is provided in Table 4.1.

<u>Age</u>: Respondents were asked the year and month of their birth. Age was measured as a continuous variable and via median split based on the overall sample distribution to divide the sample into younger (18-42 years) and older (43-87 years) adults. The median split of age was utilized to observe age differences in sex role trait endorsements and sex role categories. Continuous age was utilized with the multinomial logistic regression and structural equation modeling. Within race, for Caucasians, there were 309 (48.1%) young adults and 334 (51.9%) older adults. For African Americans, there were 147 (63.4%) young adults and 85 (36.6%) older adults.

<u>Race</u>: Respondents were asked "Are you White, Black, Native American, Asian, Hispanic, or other." For the purpose of this study, only respondents who identified as either "White" or "Black" were included in the sample. Responses were coded into a dichotomous variable (1=White, 2=Black). For this study, it should be noted that African

Americans are referred to as Black and Caucasians are referred to as Whites

interchangeably.

Sex: Respondents indicated their sex as either "male" or "female." Responses were coded

into a dichotomous variable (male=1, female=2).

Education: Respondents were asked the highest level of education that they had

completed as of W1. Education was measured as a continuous variable (Range: 4-17

years; M=13.27, SD=2.31).

Table 4.1:Sample Demographics

	Mean (SD)/ % (N)
Age	Range: 18-87
	45.38 (15.59)
Race	African American: 26.5% (N=232)
	Caucasian: 73.5% (N=643)
Sex	Male: 39.3% (N=344)
	Female: 60.7% (N=531)
Education	Range: 4-17 years
	13.27 (2.31)

A table summarizing the means, standard deviations, and percentages of the social

relations and sex role measures is provided in Table 4.2.

Social Network Characteristics

The network mapping procedure developed by Antonucci (1986) was used to

measure social network characteristics of respondents. For this procedure, respondents

were first shown a diagram consisting of 3 concentric circles. In the center of the

smallest circle was the word "you." After being told that they were going to be asked

questions about people who were important in their life right now, respondents were then asked "Beginning with the people you feel closest to, is there any one person or persons that you feel so close to that it's hard to image life without them?" The initials of the person(s) named were then placed into the innermost circle of the diagram. Next, respondents were asked "Are there any people to whom you may not feel quite that close, but who are still very important to you?" The initials of the person(s) were then placed in the next largest circle. Finally, respondents were asked "Are there people whom you haven't already mentioned who are close enough and important enough in your life that they should also be placed in your diagram?" The initials of the person(s) named were then placed in the outer circle of the diagram. In addition to names of network members, respondents also provide the sex and age of the person(s), their relationship with the person(s), number of years they have know the person(s), their physical proximity to the person(s), and their frequency of contact with the person(s). Respondents were then asked a series of questions regarding the structure, function, and quality of relations with individuals listed in their social network.

Network Structure and Composition/Quantity of Support

Network structure and composition measures include marital status, network size, proportion of family in the network, proportion of females in the network, and the average age of the network. *Size of network* was computed based upon the number of people listed in the circle diagram. The *average age of the social network* is obtained from the network mapping procedure. The ages of the first 10 persons listed are averaged across the size of the network to provide an overall network age. Similarly, *proportion of family* and *proportion of females* within the social network was assessed through the

respondent's indication of familial relationships and female relations in the mapping procedure. Within the respondent network, counts were conducted in each category (relationship type, and sex of relationship, respectively) and divided by the respondent's network size, creating proportion variables.

Network Function/Quality of Support

Respondents were asked a series of questions regarding the quality of support received from their spouse/partner, same sex best friend, and child (the one they rely on the most). Relationship quality was assessed through 7 items discussing positive emotional support and 2 items discussing negative aspects of the relationship. Positive support items included: (a) When my (relationship) is having a hard time, I want to help him/her; (b) I feel my (relationship) supports me, that he/she is there when I need him/her; (c) I can share my very private feelings and concerns with my (relationship); (d) It makes me happy to know my (relationship) is happy; (e) I enjoy being with my (relationship); (f) I feel my (relationship) encourages me in whatever I do; (g) I feel that my (relationship) believes in me. Negative quality items included: (a) My (relationship) gets on my nerves; (b) My (relationship) makes too many demands on me. Responses for quality of support were rated on a 5-point scale and reverse coded so that 1=disagree, 5=agree.

Positive quality and negative quality for spouse, child, and same sex best friend was computed using an average across the seven positive and 2 negative items for each scale, respectively. Overall positive relationship quality was calculated by taking an average of positive quality with spouse/partner, child, and friend (W1: α=.73, W2:

49

α=.81). Overall negative relationship quality was computed in a similar manner (W1: α=.67, W2: α=.65).

<div align="center">Outcome Variables</div>

<u>Bem Sex Role Inventory (BSRI)</u>

Sex role endorsements are measured by the Bem Sex Role Inventory (BSRI), developed by Bem (1974) to assess individual endorsement of masculine and feminine personality characteristics. While the 40 item version of the BSRI was administered in the first wave of data collection, an abbreviated form of the BSRI consisting of 22 items was included in the second wave of data collection. Therefore, only those 22 items that appear in both waves of data will be used in this study. Respondents were asked to "indicate how well each of the following words or phrases describes you. Please give the first response to come to mind." Items included: (a) defends own beliefs, (b) cheerful, (c) independent, (d) affectionate, (e) assertive, (f) strong personality, (g) forceful, (h) sympathetic, (i) has leadership abilities, (j) sensitive to the needs of others, (k) willing to take risks, (l) understanding, (m) compassionate, (n) eager to sooth hurt feelings, (o) dominant, (p) warm, (q) willing to take a stand, (r) tender, (s) aggressive, (t) acts as a leader, (u) loves children, (v) gentle.   Each item was scored on a 7 point scale, 1=almost ever true, 7=almost always true. The Cronbach's alpha reliability coefficient for the masculine scale items was .84 in W1 and .87 in W2. For the feminine items, the alpha was .87 in W1 and .90 in W2. Mean scores for masculine and feminine items were calculated, and 4 groups (masculine, feminine, androgynous, and undifferentiated) were created based on median splits, the scoring method that was proposed for this measure by Bem.   Scoring for the 4 groups was based on Bem's proposed scoring method (Bem, 1974; Bem, 1977), and W2 responses were set to be equivalent to W1 category cut-

<div align="center">50</div>

points: (1) respondents who scored above the mean on masculine and below the mean on feminine were coded as "masculine" (W1: N=158, 18.1%; W2: N=139, 15.9%); (2) respondents who scored below the mean on masculine and above the mean on feminine were coded as "feminine" (W1: N=175, 20.0%; W2: N=250, 28.6%); (3) respondents who scored above the mean on masculine and above the mean on feminine were coded as "androgynous" (W1: N=330, 37.7%; W2: N=290, 33.1%); (4) respondents who scored below the mean on masculine and below the mean on feminine were coded as "undifferentiated" (W1: N=212, 24.2%; W2: N=196, 22.4%). Employment of this method allowed for comparison of the results from this study with previous work that has investigated sex role trait endorsement. Along with the 4 derived groups, this study will also investigate masculine and feminine on continuous scales. These continuous scales will be created by summing and averaging individuals' scores on masculine items and feminine items. (Scores range from 1-7. Masculine in W1: Range= 2.18 to 7; M=5.54, SD=.88; Masculine in W2: Range=1.55 to 7; M=5.32, SD=1.00; Feminine in W1: Range=3.55 to 7; M=6.09, SD=.74; Feminine in W2: Range=2 to 7; M=6.12, SD=.79) (see Bem, 1977). While the median split method is the proposed method by Bem (1977), the continuous scoring method allows the observation of more individual variation in sex role trait endorsements, providing a more complete picture of developmental change.

Table 4.2: Means, Standard Deviations, and Percentages of Social Relations and Sex Role Measures

	1992-1993 (W1)	2005 (W2)
Network size	Range: 1-36 10.67 (5.88)	Range: 0-48 11.68 (7.34)
Age of network	Range: 9.50-73.25 38.70 (10.52)	Range: 5.50-85 43.87 (11.94)
Proportion of family	Range: 0-1 .69 (.26)	Range: 0-1 .68 (.25)
Proportion of females	Range: 0-1 .55 (.18)	Range: 0-1 .55 (.19)
Positive quality	Range: 3-5 4.80 (.29)	Range: 1.60-5 4.78 (.37)
Negative quality	Range: 1-5 2.35 (1.01)	Range: 1-5 2.09 (.96)
Masculine	Range: 2.18-7 5.54 (.88)	Range: 1.55-7 5.32 (1.00)
Feminine	Range: 3.55-7 6.09 (.74)	Range: 2-7 6.12 (.79)
Bem Categories	Masculine: 18.1% (N=158) Feminine: 20.0% (N=175) Androgynous: 37.7% (N=330) Undifferentiated: 24.2% (N=212)	Masculine: 15.9% (N=139) Feminine: 28.6% (N=250) Androgynous: 33.1% (N=290) Undifferentiated: 22.4% (N=196)

Analyses

Preliminary data analyses presented will include attrition analyses and factor analysis.

Although previous research has shown that although the short form of the BSRI is a reliable measure of sex roles (Bem, 1974; Campbell et al., 1997; Gross et al., 1979; Hoffman & Borders, 2001), it may not be equally valid across age, sex, and race (Harris, 1994, 1996). Likewise, individual conceptualizations of masculine and feminine may change over the course of 12 years.

Factor analysis will be used to determine if the masculine and feminine items are consistent, and independent across sex, age groups, and racial groups. For the BSRI short form, previous studies have confirmed an underlying two-factor structure, often classified as masculine and feminine. Confirmatory factor analyses will be conducted separately by sex, age and race to examine whether the BSRI items will load within the same two-factor framework of masculine and feminine. Previous studies have confirmed Bem's (1974) finding that masculine and feminine are two independent factors (see Ward, 2000). Confirmatory factor analyses will be used to impose a 2 factor model on the data and test how well that model explains responses to a set of variables (Bryant & Yarnold, 2000). Nessleroade (1990) noted that when examining adult personality from a developmental perspective, it is important to know whether the same psychometric construct can be assumed to exist in different age groups. Meaningful comparisons of personality measurement across the lifespan require the investigation of the degree of structural invariance of the underlying set of dimensions. Factor analysis will allow the reduction of the BSRI items into 2 factors, to investigate the underlying process behind conceptualizations of masculine and feminine. By establishing that the underlying concepts for masculine and feminine are similar among all groups across time, interpretation of analyses can be clearly understood.

Analyses of the research questions will be conducted using statistics techniques including repeated measures MANCOVA, McNemar tests, multivariate logistic regression, and structural equation modeling in AMOS. All research questions will investigate the categorical and continuous measures of sex roles.

CHAPTER V

RESULTS

Descriptive and Background Statistics

This chapter displays the results from the statistical analyses conducted to address the three research questions. First, attrition analyses and confirmatory factor analyses will be presented. Next, analyses directly addressing each research question will be presented.

Attrition

Attrition analyses were conducted to ascertain whether there was any bias in those lost to follow up. Logistic regression was utilized to investigate the demographic and sex role characteristics that may influence participation in both waves of data collection.

Table 5.1: Attrition Analyses with Demographic Characteristics and Categorical Sex Role Measure

	Participation in W2		
Variable	B	SE B	B
Education	.16	.03	1.17***
Age	-.04	.00	.96***
Sex	.36	.13	1.44**
Race	-.34	.14	.72*
Androgynous	.02	.16	1.02
Masculine	.06	.20	1.06
Feminine	-.34	.18	.72
	$\chi^2 = (7, N=875)=293.56, p=.000$		

Note. Within the sex roles, undifferentiated is the reference group.
*$p<.05$, **$p<.01$, ***$p<.001$

When conducting the attrition analysis with the categorical sex role variable in the model, higher levels of education, being younger, being female, and being Caucasian

were significant predictors of W2 participation. Sex role categories were not significant

predictors of participation in the second wave of data (see Table 5.1)

Next, attrition analyses were conducted investigating the demographic factors and

the continuous measures of masculine and feminine. Again, higher levels of education,

being younger, being female, and being Caucasian were significant predictors of

longitudinal participation. However, the continuous measure of masculine was also a

significant predictor (see Table 5.2). Individuals who reported higher average scores on

the masculine trait variables were more likely to participate in the second wave of data.

Table 5.2: Attrition Analyses with Demographic Characteristics and Continuous Sex Role Measure

	Participation in W2		
Variable	B	SE B	β
Education	.16	.03	1.17***
Age	-.04	.00	.96***
Sex	.40	.13	1.48**
Race	-.34	.15	.72*
Masculine	.15	.07	1.16*
Feminine	-.14	.09	.87
	χ^2 (6, N=875)=292.98, p=.000		

*p<.05, **p<.01, ***p<.001

Factor Analysis

Confirmatory factor analysis (CFA) was conducted using structural equation

modeling (SEM) to test for a 2 factor solution representing masculine and feminine as

outlined by Bem (1974). The model also tests for factorial invariance across time. To

investigate the two factor structure and factor invariance simultaneously, two models

were tested. The first model consisted of four unobserved variables (masculine in w1,

feminine in w2, masculine in w2, and feminine in w2), each with 11 indicators. Even

though these variables were created from an average of the scores on masculine and

feminine variables, respectively, for the confirmatory factor analysis, they were

considered latent to confirm that the 22 variables would load on a two factor solution. In

this first model, the restricted model (see Figure 5.1), the parameters were restricted and

made equal across both waves, and the error variances for Wave 1 indicators were

correlated.   In the second model, the unrestricted model, the parameter restrictions were

lifted. Both of these models were tested for all the participants in the sample as well as

separately for the subgroups of race, age, and sex.   Results for the restricted model are

listed in Table 5.3, and results for the non-restricted model are listed in Table 5.4.

Results from the analyses indicate that, though there is slight fluctuation across models

and groups, the 2 factor solution proposed by Bem (1974) fits the data relatively well,

and the measure is relatively stable across time, as denoted by the RMSEA value.

Figure 5.1: Confirmatory Factor Analysis Structural Equation Model with Restricted Parameters
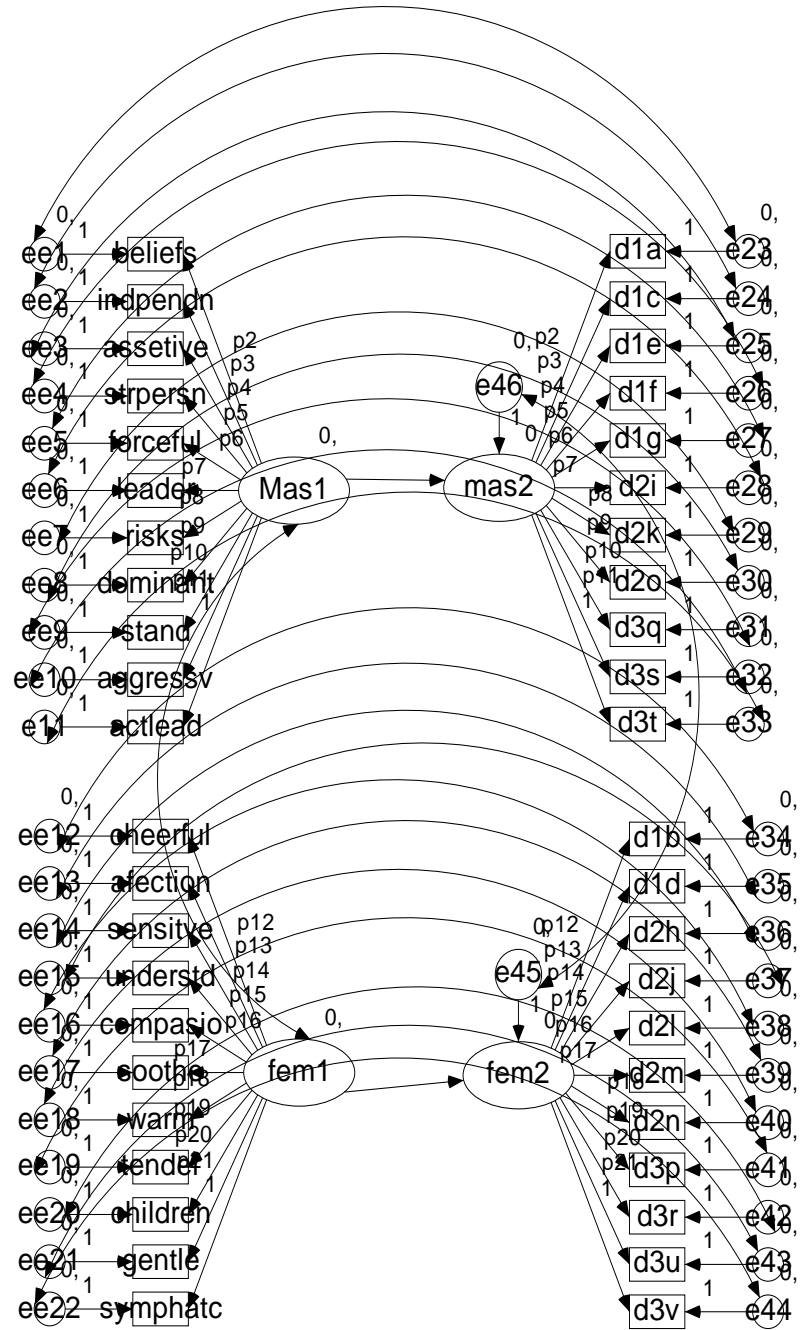
Table 5.3: Fit Indices for Confirmatory Factor Analyses with Restricted Parameters

Statistic	All	Race (Black & White)	Sex (Male & Female)	Age (Young & Old)
χ^2	3748.855***	4952.016***	4792.675***	5084.760***
df	896	1792	1792	1792
NFI	.791	.746	.739	.738
CFI	.832	.821	.818	.812
RMSEA	.060	.045	.043	.045

*p<.05, **p<.01, ***p<.001

Table 5.4: Fit Indices for Confirmatory Factor Analyses with Non-Restricted Parameters

Statistic	All	Race (Black & White)	Sex (Male & Female)	Age (Young & Old)
χ^2	3579.553***	4697.498***	4583.157***	4860.193***
df	876	1752	1752	1752
NFI	.801	.759	.750	.750
CFI	.841	.832	.827	.822
RMSEA	.059	.044	.043	.045

*p<.05, **p<.01, ***p<.001

Chi-square difference tests were conducted, and across and within all groups (race, sex, and age), there were significant differences between the restricted and unrestricted models in each instance. These difference tests indicate that the fit for the unrestricted models is a significantly better fit than the restricted models, as restricting the parameters decreases the model fit. This implies that there is a level of factorial invariance between Waves 1 and Waves 2.

Once the abbreviated Bem Sex Role Inventory had been established as a viable tool, the next step was to investigate the demographic differences within the social relations and sex role variables (see Table 5.5). Investigation of demographic differences (age, race, and sex) in the social relations variables and continuous sex role scores indicate several within-group variations in both waves of data. Because of the nature of race and gender as dichotomous variables, age has also been dichotomized for the ease of interpretation.

Table 5.5: Mean Differences in Social Relations and Continuous Sex Role Variables by Demographics

	Demographics	Groups	1992-1993 (W1) M (SD)	2005 (W2) M (SD)
Network size	Age	Young	10.69 (5.95)	12.68 (7.85)
		Old	10.65 (5.80)	10.60 (6.58)
		p	ns	***
	Race	White	11.12 (5.96)	12.04 (7.33)
		Black	9.43 (5.46)	10.70 (7.29)
		p	***	*
	Sex	Male	10.28 (5.79)	10.39 (6.76)
		Female	10.93 (5.92)	12.53 (7.58)
		p	ns	***
Age of network	Age	Young	34.21 (7.85)	39.66 (9.75)
		Old	43.56 (10.88)	48.51 (12.41)
		p	***	***
	Race	White	39.73 (10.23)	44.86 (11.73)
		Black	35.83 (10.79)	41.10 (12.11)
		p	***	***
	Sex	Male	39.14 (11.04)	44.61 (12.41)
		Female	38.42 (10.16)	43.39 (11.61)
		p	ns	ns
Proportion of family	Age	Young	.68 (.25)	.67 (.25)
		Old	.71 (.25)	.68 (.26)
		p	ns	ns
	Race	White	.68 (.26)	.66 (26)
		Black	.74 (.25)	.72 (.24)
		p	***	**
	Sex	Male	.69 (.27)	.73 (.26)
		Female	.70 (.24)	.64 (.24)
		p	ns	***
Proportion of females	Age	Young	.53 (.17)	.54 (.17)
		Old	.57 (.19)	.57 (.20)
		p	ns	ns
	Race	White	.54 (.18)	.55 (.18)
		Black	.58 (.18)	.56 (.20)
		p	**	ns
	Sex	Male	.52 (.19)	.53 (.19)
		Female	.57 (.17)	.57 (.18)
		p	***	**
Positive quality	Age	Young	4.78 (.29)	4.76 (.40)
		Old	4.82 (.28)	4.80 (.35)
		p	*	ns
	Race	White	4.80 (.28)	4.77 (.38)
		Black	4.80 (.31)	4.80 (.36)
		p	ns	ns
	Sex	Male	4.77 (.32)	4.76 (.38)
		Female	4.81 (.27)	4.79 (.37)
		p	*	ns
Negative quality	Age	Young	2.54 (1.04)	2.23 (.98)
		Old	2.15 (.93)	1.93 (.92)

	Race	*p*	***	***
		White	2.29 (.95)	2.04 (.93)
		Black	2.53 (1.15)	2.22 (1.03)
	Sex	*p*	**	*
		Male	2.23 (.99)	1.99 (.94)
		Female	2.43 (1.01)	2.14 (.97)
		p	**	*
Masculine	Age	Young	5.53 (.86)	5.38 (.95)
		Old	5.54 (.90)	5.28 (1.05)
		p	ns	ns
	Race	White	5.46 (.88)	5.24 (1.01)
		Black	5.72 (.84)	5.57 (.93)
		p	***	***
	Sex	Male	5.61 (.82)	5.44 (.93)
		Female	5.49 (.91)	5.26 (1.04)
		p	*	**
Feminine	Age	Young	6.05 (.77)	6.08 (.85)
		Old	6.13 (.71)	6.17 (.73)
		p	ns	ns
	Race	White	6.06 (.76)	6.11 (.79)
		Black	6.15 (.70)	6.14 (.80)
		p	ns	ns
	Sex	Male	5.83 (.79)	5.83 (.85)
		Female	6.25 (.66)	6.31 (.70)
		p	***	***

Note. ns indicates the relationship in non significant.
p<.05, **p*<.01, ***p*<.001.

Within Wave 1 social relations and sex role variables there were significant differences within demographic groups. For network size, African Americans reported smaller networks; for network age, younger respondents and African Americans reported younger networks; for proportion of family in the network, African Americans reported higher proportions of family; for proportion of females in the network, African Americans and female respondents reported higher proportions of females. Within positive relationship quality, older respondents and females reported higher relationship quality. Within negative relationship quality, younger respondents, African Americans, and females reported higher negative quality. Finally when looking at the sex role measures of masculine and feminine, African Americans and males reported higher scores on masculine; females reported higher scores on feminine.

Within Wave 2 social relations, the patterns of significance varied slightly. For network size, older adults, African Americans, and males reported smaller networks. Within network age, younger respondents and African Americans reported younger networks. For proportion of family within the network, African Americans and males reported more family within the network. For proportion of females within the network, females reported having more females in their networks. For positive relationship quality, there were no demographic differences within groups. However, for negative relationship quality, younger respondents, African Americans, and females reported higher negative quality. Finally when investigating endorsements of masculine and feminine, African Americans and males reported higher masculine scores and females reported higher feminine scores.

Chi-squares were used to examine demographic differences in categorical sex roles in both waves of data (see Table 5.6). Within Wave 1, sex role categories, there were no differences by age, however, there were differences by race and sex. For race, African Americans were most highly concentrated within the androgynous group, followed by undifferentiated, masculine, and feminine, respectively. Caucasians were most highly concentrated in the androgynous group, followed by undifferentiated, feminine, and masculine, respectively. Even though the ordering of the categories is relatively similar, the concentration within each category is what seems to be driving these differences. Within sex, women were highly concentrated within the androgynous group, followed by feminine, undifferentiated, and masculine, respectively. Men were highly concentrated within the androgynous group as well, followed by undifferentiated, masculine, and feminine, respectively.

For Wave 2 sex role categories, again, there were no significant age differences. Within race, there were significant differences between African American and Caucasians in both waves. For Wave 1, African Americans were most highly concentrated within the androgynous group, followed by undifferentiated, masculine, and feminine respectively. Caucasians were most highly concentrated within the androgynous group, followed by undifferentiated, feminine, and masculine, respectively. In Wave 2, African Americans were classified as androgynous, feminine, undifferentiated, and masculine, respectively. For Caucasians, there was only a slight difference between the two most prevalent groups of androgynous and feminine (a difference of 0.2), followed by undifferentiated and masculine, respectively. Significant differences also emerged with sex in both waves of data. Within Wave 1, women were most highly concentrated within the androgynous group, followed by feminine, undifferentiated, and masculine, respectively. Men were most highly concentrated in the masculine group, followed by undifferentiated, androgynous, and feminine, respectively. Within Wave 2, the feminine and androgynous categories were close in percentage, and were the classifications for most of the women. These were followed by undifferentiated and masculine, respectively. For men, most were classified as undifferentiated, followed by androgynous, masculine, and feminine, respectively.

Table 5.6: Percentages of Sex Role Categories by Demographics

Demographics	Waves	Masculine	Feminine	Androgynous	Undifferentiated	Total
	Wave 1: Young	20.0% N=91	21.7% N=99	35.1% N=160	23.2% N=106	N=456
	Wave 1: Old	16.0% N=67	18.1% N=76	40.6% N=170	25.3% N=170	N=419
	Total	18.1% N=158	20.0% N=175	37.7% N=330	24.2% N=212	N=875
	$\chi^2(3, N=875)=5.42, p=.14$					
Age	Wave 2: Young	18.6% N=85	27.9% N=127	31.1% N=142	22.4% N=102	N=456
	Wave 2 : Old	12.9% N=54	29.4% N=123	35.3% N=148	22.4% N=94	N=419
	Total	15.9% N=139	28.6% N=250	33.1% N=290	22.4% N=196	N=875
	$\chi^2(3, N=875)=5.87, p=.12$					
	Wave 1: White	18.0% N=116	22.1% N=142	35.4% N=222	25.3% N=163	N=643
	Wave 1: Black	18.1% N=42	14.2% N=33	46.6% N=108	21.1% N=49	N=232
	Total	18.1% N=158	20.0% N=175	37.7% N=330	24.2% N=212	
Race	$\chi^2(3, N=875)=13.06, p=.005$					
	Wave 2: White	15.7% N=101	30.0% N=193	30.2% N=194	24.1% N=155	N=643
	Wave 2: Black	16.4% N=38	24.6% N=57	41.4% N=96	17.7% N=41	N=232
	Total	15.9% N=139	28.6% N=250	33.1% N=290	22.4% N=196	
	$\chi^2(3, N=875)=11.43,\ p=.010$					
	Wave 1: Male	24.4% N=84	10.8% N=37	33.1% N=114	31.7% N=109	N=344
	Wave 1 : Female	13.9% N=74	26.0% N=138	40.7% N=216	19.4% N=103	N=531
	Total	18.1% N=158	20.0% N=175	37.7% N=330	24.2% N=212	
	$\chi^2(3, N=875)=53.08,\ p=.000$					
Sex	Wave 2: Male	25.0% N=86	15.7% N=54	28.8% N=99	30.5% N=105	N=344
	Wave 2: Female	10.0% N=53	36.9% N=196	36.0% N=191	17.1% N=91	N=531
	Total	15.9% N=139	28.6% N=250	33.1% N=290	22.4% N=196	
	$\chi^2(3, N=875)=82.48,\ p=.000$					

Hypothesis 1

Does the likelihood that adults will endorse traditional sex roles change over the lifespan?

To assess if there was a change in sex role endorsements over time in the Bem (1974) sex role categories, McNemar tests were conducted. McNemar tests are non-parametric tests that allow change to be assessed for repeated-measures. The McNemar test for the overall sample was significant (Value (6, N=875) =29.97, *p*=.000) indicating that there were significant changes in sex role classifications over the 12 years (see Table 5.7).

Table 5.7: McNemar Test for Change in Sex Role Categories over Time

	W2 Androgynous	W2 Masculine	W2 Feminine	W2 Undifferentiated	Total
W1 Androgynous	184	31	82	33	330
% within W1	55.8%	9.4%	24.8%	10.0%	100%
% within W2	63.4%	22.3%	32.8%	16.8%	37.7%
W1 Masculine	46	76	8	28	158
% within W1	29.1%	48.1%	5.1%	17.7%	100%
% within W2	15.9%	54.7%	3.2%	14.3%	18.1%
W1 Feminine	38	5	97	35	175
% within W1	21.7%	2.9%	55.4%	20.0%	100%
% within W2	13.1%	3.6%	38.8%	17.9%	20.0%
W1 Undifferentiated	22	27	63	100	212
% within W1	10.4%	12.7%	29.7%	47.2%	100%
% within W2	7.6%	19.4%	25.2%	51.0%	24.2%
Total	290	139	250	196	875
% within W1	33.1%	15.9%	28.6%	22.4%	100%
% within W2	100%	100%	100%	100%	100%

Within the classification of androgynous, the majority of individuals remained consistent, while the remaining individuals moved to feminine, undifferentiated, and masculine, respectively. Within the classification of masculine, over time individuals moved to the classifications of androgynous, undifferentiated, and feminine, respectively. Within the classification of feminine, the majority of individuals remained stable from

Wave 1, however there was movement to androgynous, undifferentiated, and masculine

categories respectively. Finally, within the classification of undifferentiated, for those

individuals who did change classifications, the changes were moving to feminine,

masculine, and androgynous, respectively.

When investigating change in continuous sex role endorsements over the lifespan,

repeated measures multivariate analyses of covariance (MANCOVA) were conducted to

investigate if there was significant change over time, controlling for level of education.

The MANCOVA test for the entire sample shows that masculine endorsements increase

over time while feminine endorsements decrease (see Table 5.8). Figure 5.2 illustrates

the change over time in masculine sex role trait endorsements. Figure 5.3 illustrates the

change over time in feminine sex role trait endorsements.

Table 5.8: Repeated Measures Multivariate Analysis of Covariance for Mean Differences in Masculine and Feminine Sex Role Trait Endorsements

Multivariate Effect	Λ	F	df	p	η^2
Masculine	.93	69.97	1, 866	.00	.08
Feminine	1.00	4.34	1, 866	.04	.01

Masculine = change in masculine trait endorsements from Wave 1 to Wave 2. Feminine = change in feminine trait endorsements from Wave 1 to Wave 2. Education is included as a covariate in the analysis.

Figure 5.2: Estimated Marginal Means for Change in Masculine Trait Endorsement over Time
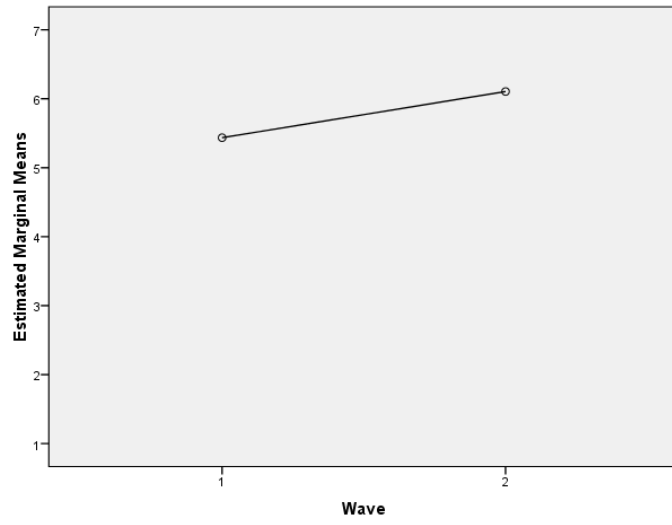
Figure 5.3: Estimated Marginal Means for Change in Feminine Trait Endorsement over Time
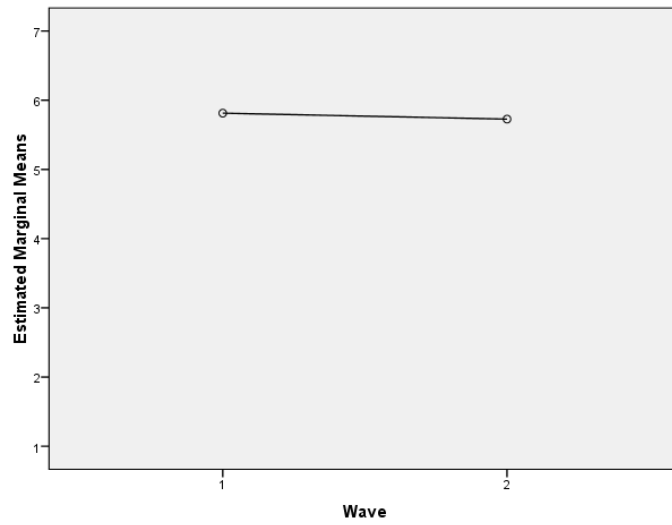
Hypothesis 2

W*hat is the association of sex, race, and age on changes in endorsement of traditional sex roles over the lifespan?*

Investigations of the effects of sex, race, and age on sex role endorsements were next explored within group. McNemar tests as well as repeated measures MANCOVA were conducted. The McNemar tests reveal that even when testing sex role categories across time within race, sex, and age, there were significant changes in sex role categories within both age groups, females, and Caucasians (see Tables 5.9).

Table 5.9: Within-Group McNemar Test Results for Change in Sex Role Category over Time

	Race		Age		Sex	
	African American	Caucasian	Younger Adults	Older Adults	Males	Females
Value	10.911	25.219	14.214	22.882	9.261	29.865
N	232	643	456	419	344	531
df	6	6	6	6	6	6
p	.091	.000	.027	.001	.159	.000

For Caucasians, the McNemar test shows that for individuals classified as androgynous at Wave 1, most remained consistent in their classification, however movement was observed from androgynous to feminine, undifferentiated, and masculine, respectively. For individuals classified as masculine in Wave 1, movement was observed where individuals were classified as androgynous, undifferentiated, and masculine in Wave 2, respectively (see Table 5.10).

Table 5.10: McNemar Test for Change in Sex Role Categories over Time for Caucasians

	W2 Androgynous	W2 Masculine	W2 Feminine	W2 Undifferentiated	Total
W1 Androgynous	120	19	58	25	222
% within W1	54.1%	8.6%	26.1%	11.3%	100%
% within W2	61.9%	18.8%	30.1%	16.1%	34.5%
W1 Masculine	34	57	5	20	116
% within W1	29.3%	49.1%	4.3%	17.2%	100%
% within W2	17.5%	56.4%	2.6%	12.9%	18.0%

	Androgynous	Masculine	Feminine	Undifferentiated	Total
W1 Feminine	29	4	81	28	142
% within W1	20.4%	2.8%	57.0%	19.7%	100%
% within W2	14.9%	4.0%	42.0%	18.1%	22.1%
W1 Undifferentiated	11	21	49	82	163
% within W1	6.7%	12.9%	30.1%	50.3%	100%
% within W2	5.7%	20.8%	25.4%	52.9%	25.3%
Total	194	101	193	155	643
% within W1	30.2%	15.7%	30.0%	24.1%	100%
% within W2	100%	100%	100%	100%	100%

For younger adults, individuals classified as androgynous in Wave 1 were found to mostly remain classified as androgynous, while there was significant movement to feminine, undifferentiated, and masculine, respectively. For individuals classified as masculine, most remained consistent in their classification, with others moving to the classifications of androgynous, undifferentiated, and feminine, respectively. For individuals classified as feminine, most remained consistent in their classification, with others moving to the classifications of androgynous, undifferentiated, and masculine, respectively. Finally, for individuals classified as undifferentiated, most remained consistent in their classification, while other changed classifications to masculine, feminine, and androgynous respectively (see Table 5.11).

Table 5.11: McNemar Test for Change in Sex Role Categories over Time for Younger Adults

	W2 Androgynous	W2 Masculine	W2 Feminine	W2 Undifferentiated	Total
W1 Androgynous	81	15	45	19	160
% within W1	50.6%	9.4%	28.1%	11.9%	100%
% within W2	57.0%	17.6%	35.4%	18.6%	35.1%
W1 Masculine	26	47	5	13	91
% within W1	28.6%	51.6%	5.5%	14.3%	100%
% within W2	18.3%	55.3%	3.9%	12.7%	20.0%
W1 Feminine	22	3	56	16	99
% within W1	22.2%	3.0%	58.6%	16.2%	100%
% within W2	15.5%	3/5%	45.7%	15.7%	21.7%
W1 Undifferentiated	13	20	19	54	106
% within W1	12.3%	18.9%	17.9%	50.9%	100%
% within W2	9.2%	23.5%	15.0%	52.9%	23.2%

Total	142	85	127	102	456
% within W1	31.1%	18.6%	27.9%	22.4%	100%
% within W2	100%	100%	100%	100%	100%

For older adults, individuals classified as androgynous in Wave 1, most remained consistent in their classification across both Waves. However, individuals classified as androgynous in Wave 1 did change classifications to feminine, masculine, and undifferentiated, respectively, by Wave 2. For individuals classified as masculine in Wave 1, the majority were not consistent in their classifications, with over 50% changing classification. For those who did change classifications, the changes were to the classifications of androgynous, undifferentiated, and feminine, respectively. For individuals classified as feminine, most remained consistent in their classifications. For those who did change over time, the changes were to the classifications of undifferentiated, androgynous, and masculine, respectively. Finally for individuals classified as undifferentiated in Wave 1, most did not remain consistent in their classifications, with more than 50% changing classification. For those who did change classifications, the change was to the classifications of feminine, androgynous, and masculine, respectively (see Table 5.12).

Table 5.12: McNemar Test for Change in Sex Role Categories over Time for Older Adults

	W2 Androgynous	W2 Masculine	W2 Feminine	W2 Undifferentiated	Total
W1 Androgynous	103	15	37	14	170
% within W1	60.0%	9.4%	21.8%	8.2%	100%
% within W2	69.6%	29.6%	30.1%	14.9%	40.6%
W1 Masculine	20	29	3	15	67
% within W1	29.9%	43.3%	4.5%	22.4%	100%
% within W2	13.5%	53.7%	2.4%	16.0%	16.0%
W1 Feminine	16	2	39	19	76
% within W1	21.1%	2.6%	51.3%	25.0%	100%
% within W2	10.8%	3.7%	31.7%	20.2%	18.1%

W1 Undifferentiated	9	7	44	46	106
% within W1	8.5%	6.6%	41.5%	43.4%	100%
% within W2	6.1%	13.0%	35.8%	48.9%	25.3%
Total	148	54	123	94	419
% within W1	35.3%	12.9%	29.4%	22.4%	100%
% within W2	100%	100%	100%	100%	100%

For females, individuals that were classified as androgynous in Wave 1 mostly remained classified as androgynous in Wave 2. For those who did change to other classifications, the classifications changed to feminine, undifferentiated, and masculine, respectively. Individuals classified as masculine in Wave 1, the majority were not consistent in their classifications, with over 50% changing classification. For those who did change classifications, the changes were to the classifications of androgynous, undifferentiated, and feminine, respectively. For individuals classified as feminine, most remained consistent in their classifications. For those who did change over time, the changes were to the classifications of androgynous, undifferentiated, and masculine, respectively. Finally for individuals classified as undifferentiated in Wave 1, most did not remain consistent in their classifications, with more than 50% changing classification. For those who did change classifications, the change was to the classifications of feminine, androgynous, and masculine, respectively (see Table 5.13).

Table 5.13: McNemar Test for Change in Sex Role Categories over Time for Females

	W2 Androgynous	W2 Masculine	W2 Feminine	W2 Undifferentiated	Total
W1 Androgynous	122	10	66	18	216
% within W1	56.5%	4.6%	30.6%	8.3%	100%
% within W2	63.9%	18.9%	33.7%	19.8%	40.7%
W1 Masculine	27	29	5	13	74
% within W1	36.5%	39.2%	6.8%	17.6%	100%
% within W2	14.1%	54.7%	2.6%	14.3%	13.9%
W1 Feminine	26	3	84	25	138
% within W1	18.8%	2.2%	60.9%	18.1%	100%
% within W2	13.6%	5.7%	42.9%	27.5%	26.0%

W1					
Undifferentiated	16	11	41	35	103
% within W1	15.5%	10.7%	39.8%	34.0%	100%
% within W2	8.4%	20.8%	20.9%	38.5%	19.4%
Total	191	53	196	91	531
% within W1	36.0%	10.0%	36.9%	17.1%	100%
% within W2	100%	100%	100%	100%	100%

The examination of the continuous measures of masculine and feminine indicates

significant changes in masculine and feminine trait endorsements when investigated in

conjunction with age, sex, and race, while controlling for level of education, (see Table

5.14).

Table 5.14: Repeated Measures Multivariate Analysis of Covariance for Masculine and Feminine Trait Endorsements over Time by Demographics

Multivariate Effect	Λ	F	df	p	η^2
Masculine	.93	69.97	1, 866	.00	.08
Masculine X Race	.98	14.64	1, 866	.00	.02
Masculine X Sex	.94	54.04	1, 866	.00	.06
Masculine X Age	1.00	4.56	1, 866	.03	.01
Masculine X Race X Sex	1.00	3.66	1, 866	.06	.00
Masculine X Race X Age	1.00	.41	1, 866	.52	.00
Masculine X Sex X Age	1.00	.57	1, 866	.45	.00
Feminine	1.00	4.34	1, 866	.04	.01
Feminine X Race	1.00	.50	1, 866	.48	.00
Feminine X Sex	1.00	.76	1, 866	.38	.00
Feminine X Age	.99	5.04	1, 866	.03	.01
Feminine X Race X Sex	1.00	2.19	1, 866	.14	.00
Feminine X Race X Age	1.00	3.56	1, 866	.06	.00
Feminine X Sex X Age	1.00	2.00	1, 866	.16	.00

Masculine = change in masculine trait endorsements from Wave 1 to Wave 2. Feminine = change in feminine trait endorsements from Wave 1 to Wave 2. Education is included as a covariate in the analysis.

Repeated measures multivariate analysis of covariance (MANCOVA) was

conducted to investigate change in masculine and feminine traits endorsements in

conjunction with age, race, and sex, while controlling for education. Analysis revealed

that, when controlling for education, there were significant two way interactions with

masculine trait endorsement over time and race (see Figure 5.4), sex (see Figure 5.5), and

age (see Figure 5.6), respectively. For race, in the first wave, African Americans had

higher estimated marginal means for masculine trait endorsement than Caucasians; in the second wave, both racial groups had approximately the same estimated marginal mean value, with Caucasians demonstrating a greater increase over time. For sex, males had higher estimated marginal means than did females; in the second wave, females had higher estimated marginal means than did men. Finally, for age, younger adults had higher estimated marginal means than did older adults; in the second wave, older adults had higher estimated marginal means.

For change in feminine trait endorsements, there was a significant interaction with change in feminine trait endorsements X age (see Figure 5.7). Within age, younger adults have higher estimated marginal means in the first wave of data; in the second wave of data, older adults have higher estimated marginal means.

Figure 5.4: Estimated Marginal Means for Change in Masculine Trait Endorsement over Time by Race
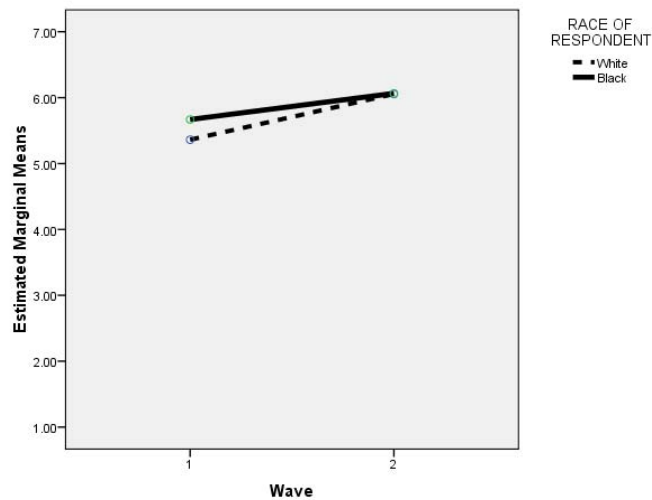
Figure 5.5: Estimated Marginal Means for Change in Masculine Trait Endorsement over Time by Sex
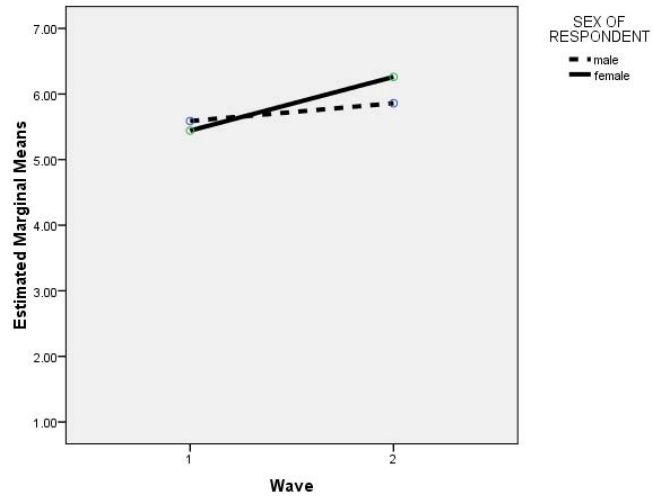
Figure 5.6: Estimated Marginal Means for Change in Masculine Trait Endorsement over Time by Age
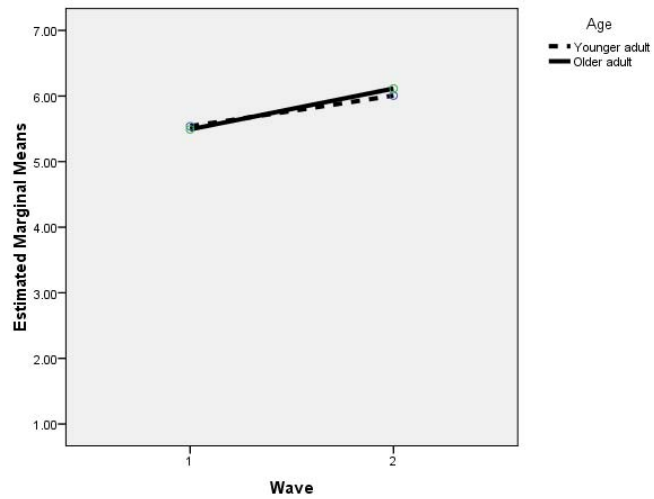
Figure 5.7: Estimated Marginal Means for Change in Feminine Trait Endorsement over Time by Age
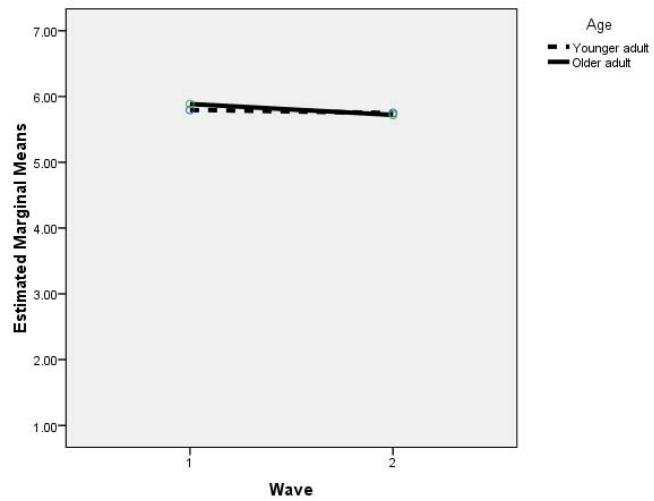
Hypothesis 3

How are the structure and quality of an individual's social relationships associated with sex role endorsement?

Multinomial logistic regression was conducted to determine the impact of social relations on categorical sex role endorsements. Race, age, and sex all had differential and significant effects on sex role categories. When adding the social relations variables, there were also significant effects. First, I will discuss the models predicting wave 1 sex role categories. Second, I will discuss the models predicting Wave 2 sex role categories. Because this analysis is predicting a nominal categorical outcome, the comparison group for the outcome measure is androgynous. While this analysis does not compare all the sex roles with each other (e.g., odds of being classified as masculine as compared to feminine), this analysis does allow for comparisons to be made to the group most often referred to as the "optimal" classification.

Demographics and Social Relations as Predictors for Wave 1 Sex Role Categories

For this set of results, refer to Table 5.15. Within the model consisting of only demographic factors and the covariate, being Caucasian was predictive of being in the feminine group. Being a male was predictive of being in the masculine group and undifferentiated group, while being female was predictive of being in the feminine group. There were no significant effects observed for age. When adding structural characteristics of social relations into the model, being Caucasian was a significant predictor of being in the feminine group and undifferentiated group. For age, being younger was a significant predictor of belonging to the masculine and feminine groups. For sex, being male was predictive of belonging to the masculine and undifferentiated groups, while being female was predictive of being in the feminine group. Smaller

network size, and lower proportion of family within the social network were all
predictive of being classified in the masculine group. Lower proportions of females
within the network were predictive of being classified in the feminine group as compared
to androgynous. Smaller networks were predictive of being classified as undifferentiated.

Finally, when investigating the model including the covariate, demographic
characteristics, and the quality of social relations, being Caucasian significantly predicted
belonging to the feminine group. Age was not a significant predictor of sex role
category, however, being female was predictive of being classified as feminine, while
being male was predictive of being classified as masculine and undifferentiated. Lower
positive relationship quality predicted masculine group membership, and lower positive
relationship quality was predictive of being classified as undifferentiated.

Table 5.15: Hierarchical Multinomial Logistic Regression for Variables Predicting Wave 1 Sex Role
Categories

Variables	Masculine		Feminine		Undifferentiated	
	B (SE)	β	B (SE)	β	B (SE)	B
Education	.15 (.05)	1.16***	-.16 (.05)	.85***	.02 (.04)	1.02
Race	-.11 (.23)	.89	-1.02 (.24)	.36***	-.40 (.21)	.67
Age	-.01 (.01)	.99	-.01(.01)	.99	-.01 (.01)	.99
Sex	-.71 (.20)	.49***	.73 (.22)	2.08***	-.64 (.18)	.52***
	χ^2 (12, N=874)=108.542, p=.000					
Education	.15 (.05)	1.16**	-.17 (.05)	.85***	.04 (.04)	1.04
Race	-.10 (.24)	.90	-.96 (.24)	.38***	-.43 (.22)	.65*
Age	-.02 (.01)	.98*	-.02 (.01)	.99*	-.01 (.01)	.99
Sex	-.67 (.21)	.51***	.81 (.23)	2.24***	-.63 (.19)	.53***
W1 Network size	-.07 (.02)	.93***	-.03 (.02)	.97	-.06 (.02)	.94***
W1 Network age	.02 (.01)	1.02	.01 (.01)	1.01	.02 (.01)	1.02
W1 Prop. family	-1.23 (.48)	.29**	-.51 (.51)	.60	-.63 (.45)	.54
W1 Prop. female	-.46 (.58)	.63	-1.51 (.58)	.22**	.21 (.52)	1.23
	χ^2 (24, N=872)=144.816, p=.000					
Education	.14 (.05)	1.15**	-.16 (.05)	.85***	.05 (.04)	1.05
Race	-.05 (.23)	.95	-.94 (.24)	.39***	-.41 (.22)	.67
Age	-.01 (.01)	.99	-.01 (.01)	.99	-.00 (.01)	.99
Sex	-.72 (.21)	.49***	.75 (.23)	2.11***	-.54 (.19)	.58**
W1 Pos. quality	-1.04 (.38)	.35**	-.77 (.40)	.47	-1.27 (.35)	.28***
W1 Neg. quality	.01 (.11)	1.01	-.14 (.11)	.87	.03 (.10)	1.03

$$\chi^2 (18, N=840)=119.951, p=.000$$

Note: comparison group for sex role is androgynous.
*p<.05, **p<.01, ***p<.001

Demographics and Social Relations as Predictors for Wave 2 Sex Role Categories

When predicting Wave 2 sex role categories, again, demographic variables are significant. For Wave 2, all analyses control for Wave 1 sex role category. In the model investigating the covariate and demographics, being Caucasian is a significant predictor of being classified as feminine. For sex, being male is predictive of being classified as masculine and undifferentiated. Being female was predictive of being classified as feminine. Age was not a significant predictor in this model (see Table 5.16).

When adding Wave 1 structural characteristics of social relations into the model, being Caucasian was predictive of being in the feminine and undifferentiated groups. For sex, being male was predictive of being classified as masculine and undifferentiated, while being female was predictive of being classified as feminine. Age was not a significant predictor in this model. Reporting having older networks in Wave 1 and higher proportions of family in Wave 1 were predictive of being classified as feminine. Reporting smaller networks in Wave 1 and older networks in Wave 1 was predictive of being classified as undifferentiated.

When investigating the model including the covariate, demographics and Wave 1 quality of social relations, being Caucasian is predictive of being classified as feminine. For sex, being male was predictive of being classified as masculine and undifferentiated, and being female was predictive of being classified as feminine. Lower positive relationship quality was predictive of being classified as feminine and undifferentiated.

77

Table 5.16: Hierarchical Multinomial Logistic Regression for Variables Predicting Wave 2 Sex Role Categories

Variables	Masculine B (SE)	B	Feminine B (SE)	β	Undifferentiated B (SE)	β
Education	.05 (.05)	1.05	-.01 (.04)	.99	-.04 (.05)	.97
Race	-.06 (.27)	.94	-.40 (.22)	.67	-.41 (.25)	.67
Age	-.01 (.01)	.99	.00 (.01)	1.00	.00 (.01)	1.03
Sex	.96 (.24)	.38***	.63 (.22)	1.88**	-.61 (.22)	.55**
χ^2 (21, N=874)=432.610, p=.000						
Education	.05 (.05)	1.06	-.02 (.04)	.98	-.03 (.05)	.97
Race	.01 (.27)	1.01	-.34 (.22)	.72	-.43 (.26)	.65
Age	-.01 (.01)	.99	-.00 (.01)	1.00	-.01 (.01)	.99
Sex	-.92 (.24)	.40***	.63 (.22)	1.87**	-.57 (.22)	.56**
W1 Network size	-.03 (.02)	.97	.05 (.02)	1.05*	-.04 (.02)	.96
W1 Network age	-.01 (.01)	1.00	.03 (.01)	1.03**	.03 (.01)	1.03*
W1 Prop. family	-.86 (.54)	.42	1.21 (.53)	3.34*	.06 (.51)	1.06
W1 Prop. female	-.29 (.66)	.75	.05 (.57)	1.05	-.22 (.59)	.80
χ^2 (33, N=872)=452.958, p=.000						
Education	.04 (.05)	1.04	-.02 (.04)	.98	-.04 (.05)	.96
Race	.05 (.27)	1.05	-.36 (.23)	.70	-.38 (.26)	.69
Age	-.01 (.01)	.99	.01 (.01)	1.01	.00 (.01)	1.00
Sex	-.89 (.24)	.41***	.67 (.22)	1.95**	-.52 (.22)	.59*
W1 Pos. quality	-.39 (.48)	.68	-.86 (.40)	.43*	-1.48 (.40)	.23***
W1 Neg. quality	-.07 (.13)	.94	.06 (.10)	1.06	-.03 (.11)	.98
χ^2 (27, N=834)=410.497, p=.000						

Note: androgynous is the reference category for the sex roles; Wave 1 categories are included in the analyses but not presented in the tables.
*p<.05, **p<.01, ***p<.001

To summarize the results from the logistic regression analyses investigating the effects of social relations, Table 5.17 notes the significant social relations predictors and the directionality of the relationship.

Table 5.17: Summary of Social Relations Variables that Significantly Predict Categorical Sex Roles

	Wave 1 sex role categories			Wave 2 sex role categories		
	Masc.	Fem.	Undiff.	Masc.	Fem.	Undiff.
W1 Pos. quality	**(-)		***(-)		*(-)	***(-)
W1 Neg. quality						
W1 Network size	***(-)		***(-)	*(+)		
W1 Network age					*(+)	*(+)
W1 Prop. family	**(-)				*(+)	
W1 Prop. female		**(-)				

Note: comparison group is androgynous. (+)=positive relationship, (-)=negative relationship. Empty cells indicate that the relationship was not significant.
*$p<.05$, **$p<.01$, ***$p<.001$

Within-Group Analysis of Sex Role Categories

To better understand demographic differences, within-group multinomial logistic

regression models were tested for each of the demographic factors of race, age, and sex.

Table 5.18: Multinomial Logistic Regression Predicting Wave 1 Sex Role Categories for African Americans

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	β	B (SE)	β	B (SE)	β
Education	.05 (.09)	1.05	-.28 (.10)	.76**	-.10 (.08)	.91
Age	-.01 (.01)	.99	-.01(.01)	.99	.00 (.01)	1.00
Sex	-.47 (.39)	.63	.28 (.47)	1.32	-.11 (.38)	.89
			χ^2 (9, N=232)=12.662, p=.179			
Education	.04 (.09)	1.04	-.30 (.11)	.74**	-.07 (.09)	.93
Age	-.01 (.02)	.99	-.03 (.02)	.97	-.01 (.02)	.99
Sex	-.56 (.40)	.57	.40 (.51)	1.50	-.63 (.19)	.53***
W1 Network size	-.08 (.05)	.92	-.07 (.04)	.94	-.11 (.05)	.90*
W1 Network age	.02 (.02)	1.02	.06 (.03)	1.06*	.03 (.02)	1.03
W1 Prop. family	-.80 (.91)	.45	-1.66 (.95)	.19	.09 (.92)	1.10
W1 Prop. female	-.83 (1.12)	.44	-2.21 (1.27)	.11	.88 (1.02)	2.40
			χ^2 (21, N=230)=39.411, p=.009			
Education	.02 (.09)	1.02	-.27 (.11)	.77*	-.07 (.09)	.94
Age	-.01 (.01)	.99	-.01 (.01)	.99	.00 (.01)	1.00

Variables	B (SE)	β	B (SE)	β	B (SE)	β
Sex	-.50 (.41)	.61	.20 (.49)	1.22	.03 (.42)	1.03
W1 Pos. quality	-.91 (.58)	.41	.22 (.83)	1.24	-.59 (.61)	.56
W1 Neg. quality	-.05 (.17)	.95	-.22 (.19)	.80	-.15 (.17)	.87
			χ^2 (15, N=218)=15.927, p=.387			

Note: androgynous is the reference category for the sex roles.
*p<.05, **p<.01, ***p<.001

For African Americans, age and sex alone do not significantly predict sex role categories, as the model was not significant. When adding social relations structure variables to the model, the model was significant, with males being more likely to be classified as undifferentiated. Having older networks was predictive of being classified as feminine. The model investigating relationship quality was not significant (see Table 5.18).

Table 5.19: Multinomial Logistic Regression Predicting Wave 1 Sex Role Categories for Caucasians

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	B	B (SE)	β	B (SE)	β
Education	.18 (.05)	1.20***	-.13 (.05)	.88*	.06 (.05)	1.06
Age	-.02 (.01)	.99	-.01(.01)	.99	-.01 (.01)	.99
Sex	-.78 (.24)	.46***	.82 (.25)	2.28***	-.78 (.21)	.46***
			χ^2 (9, N=642)=92.756, p=.000			
Education	.19 (.06)	1.21**	-.13 (.05)	.88*	.07 (.05)	1.07
Age	-.02 (.01)	.98	-.01 (.01)	.99	-.01 (.01)	.99
Sex	-.72 (.25)	.49**	.88 (.26)	2.40***	-.75 (.22)	.48***
W1 Network size	-.07 (.03)	.93**	-.01 (.03)	.99	-.05 (.02)	.95*
W1 Network age	.02 (.01)	1.02	.01 (.01)	1.01	.01 (.01)	1.01
W1 Prop. Family	-1.43 (.57)	.24*	-.04 (.61)	.96	-.78 (.54)	.46
W1 Prop. female	-.35 (.69)	.70	-1.26 (.67)	.28	-.02 (.62)	.99
			χ^2 (21, N=642)=116.104, p=.000			
Education	.18 (.06)	1.20***	-.13 (.05)	.88*	.08 (.05)	1.08
Age	-.01 (.01)	.99	-.01 (.01)	.99	-.00 (.01)	1.00
Sex	-.78 (.25)	.46**	.85 (.26)	2.35***	-.68 (.22)	.51**
W1 Pos. quality	-1.13 (.50)	.32*	-1.09 (.48)	.34*	-1.60 (.44)	.20***
W1 Neg. quality	.05 (.14)	1.05	-.09 (.13)	.92	.11 (.13)	1.11
			χ^2 (15, N=622)=106.872, p=.000			

Note: androgynous is the reference category for the sex roles.
*p<.05, **p<.01, ***p<.001

For Caucasians, all of the models investigating Wave 1 sex role categories were significant. When testing the model including only demographic variables, being male

was predictive of being classified as masculine and undifferentiated. Likewise, being

female was predictive of being classified as feminine. When adding social relations

structure variables to the model, sex remains significant as reported in the previous

model. Smaller networks and lower proportions of family were predictive of being

classified as masculine. Smaller networks were also predictive of being classified as

being undifferentiated. When substituting structure for quality within the model, lower

positive relationship quality was predictive of being classified as masculine, feminine and

undifferentiated (see Table 5.19).

Table 5.20: Multinomial Logistic Regression Predicting Wave 1 Sex Role Categories for Younger Adults

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	B	B (SE)	β	B (SE)	β
Education	.19 (.07)	1.21**	-.10 (.07)	.91	-.00 (.07)	1.00
Race	-.12 (.29)	.89	-1.03 (.30)	.36***	-.49 (.28)	.61
Sex	-.70 (.28)	.50*	.75 (.32)	2.11*	-.93 (.26)	.40***
			χ^2 (9 N=456)=63.122, p=.000			
Education	.20 (.07)	1.22**	-.13 (.07)	.88	.02 (.07)	1.02
Race	-.14 (.31)	.87	-.89 (.31)	.41**	-.54 (.30)	.58
Sex	-.58 (.29)	.56*	.88 (.33)	2.40**	-.92 (.27)	.40***
W1 Network size	-.08 (.03)	.92**	-.01 (.03)	.99	-.08 (.03)	.93**
W1 Network age	.00 (.02)	1.01	.02 (.02)	1.02	.00 (.02)	1.00
W1 Prop. family	-1.45 (.63)	.23*	-.68 (.68)	.51	-1.04 (.61)	.36
W1 Prop. female	-.90 (.84)	.41	-2.00 (.85)	.14*	.46 (.79)	1.59
			χ^2 (21, N=454)=87.638, p=.000			
Education	.18 (.07)	1.20*	-.08 (.07)	.92	.04 (.07)	1.04
Race	-.06 (.30)	.94	-.97 (.31)	.38**	-.50 (.30)	.61
Sex	-.70 (.29)	.50*	.73 (.33)	2.08*	-.77 (.28)	.46**
W1 Pos. quality	-.96 (.50)	.38	-.10 (.56)	.90	-1.15 (.48)	.32*
W1 Neg. quality	.06 (.14)	1.07	-.04 (.14)	.96	-.02 (.14)	.98
			χ^2 (15, N=431)=61.781, p=.000			

Note: androgynous is the reference category for the sex roles.
*p<.05, **p<.01, ***p<.001

For younger adults, when investigating demographic variables alone, being male

was predictive of being classified as masculine and undifferentiated. Being Caucasian

and female was predictive of being classified as feminine. When adding social relations

structure variables into the model, the previous significant demographic variables remain significant. Smaller networks and lower proportions of family were predictive of being classified as masculine. Having a lower proportion of females in the network was predictive of being classified as feminine, and smaller networks were predictive of being classified as undifferentiated (see Table 5.20). Finally, when substituting the structure variables with relationship quality in the model, lower positive relationship quality was predictive of being classified as undifferentiated.

Table 5.21: Multinomial Logistic Regression Predicting Wave 1 Sex Role Categories for Older Adults

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	β	B (SE)	B	B (SE)	β
Education	.12 (.06)	1.13*	-.20 (.06)	.82***	.05 (.05)	1.05
Race	-.03 (.37)	.97	-.94 (.39)	.39*	-.28 (.32)	.76
Sex	-.80 (.30)	.45**	.66 (.22)	1.94*	-.36 (.26)	.70
	χ^2 (9, N=418)=49.675, p=.000					
Education	.14 (.06)	1.15*	-.19 (.06)	.83***	.07 (.05)	1.08
Race	-.00 (.38)	1.00	-.97 (.40)	.40*	-.31 (.32)	.73
Sex	-.81 (.31)	.42**	.73 (.32)	2.07*	-.32 (.26)	.73
W1 Network size	-.06 (.03)	.94	-.07 (.04)	.93*	-.04 (.03)	.96
W1 Network age	.03 (.02)	1.03*	.00 (.02)	1.00	.03 (.01)	1.03*
W1 Prop. family	-.93 (.77)	.40	-.86 (.80)	.42	-.17 (.72)	1.18
W1 Prop. female	-.11 (.83)	.89	-.95 (.80)	.39	-.08 (.71)	.93
	χ^2 (21, N=418)=71.486, p=.000					
Education	.12 (.06)	1.13	-.21 (.06)	.81***	.06 (.05)	1.06
Race	.04 (.38)	1.04	-.88 (.39)	.42*	-.32 (.33)	.73
Sex	-.80 (.31)	.45**	.74 (.32)	2.10*	-.33 (.26)	.72
W1 Pos. quality	-1.11 (.59)	.33	-1.51 (.58)	.22**	-1.38 (.51)	.25**
W1 Neg. quality	-.07 (.17)	.93	-.27 (.17)	.77	.10 (.14)	1.10
	χ^2 (15, N=409)=64.707, p=.000					

Note: androgynous is the reference category for the sex roles.
*p<.05, **p<.01, ***p<.001

For older adults, being male was predictive of being classified as masculine, and being female was predictive of being classified as feminine. Being Caucasian was predictive being classified as feminine. When adding the structure of social relations to the model, older networks were predictive of being classified as masculine and

undifferentiated, smaller networks were predictive of being classified as feminine. When investigating relationship quality, lower positive relationship quality was predictive of being classified as feminine and undifferentiated (see Table 5.21).

Table 5.22: Multinomial Logistic Regression Predicting Wave 1 Sex Role Categories for Males

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	β	B (SE)	β	B (SE)	β
Education	.09 (.06)	1.10	-.17 (.08)	.84*	.04 (.06)	1.04
Race	-.01 (.01)	.99	-.57 (.48)	.56	-.92 (.37)	.40*
Age	-.43 (.37)	.65	-.01(.01)	.99	-.02 (.01)	.98
χ^2 (9, N=344)=20.378, p=.016						
Education	.09 (.07)	1.09	-.20 (.08)	.82*	.04 (.06)	1.04
Race	-.24 (.38)	.78	-.30 (.50)	.74	-.75 (.38)	.47*
Age	-.01 (.01)	.99	-.02 (.02)	.98	-.02 (.01)	.98
W1 Network size	-.06 (.03)	.94	-.01 (.04)	.99	-.05 (.03)	.95
W1 Network age	.01 (.02)	1.01	.05 (.02)	1.05*	.03 (.02)	1.03
W1 Prop. family	-1.84 (.77)	.16*	-1.21 (.96)	.30	-1.23 (.74)	.29
W1 Prop. female	-.39 (.88)	.68	-1.88 (1.18)	.15	.17 (.81)	1.18
χ^2 (21, N=343)=41.841, p=.004						
Education	.08 (.06)	1.09	-.17 (.08)	.84*	.06 (.06)	1.07
Race	-.32 (.38)	.72	-.47 (.48)	.63	-.94 (.40)	.39*
Age	-.01 (.01)	.99	-.01 (.01)	.99	-.01 (.01)	.99
W1 Pos. quality	-1.16 (.54)	.31*	-.76 (.69)	.47	-1.34 (.52)	.26*
W1 Neg. quality	-.07 (.16)	.93	-.03 (.20)	.97	-.07 (.15)	.93
χ^2 (15, N=322)=27.361, p=.026						

Note: androgynous is the reference category for the sex roles.
*p<.05, **p<.01, ***p<.001

Within males, the only significant demographic variable was race, indicating that being Caucasian was a significant predictor of the classification of undifferentiated. For the structure of social relations, lower proportion of family was predictive of being classified as masculine, and older networks were predictive of being classified as feminine. Within relationship quality, lower positive quality was predictive of being classified as masculine and undifferentiated (see Table 5.22).

Table 5.23: Multinomial Logistic Regression Predicting Wave 1 Sex Role Categories for Females

Variables	Masculine		Feminine		Undifferentiated	
	B (SE)	β	B (SE)	β	B (SE)	β
Education	.20 (.07)	1.23**	-.16 (.06)	.86**	.00 (.06)	1.00
Race	.05 (.30)	1.05	-1.03 (.27)	.33***	-.11 (.26)	.90
Age	-.01 (.01)	.99	-.01(.01)	.99	.00 (.01)	1.00
	χ^2 (9, N=530)=45.378, p=.000					
Education	.20 (.07)	1.22**	-.15 (.06)	.86**	.03 (.06)	1.03
Race	-.04 (.31)	.97	-1.13 (.28)	.32***	-.26 (.27)	.77
Age	-.03 (.01)	.97*	-.01 (.01)	.99	-.00 (.01)	1.00
W1 Network size	-.08 (.03)	.92**	-.03 (.03)	.97	-.07 (.03)	.93*
W1 Network age	.04 (.02)	1.04*	.00 (.01)	1.00	.01 (.02)	1.01
W1 Prop. family	-.82 (.70)	.44	-.04 (.64)	.97	.12 (.65)	1.13
W1 Prop. female	-.37 (.86)	.69	-1.03 (.71)	.36	.68 (.74)	1.97
	χ^2 (21, N=529)=74.779, p=.000					
Education	.21 (.07)	1.23**	-.15 (.06)	.86**	.02 (.06)	1.02
Race	.07 (.30)	1.07	-1.04 (.28)	.35***	-.16 (.27)	.85
Age	-.02 (.01)	.99	-.01 (.01)	.99	.01 (.01)	1.01
W1 Pos. quality	-.87 (.55)	.42	-.73 (.49)	.48	-1.27 (.47)	.28**
W1 Neg. quality	.08 (.15)	1.08	-.16 (.12)	.86	.09 (.13)	1.10
	χ^2 (15, N=518)=56.321, p=.000					

Note: androgynous is the reference category for the sex roles.
*p<.05, **p<.01, ***p<.001

Within females, being Caucasian was predictive of being classified as feminine. When adding social relations structure variables, being Caucasian was predictive of being classified as feminine, and being younger was predictive of being classified as masculine. Smaller networks were predictive of being classified as masculine and undifferentiated, and older networks were predictive of being classified as masculine. Within relationship quality, lower positive quality was predictive of being classified as undifferentiated (see Table 5.23).

Wave 2 Within-Group Analyses of Sex Role Categories

For Wave 2 sex role categories, again, within-group analyses were conducted. For African Americans, being older was predictive of being classified as undifferentiated,

while being male was predictive of being classified as masculine and undifferentiated. When adding social relations structure variables into the model, age is no longer a significant predictor; sex remains significant. The only significant structure variable was network age, where older networks were predictive of being classified as undifferentiated. Relationship quality was not a significant predictor of sex role category (see Table 5.24).

Table 5.24: Multinomial Logistic Regression Predicting Wave 2 Sex Role Categories for African Americans

Variables	Masculine		Feminine		Undifferentiated	
	B (SE)	β	B (SE)	β	B (SE)	β
Education	.08 (.10)	1.09	.04 (.08)	1.04	-.12 (.10)	.88
Age	.02 (.02)	1.02	.02 (.01)	1.02	.03 (.01)	1.03*
Sex	-1.51 (.45)	.22**	.07 (.44)	1.07	-1.10 (.45)	.33**
			χ^2 (18, N=232)=93.566, p=.000			
Education	.08 (.11)	1.08	.05 (.09)	1.05	-.14 (.11)	.87
Age	-.00 (.02)	1.00	.01 (.02)	1.01	.00 (.02)	1.00
Sex	-1.55 (.46)	.21***	.05 (.46)	1.05	-1.09 (.47)	.34**
W1 Network size	.01 (.05)	1.01	-.02 (.04)	.98	.00 (.05)	1.00
W1 Network age	.04 (.03)	1.04	.01 (.02)	1.01	.06 (.03)	1.07*
W1 Prop. family	.90 (1.17)	2.45	.69 (.86)	2.00	.51 (1.01)	1.67
W1 Prop. female	-.12 (1.32)	.89	-1.47 (1.06)	.23	-.65 (1.20)	.52
			χ^2 (30, N=230)=104.514, p=.000			
Education	.10 (.10)	1.10	.03 (.09)	1.03	-.12 (.10)	.89
Age	.01 (.02)	1.01	.02 (.01)	1.02	.02 (.01)	1.02
Sex	-1.59 (.48)	.20**	-.02 (.46)	.98	-.88 (.48)	.42
W1 Pos. quality	.32 (.83)	1.38	-.85 (.62)	.43	-1.05 (.68)	.35
W1 Neg. quality	.17 (.20)	1.18	.04 (.17)	1.04	-.18 (.20)	.84
			χ^2 (24, N=218)=92.870, p=.000			

Note: androgynous is the reference category for the sex roles; Wave 1 categories are included in the analyses but not presented in the tables.
*p<.05, **p<.01, ***p<.001

Caucasians had more significant predictors of sex role categories that did African Americans. Being younger and male was predictive of being classified as masculine; being female was predictive of being classified as feminine. When adding the social relations structure characteristics into the model, age is no longer a significant predictor. Within social relations structure, smaller networks were indicative of undifferentiated

classification. Larger networks were predictive of feminine classification. Lower

proportion of family was indicative of being classified as masculine and higher

proportion of family was predictive of being classified as feminine. When adding

relationship quality with the demographics, again being younger is a predictor of

masculine classification. Lower positive quality is predictive of being classified as

undifferentiated (see Table 5.25).

Table 5.25: Multinomial Logistic Regression Predicting Wave 2 Sex Role Categories for Caucasians

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	β	B (SE)	β	B (SE)	β
Education	.03 (.06)	1.03	-.03 (.05)	.97	-.02 (.05)	.99
Age	-.03 (.01)	.98**	.00 (.01)	1.00	-.01 (.01)	.99
Sex	-.77 (.28)	.47**	.83 (.25)	2.28**	-.43 (.25)	.65
			χ^2 (18, N=642)=339.910, p=.000			
Education	.04 (.07)	1.04	-.05 (.05)	.95	-.00 (.06)	1.00
Age	-.01 (.01)	.99	-.01 (.01)	.99	-.01 (.01)	.99
Sex	-.71 (.29)	.49*	.80 (.26)	2.23**	-.40 (.26)	.67
W1 Network size	-.05 (.03)	.95	.07 (.03)	1.07*	-.06 (.03)	.94*
W1 Network age	-.03 (.02)	.97	.03 (.01)	1.03	.02 (.02)	1.02
W1 Prop. family	-1.63 (.66)	.20*	1.45 (.68)	4.27*	-.22 (.62)	.80
W1 Prop. female	-.16 (.78)	.85	.76 (.69)	2.14	.12 (.70)	1.12
			χ^2 (30, N=642)=379.494, p=.000			
Education	.02 (.06)	1.02	-.03 (.05)	.98	-.02 (.06)	.99
Age	-.02 (.01)	.98*	.00 (.01)	1.00	-.00 (.01)	1.00
Sex	-.67 (.30)	.52*	.90 (.27)	2.45***	-.37 (.26)	.69
W1 Pos. quality	-.73 (.60)	.48	-.79 (.51)	.45	-1.58 (.50)	.21**
W1 Neg. quality	-.21 (.17)	.81	.10 (.13)	1.10	.04 (.14)	1.04
			χ^2 (24, N=622)=329.530, p=.000			

Note: androgynous is the reference category for the sex roles; Wave 1 categories are included in the analyses but not presented in the tables.
*p<.05, **p<.01, ***p<.001

For younger adults, being Caucasian was predictive of being classified as

feminine and undifferentiated. Being male was predictive of being classified as

masculine and undifferentiated, and being female was predictive of being classified as

feminine. When adding social relations to the model, higher proportions of family are

predictive of being classified as feminine. Relationship quality was not predictive of sex

role categories (see Table 5.26).

Table 5.26: Multinomial Logistic Regression Predicting Wave 2 Sex Role Categories for Younger Adults

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	β	B (SE)	β	B (SE)	β
Education	.14 (.08)	1.15	.06 (.07)	1.06	.08 (.08)	1.08
Race	-.35 (.34)	.70	-.71 (.29)	.49*	-.96 (.33)	.38**
Sex	-.81 (.32)	.44**	.80 (.32)	2.22*	-.72 (.30)	.49*
			χ^2 (18, N=456)=243.109, p=.000			
Education	.14 (.09)	1.15	.06 (.07)	1.06	.08 (.08)	1.08
Race	-.19 (.35)	.83	-.65 (.30)	.52*	-.89 (.35)	.41*
Sex	-.70 (.33)	.50*	.79 (.32)	2.20*	-.64 (.32)	.53*
W1 Network size	-.05 (.03)	.95	.02 (.03)	1.02	-.05 (.03)	.95
W1 Network age	.02 (.02)	1.02	.02 (.02)	1.02	.04 (.02)	1.04
W1 Prop. family	-1.10 (.70)	.33	1.60 (.73)	4.93*	-.14 (.69)	.87
W1 Prop. female	-.89 (.97)	.41	-.81 (.85)	.44	-.74 (.92)	.48
			χ^2 (30, N=454)=262.377, p=.000			
Education	.14 (.08)	1.15	.04 (.07)	1.04	.08 (.08)	1.08
Race	-.12 (.34)	.89	-.61 (.30)	.54*	-.86 (.34)	.42*
Sex	-.79 (.33)	.45*	.90 (.34)	2.45**	-.66 (.32)	.52*
W1 Pos. quality	.20 (.59)	1.22	-.10 (.54)	.91	-.93 (.51)	.39
W1 Neg. quality	-.01 (.16)	1.00	-.03 (.14)	.97	-.07 (.15)	.94
			χ^2 (24, N=431)=226.279, p=.000			

Note: androgynous is the reference category for the sex roles; Wave 1 categories are included in the analyses but not presented in the tables.
*p<.05, **p<.01, ***p<.001

For older adults, being male was predictive of being classified as masculine. No structural variables of social relations were significant predictors of sex role category. For relationship quality, however, lower positive quality was predictive of being classified as being feminine and undifferentiated (see Table 5.27).

Table 5.27: Multinomial Logistic Regression Predicting Wave 2 Sex Role Categories for Older Adults

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	β	B (SE)	β	B (SE)	β
Education	-.02 (.07)	.98	-.09 (.06)	.92	-.11 (.06)	.90
Race	.51 (.44)	1.66	.08 (.35)	1.08	.38 (.39)	1.46
Sex	-1.27 (.37)	.28***	.42 (.30)	1.53	-.59 (.32)	.55
			χ^2 (18, N=418)=211.823, p=.000			
Education	-.03 (.07)	.98	-.10 (.06)	.91	-.09 (.06)	.91
Race	.51 (.45)	1.66	-.13 (.36)	1.13	.29 (.40)	1.33
Sex	-1.26 (.38)	.29***	.39 (.31)	1.47	-.57 (.32)	.56
W1 Network size	-.03 (.04)	.97	.06 (.03)	1.06	-.04 (.04)	.97
W1 Network age	-.03 (.02)	.97	.02 (.02)	1.02	.03 (.02)	1.03
W1 Prop. family	-1.27 (.95)	.28	.50 (.82)	1.65	.11 (.81)	1.12
W1 Prop. female	.26 (.96)	1.30	.85 (.82)	2.33	.49 (.83)	1.63
			χ^2 (30, N=418)=233.638, p=.000			
Education	-.03 (.07)	.97	-.10 (.06)	.91	-.12 (.06)	.89
Race	.37 (.46)	1.45	-.02 (.36)	.98	.27 (.40)	1.30
Sex	-1.13 (.38)	.32**	.45 (.31)	1.57	-.49 (.33)	.61

W1 Pos. quality	-1.32 (.82)	.27	-1.86 (.66)	.16**	-2.39 (.68)	.09***
W1 Neg. quality	-.14 (.21)	.87	.17 (.16)	1.19	.04 (.18)	1.04

χ^2 (24, N=409)=220.413, *p*=.000

Note: androgynous is the reference category for the sex roles; Wave 1 categories are included in the analyses but not presented in the tables.
*p<.05, **p<.01, ***p<.001

Among males, the only significant predictor of sex role classification was positive relationship quality, where lower quality was predictive of being classified as feminine and undifferentiated (see Table 5.28).

Table 5.28: Multinomial Logistic Regression Predicting Wave 2 Sex Role Categories for Males

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	β	B (SE)	β	B (SE)	β
Education	.10 (.07)	1.05	-.01 (.07)	.99	-.02 (.07)	.98
Race	.44 (.41)	1.56	.41 (.47)	1.50	.06 (.43)	1.06
Age	-.01 (.01)	.99	.02 (.01)	1.02	.00 (.01)	1.00
			χ^2 (18, N=344)=166.464, *p*=.000			
Education	.08 (.07)	1.09	-.02 (.08)	.98	.02 (.07)	.98
Race	.58 (.42)	1.79	.49 (.48)	1.64	.16 (.45)	1.18
Age	-.01 (.01)	.99	.01 (.01)	1.01	-.01 (.01)	.99
W1 Network size	-.00 (.04)	1.00	.05 (.04)	1.05	-.02 (.04)	.99
W1 Network age	.01 (.02)	1.01	.02 (.02)	1.03	.03 (.02)	1.03
W1 Prop. Family	-1.10 (.81)	.33	.88 (1.02)	2.42	-.57 (.83)	.57
W1 Prop. female	.43 (.96)	1.53	-.44 (1.09)	.64	.57 (.95)	1.78
			χ^2 (30, N=343)=175.639, *p*=.000			
Education	.09 (.07)	1.10	-.02 (.08)	.98	-.02 (.07)	.98
Race	.61 (.43)	1.84	.63 (.49)	1.87	.09 (.46)	1.10
Age	-.01 (.01)	.99	.03 (.01)	1.03*	.00 (.01)	1.00
W1 Pos. quality	-.95 (.72)	.39	-1.90 (.73)	.15**	-2.27 (.68)	.10***
W1 Neg. quality	-.17 (.18)	.84	-.09 (.19)	.92	-.20 (.18)	.82
			χ^2 (24, N=322)=166.649, *p*=.000			

Note: androgynous is the reference category for the sex roles; Wave 1 categories are included in the analyses but not presented in the tables.
*p<.05, **p<.01, ***p<.001

Finally, for females, being Caucasian was predictive of being classified as feminine. When adding social network structure to the model, smaller networks were predictive of being classified as masculine and undifferentiated; also, being Caucasian became a significant predictor for being classified as undifferentiated. Higher proportion of family was also predictive of being classified as feminine. There were no associations found for relationship quality (see Table 5.29).

Table 5.29: Multinomial Logistic Regression Predicting Wave 2 Sex Role Categories for Females

	Masculine		Feminine		Undifferentiated	
Variables	B (SE)	β	B (SE)	β	B (SE)	β
Education	-.03 (.08)	.97	-.02 (.05)	.98	-.05 (.07)	.96
Race	-.39 (.37)	.68	-.59 (.25)	.55*	-.54 (.31)	.59
Age	-.02 (.01)	.99	.00 (.01)	1.00	.01 (.01)	1.01
			χ^2 (18, N=530)=191.053, p=.000			
Education	-.00 (.09)	1.00	-.03 (.06)	.97	-.03 (.07)	.97
Race	-.39 (.39)	.68	-.55 (.26)	.58*	-.65 (.32)	.52*
Age	-.00 (.02)	.99	-.01 (.01)	.99	-.00 (.01)	1.00
W1 Network size	-.08 (.04)	.92*	.04 (.03)	1.05	-.07 (.03)	.93*
W1 Network age	-.03 (.02)	.97	.03 (.01)	1.03	.03 (.02)	1.03
W1 Prop. family	-1.49 (.84)	.23	1.36 (.66)	3.89*	.35 (.72)	1.41
W1 Prop. female	-1.35 (1.04)	.26	.24 (.71)	1.27	-.59 (.84)	.56
			χ^2 (30, N=529)=223.184, p=.000			
Education	-.04 (.09)	.97	-.02 (.06)	.98	-.05 (.07)	.95
Race	-.31 (.38)	.73	-.60 (.25)	.54**	-.52 (.32)	.59
Age	-.02 (.01)	.99	.00 (.01)	1.00	.01 (.01)	1.01
W1 Pos. quality	-.13 (.72)	.88	-.30 (.48)	.74	-1.00 (.53)	.37
W1 Neg. quality	.02 (.18)	1.02	.17 (.12)	1.19	.13 (.15)	1.14
			χ^2 (24, N=518)=192.898, p=.000			

Note: androgynous is the reference category for the sex roles; Wave 1 categories are included in the analyses but not presented in the tables.
*p<.05, **p<.01, ***p<.001

Demographics and Continuous Sex Role Measures

For the continuous variables of masculine and feminine, analyses investigating the effects of social relations were conducted using structural equation modeling in AMOS. AMOS allows for the investigation of demographic variables and covariates and their effects on Wave 1 and Wave 2 sex role endorsements of masculine and feminine simultaneously. The first model that was tested (Figure 5.8) investigates the influence of demographics on continuous masculine and feminine scores in Wave 1 and Wave 2. Table 5.30 displays the parameter estimates from the model shown in Figure 5.8. The model was a good fit for the data (χ^2 (2, N=875)=4.76, p=.093,) with fit indices of CFI=.998, NFI = .996, and RMSEA=.040.

Figure 5.8: Structural Equation Model: Influence of Demographics on Masculine and Feminine Sex Role Scores
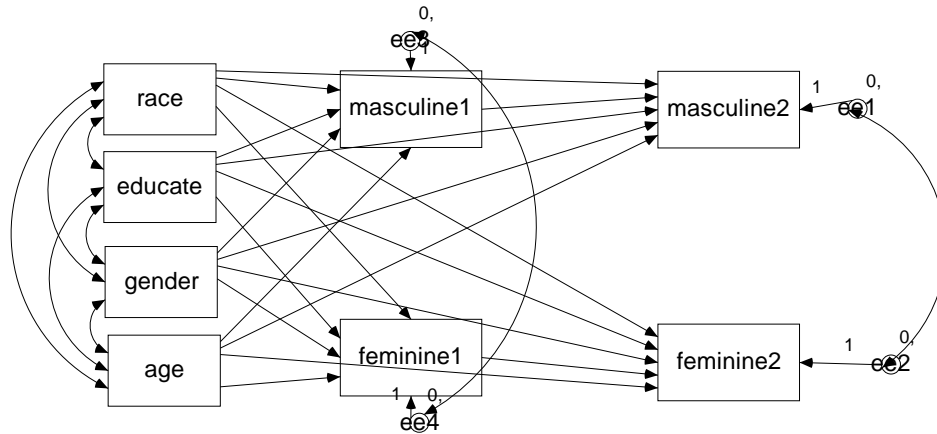
Table 5.30: Parameter Estimates for Demographics and Continuous Masculine and Feminine Scores

Parameter	Unstandardized Estimate(SE)	Standardized Estimate
Masculine1 ←race	.32 (.07)	.16***
Masculine1 ←education	.04 (.01)	.11**
Masculine1 ←sex	-.14 (.06)	-.08*
Masculine1 ←age	.00 (.00)	.02
Masculine2 ←race	.16 (.06)	.07*
Masculine2 ←education	.00 (.01)	.03
Masculine2 ←sex	-.12 (.06)	-.06*
Masculine2 ←age	-.01 (.00)	-.09**
Feminine1 ←race	.03 (.06)	.02
Feminine 1 ←education	-.04 (.01)	-.12***
Feminine 1 ←sex	.40 (.05)	.26***
Feminine 1 ←age	.00 (.00)	.08*
Feminine2 ←race	-.05 (.05)	-.03
Feminine 2 ←education	.00 (.01)	.01
Feminine 2 ←sex	.23 (.05)	.14***
Feminine 2 ←age	.00 (.00)	-.00
Masculine2←Masculine1	.65 (.03)	.57***
Feminine2←Feminine1	.60 (.03)	.55***

*p<.05, **p<.01, ***p<.001

When investigating the effects of demographics on the continuous measures of

masculine and feminine, again, differential effects emerge. For predicting higher

masculine scores in Wave 1, significant pathways include: being African American and

being a male. For higher masculine scores in Wave 2, significant predictors included: higher masculine scores in Wave 1, being African American, being male, and being younger. For higher feminine scores in Wave 1, significant pathways included: being a female, and being younger. For higher feminine scores in Wave 2, feminine score in Wave 1 and being female were the only two significant predictors.

To obtain a more nuanced view of the demographic differences, a modified version of the model was tested to investigate within-group differences. For each group, a model similar to the model in Figure 5.8 was tested, however, the group of interest was omitted from the model (for example, when testing for within-race differences, the model did not include the variable race).

For race, the model resulted in a good fit for African Americans (χ^2 (2, N=232)=1.60, p=.450) with fit indices of CFI=1.00, NFI = .994, and RMSEA=.000) as well as Caucasians (χ^2 (2, N=643)=3.35, p=.187) with fit indices of CFI=.998, NFI = .996, and RMSEA=.032). Parameter estimates for each group are displayed in Table 5.31.

Table 5.31: Parameter Estimates for Demographics and Continuous Masculine and Feminine Scores within Race

Parameter	African American		Caucasians	
	Unstandardized Estimate(SE)	Standardized Estimate	Unstandardized Estimate(SE)	Standardized Estimate
Masculine1 ←education	.08 (.03)	.20**	.03 (.02)	.07
Masculine1 ←sex	-.09 (.12)	-.05	-.16 (.07)	-.09*
Masculine1 ←age	-.00 (.00)	-.03	.00 (.00)	.04
Masculine2 ←education	-.00 (.03)	-.01	.02 (.01)	.05
Masculine2 ←sex	-.03 (.12)	-.01	-.14 (.06)	-.07*
Masculine2 ←age	-.01 (.00)	-.10	-.01 (.00)	-.09**
Feminine 1 ←education	-.01 (.02)	-.04	-.05 (.01)	-.14***
Feminine 1 ←sex	.23 (.10)	.15**	.45 (.06)	.29***
Feminine 1 ←age	.00 (.00)	.05	.01 (.00)	.09*
Feminine 2 ←education	.03 (.02)	.08	-.01 (.01)	-.02
Feminine 2 ←sex	.30 (.10)	.17**	.21 (.05)	.13***
Feminine 2 ←age	-.00 (.00)	-.07	.00 (.00)	.02

Masculine2←Masculine1	.54 (.06)	.48***	.69 (.03)	.60***
Feminine2←Feminine1	.61 (.06)	.53***	.59 (.03)	.56***

*p<.05, **p<.01, ***p<.001

For African Americans, being a female was significantly predictive of higher feminine scores in both Waves. For Caucasians, being male was predictive of higher masculine scores in both Waves, and being younger was predictive of higher masculine scores in Wave 2. Being female was predictive of higher feminine scores in both Waves of data and lower feminine scores in Wave 1.

For sex, the model resulted in a good fit for both males ((χ^2 (2, N=345)=.029, p=.986) with fit indices of CFI=1.00, NFI = 1.00, and RMSEA=.000). The model, however did not fit as well for females ((χ^2 (2, N=530) =7.52, p=.023) with fit indices of CFI=.989, NFI = .986, and RMSEA=.072). Parameter estimates for both groups are displayed in Table 5.32.

Table 5.32: Parameter Estimates for Demographics and Continuous Masculine and Feminine Scores within Sex

	Males		Females	
Parameter	Unstandardized Estimate(SE)	Standardized Estimate	Unstandardized Estimate(SE)	Standardized Estimate
Masculine1 ←race	.28 (.11)	.14*	.33 (.09)	.17***
Masculine1 ←education	.03 (.02)	.08	.05 (.02)	.12**
Masculine1 ←age	.01 (.00)	.11*	-.00 (.00)	-.03
Masculine2 ←race	.00 (.10)	.00	.23 (.08)	.10**
Masculine2 ←education	-.00 (.02)	-.01	.03 (.02)	.06
Masculine2 ←age	-.01 (.00)	-.15***	-.00 (.00)	-.05
Feminine1 ←race	.23 (.11)	.11*	-.06 (.06)	-.04
Feminine 1 ←education	-.03 (.02)	-.09	-.05 (.01)	-.17***
Feminine 1 ←age	.01 (.00)	.16**	.00 (.00)	.02
Feminine2 ←race	-.13 (.10)	-.06	-.02 (.06)	-.02
Feminine 2 ←education	-.01 (.02)	-.02	.01 (.01)	.03
Feminine 2 ←age	.00 (.00)	.02	-.00 (.00)	-.02
Masculine2←Masculine1	.72 (.05)	.63***	.62 (.04)	.54***
Feminine2←Feminine1	.63 (.05)	.58***	.57 (.04)	53***

*p<.05, **p<.01, ***p<.001

Within sex, males and females did differ in the factors that significantly predicted sex role scores. For men, being African American, and being older were significant predictors of higher masculine scores in Wave 1. For Wave 2, being younger was a significant predictor of higher masculine scores. Being African American and being older significantly predicted higher feminine scores in Wave 1. For women, being African American was predictive of higher masculine scores in both waves.

For age, the model resulted in a good fit for both younger ((χ^2 (2, N=456)=3.29, p=.193,) with fit indices of CFI=.998, NFI = .994, and RMSEA=.038) and older adults ((χ^2 (2, N=419)=3.35, p=.187,) with fit indices of CFI=.997, NFI = .994, and RMSEA=.040). Parameter estimates for both groups are displayed in Table 5.33

Table 5.33: Parameter Estimates for Demographics and Continuous Masculine and Feminine Scores within Age

Parameter	Younger Adults		Older Adults	
	Unstandardized Estimate(SE)	Standardized Estimate	Unstandardized Estimate(SE)	Standardized Estimate
Masculine1 ←race	.38 (.09)	.20***	.23 (.11)	.11*
Masculine1 ←education	.04 (.02)	.10*	.04 (.02)	.11*
Masculine1 ←sex	-.04 (.08)	-.02	-.24 (.09)	-.13**
Masculine2 ←race	.26 (.08)	.13**	.06 (.10)	.02
Masculine2 ←education	.00 (.02)	.01	.03 (.02)	.07
Masculine2 ←sex	-.18 (.08)	-.09*	-.04 (.08)	-.02
Feminine1 ←race	.03 (.07)	.02	.02 (.09)	.01
Feminine 1 ←education	-.04 (.02)	-.11*	-.04 (.01)	-.16***
Feminine 1 ←sex	.50 (.07)	.31***	.30 (.07)	.21***
Feminine2 ←race	.04 (.07)	.21	-.18 (.08)	-.10*
Feminine 2 ←education	-.01 (.02)	-.03	.01 (.01)	.05
Feminine 2 ←sex	.23 (.07)	.13***	.24 (.06)	.16***
Masculine2←Masculine1	.59 (.04)	.53***	.71 (.04)	.61***
Feminine2←Feminine1	.64 (.04)	.57***	.54 (.04)	.52***

*p<.05, **p<.01, ***p<.001

Within age, for younger adults, being African American was predictive of higher masculine scores in Waves 1 and 2. For younger adults in Wave 2, being male was predictive of higher masculine scores. Also, for younger adults in Wave 1, being a female was predictive of higher feminine scores. For younger adults in Wave 2, being female was predictive of higher feminine scores. For older adults in Wave 1, being African American, and being male were predictive of higher masculine scores; being female was predictive of higher feminine scores. For older adults in Wave 2, being female and being Caucasian were predictive of higher feminine scores.

Demographics, Social Relations, and Continuous Sex Role Measures

When Wave 1 social relations were added to the model, significant predictors of sex role endorsements emerged (see Figure 5.9). Table 5.34 displays the parameter estimates from the model in Figure 5.9.   Again, as with the previous model, the model fit was good (χ^2 (2, N=875)=7.72, *p*=.021) with fit indices of CFI=.997, NFI = .996, and RMSEA=.057.

Figure 5.9: Structural Equation Model: Influence of Demographics and Social Relations on Masculine and Feminine Sex Role Scores
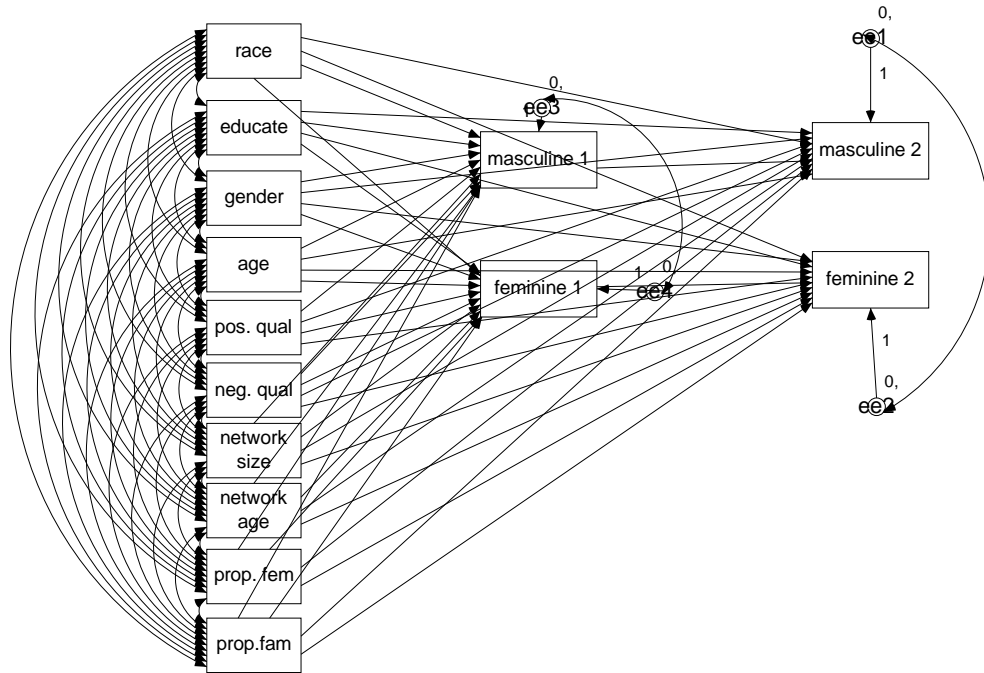

Table 5.34: Parameter Estimates for Demographics, Social Relations, and Continuous Masculine and Feminine Scores

Parameter	Unstandardized Estimate (SE)	Standardized Estimate
masculine1←race	.31 (.07)	.16***
masculine1←educate	.04 (.01)	.11**
masculine1←sex	-.17 (.06)	-.09**
masculine1←age	.00 (.00)	.07
masculine1←W1 pos. quality	.40 (.11)	.13***
masculine1←W1 neg. quality	.02 (.03)	.02
masculine1←W1 network size	.01 (.01)	.06
masculine1←W1 network age	-.01 (.00)	-.10*
masculine1←W1 prop. female	.05 (.17)	.010
masculine1←W1 prop. family	-.01 (.14)	-.00
feminine1←education	-.04 (.01)	-.13***
feminine1←sex	.38 (.05)	.25***
feminine1←age	.01 (.00)	.10*
feminine1←race	.04 (.06)	.02
feminine1←W1 pos. quality	.35 (.09)	.14***
feminine1←W1 neg. quality	-.03 (.03)	-.04
feminine1←W1 network size	.02 (.01)	.18***
feminine1←W1 network age	-.01 (.00)	-.07
feminine1←W1 prop. female	-.16 (.13)	-.04
feminine1←W1 prop. family	.37 (.11)	.13***
masculine2←masculine1	.64 (.03)	.56***
masculine2←race	.17 (.07)	.07*
masculine2←sex	-.13 (.06)	-.06*
masculine2←age	-.00 (.00)	-.07*
masculine2←education	.02 (.01)	.03

Parameter	Unstandardized Estimate (SE)	Standardized Estimate
masculine2←W1 pos. quality	.28 (.10)	.08**
masculine2←W1 neg. quality	-.02 (.03)	-.021
masculine2←W1 network size	-.00 (.01)	-.01
masculine2←W1 network age	-.01 (.00)	-.05
masculine2←W1 prop. female	-.07 (.16)	-.01
masculine2←W1 prop. family	-.20 (.13)	-.05
feminine2←feminine1	.58 (.03)	.53***
feminine2←education	.00 (.01)	.01
feminine2←age	.00 (.00)	-.01
feminine2←sex	.22 (.05)	.13***
feminine2←race	-.04 (.05)	-.02
feminine2←W1 pos. quality	.18 (.08)	.06*
feminine2←W1 neg. quality	.02 (.02)	.03
feminine2←W1 network size	.01 (.01)	.10**
feminine2←W1 network age	.00 (.00)	.00
feminine2←W1 prop. female	-.03 (.12)	-.01
feminine2←W1 prop. family	.17 (.11)	.05

*$p<.05$, **$p<.01$, ***$p<.001$

Within the model including social relations, indicators that signified higher masculine scores in Wave 1 included: being African American, being male, higher positive relationship quality in Wave 1, and younger social networks in Wave 1. For higher masculine scores in Wave 2, indicators included: higher masculine scores in Wave 1, being African American, being male, being younger, and higher positive relationship quality in Wave1. For higher feminine scores in Wave 1, indicators included: being female, being older, higher positive relationship quality in Wave 1, larger social networks, and higher proportions of family within the network in Wave 1. For higher feminine scores in Wave 2, indicators included: higher feminine scores in Wave 1, being female, higher positive relationship quality in Wave 1, and larger networks in Wave 1.

Again, as with the previous analyses, within group differences were investigated. For race, the model resulted in a good fit for both African Americans ((χ^2 (2, N=232) = 3.34, p=.188) with fit indices of CFI=.997, NFI = .994, and RMSEA=.054) and

Caucasians ((χ^2 (2, N=643)= 5.02, p=.081) with fit indices of CFI=.998, NFI = .997, and RMSEA=.048). Parameter estimates for both groups are displayed in Table 5.35.

Table 5.35: Parameter Estimates for Demographics, Social Relations, and Continuous Masculine and Feminine Scores within Race

Parameter	African Americans		Caucasians	
	Unstandardized Estimate (SE)	Standardized Estimate	Unstandardized Estimate (SE)	Standardized Estimate
masculine1←educate	.08 (.03)	.20**	.03 (.02)	.08
masculine1←sex	-.08 (.12)	-.04	-.19 (.07)	-.11**
masculine1←age	.00 (.00)	.07	.00 (.00)	.07
masculine1←W1 pos. quality	.13 (.18)	.05	.49 (.13)	.16***
masculine1←W1 neg. quality	.05 (.05)	.07	-.02 (.04)	-.02
masculine1←W1 network size	.02 (.01)	.15*	.00 (.01)	.02
masculine1←W1 network age	-.01 (.01)	-.15	-.01 (.00)	-.09
masculine1←W1 prop. female	-.26 (.30)	-.06	.15 (.20)	.03
masculine1←W1 prop. family	.40 (.25)	.12	-.20 (.17)	-.06
feminine1←education	-.02 (.02)	-.07	-.05 (.01)	-.14***
feminine1←sex	.23 (.10)	.15*	.42 (.06)	.28***
feminine1←age	.01 (.00)	.11	.01 (.00)	.09*
feminine1←W1 pos. quality	.39 (.15)	.17**	.35 (.11)	.13***
feminine1←W1 neg. quality	-.01 (.04)	-.02	-.03 (.03)	-.03
feminine1←W1 network size	.03 (.01)	.21**	.02 (.01)	.17***
feminine1←W1 network age	-.01 (.01)	-.11	-.00 (.00)	-.06
feminine1←W1 prop. female	-.04 (.21)	-.06	-.14 (.16)	-.03
feminine1←W1 prop. family	-.23 (.25)	-.01	.49 (.13)	.17***
masculine2←masculine1	.54 (.06)	.48***	.67 (.03)	.59***
masculine2←sex	-.06 (.12)	-.03	-.14 (.06)	-.07*
masculine2←age	-.01 (.00)	-.08	-.00 (.00)	-.07
masculine2←education	-.00 (.03)	-.01	.02 (.01)	.05
masculine2←W1 pos. quality	.23 (.19)	.08	.29 (.12)	.08*
masculine2←W1 neg. quality	.01 (.05)	.01	-.04 (.04)	-.03
masculine2←W1 network size	.01 (.01)	.03	-.00 (.01)	-.02
masculine2←W1 network age	-.00 (.01)	-.04	-.01 (.00)	-.05
masculine2←W1 prop. female	.34 (.31)	.06	-.22 (.18)	-.04
masculine2←W1 prop. family	-.04 (.26)	-.01	-.23 (.15)	-.06
feminine2←feminine1	.63 (.06)	.54***	.56 (.03)	.53***
feminine2←education	.04 (.02)	.10	-.01 (.01)	-.03
feminine2←age	.00 (.00)	-.01	.00 (.00)	-.01
feminine2←sex	.29 (.10)	.17**	.20 (.05)	.12***
feminine2←W1 pos. quality	-.08 (.15)	-.03	.25 (.10)	.09**
feminine2←W1 neg. quality	.02 (.04)	.03	.02 (.03)	.02
feminine2←W1 network size	-.01 (.01)	-.04	.02 (.05)	.15***
feminine2←W1 network age	-.01 (.01)	-.10	.00 (.00)	.05

| | African Americans | | Caucasians | |
Parameter	Unstandardized Estimate (SE)	Standardized Estimate	Unstandardized Estimate (SE)	Standardized Estimate
feminine2←W1 prop. female	.05 (.25)	.01	-.11 (.14)	-.02
feminine2←W1 prop. family	.05 (.21)	.01	.23 (.12)	.07

*p<.05, **p<.01, ***p<.001

For African Americans and Caucasians, there were again differential effects. For African Americans, larger networks predicted masculine scores in Wave 1; being female, higher positive quality, and larger networks were predictive of higher feminine scores in Wave 1. Being a female was a predictor of higher feminine scores in Wave 2.

For Caucasians, being male, and higher positive quality were predictive of higher masculine scores in Wave 1; being a male and higher positive relationship quality were predictive of higher masculine scores in Wave 2. Being female, being older, higher positive relationship quality, larger network size, and higher proportions of family were predictors of higher feminine scores in Wave 1; being a female, higher positive relationship quality, and larger networks were predictive of higher feminine scores in Wave 2.

When investigating sex differences, the model resulted in a good fit for males ((χ^2 (2, N=345)=.402, p=.82) with fit indices of CFI=1.00, NFI = 1.00, and RMSEA=.000), but less of a good fit for females, ((χ^2 (2, N=530)=10.08, p=.006) with fit indices of CFI=.993, NFI = .992, and RMSEA=.087). Parameter estimates for both groups are displayed in Table 5.36.

Table 5.36: Parameter Estimates for Demographics, Social Relations, and Continuous Masculine and Feminine Scores within Sex

	Males		Females	
Parameter	Unstandardized Estimate (SE)	Standardized Estimate	Unstandardized Estimate (SE)	Standardized Estimate
masculine1←race	.25 (.11)	.12*	.34 (.09)	.17***
masculine1←educate	.02 (.02)	.07	.05 (.02)	.12**
masculine1←age	.01 (.00)	.17**	.00 (.00)	.00
masculine1←W1 pos. quality	.38 (.14)	.15**	.41 (.16)	.12**
masculine1←W1 neg. quality	-.02 (.05)	-.02	.03 (.04)	.03
masculine1←W1 network size	.01 (.01)	.10	.01 (.01)	.03
masculine1←W1 network age	-.01 (.01)	-.18**	-.01 (.01)	-.06
masculine1←W1 prop. female	.06 (.25)	.01	-.09 (.24)	-.02
masculine1←W1 prop. family	.17 (.21)	.06	-.22 (.21)	-.06
feminine1←education	-.03 (.02)	-.10	-.05 (.01)	-.16***
feminine1←race	.20 (.11)	.14	-.03 (.06)	-.02
feminine1←age	.01 (.00)	.10*	.00 (.00)	.07
feminine1←W1 pos. quality	.41 (.14)	.16**	.29 (.11)	.12**
feminine1←W1 neg. quality	.02 (.05)	.03	-.06 (.03)	-.09
feminine1←W1 network size	.02 (.01)	.17**	.02 (.01)	.18***
feminine1←W1 network age	.00 (.00)	-.01	-.01 (.00)	-.13*
feminine1←W1 prop. female	-.39 (.24)	-.09	-.09 (.17)	-.02
feminine1←W1 prop. family	.52 (.20)	.18**	.22 (.15)	.08
masculine2←masculine1	.68 (.05)	.60***	.61 (.04)	.53***
masculine2←race	-.00 (.10)	-.00	.25 (.08)	.11**
masculine2←age	-.01 (.00)	-.12*	-.00 (.00)	-.05
masculine2←education	-.00 (.02)	-.01	.03 (.02)	.06
masculine2←W1 pos. quality	.32 (.13)	.11*	.23 (.15)	.06
masculine2←W1 neg. quality	-.02 (.04)	-.02	-.03 (.04)	-.03
masculine2←W1 network size	.00 (.01)	.02	-.01 (.01)	-.04
masculine2←W1 network age	-.01 (.00)	-.09	-.00 (.01)	-.03
masculine2←W1 prop. female	.04 (.23)	.01	-.25 (.23)	-.04
masculine2←W1 prop. family	-.01 (.19)	-.00	-.37 (.20)	-.09
feminine2←feminine1	.59 (.05)	.55***	.55 (.04)	.51***
feminine2←education	-.01 (.02)	-.04	.01 (.01)	.02
feminine2←age	.00 (.00)	.00	-.00 (.00)	-.02
feminine2←race	-.13 (.10)	-.06	-.00 (.06)	-.00
feminine2←W1 pos. quality	.28 (.13)	.11*	.06 (.11)	.02
feminine2←W1 neg. quality	.04 (.04)	.05	-.00 (.03)	-.00
feminine2←W1 network size	.02 (.01)	.12*	.01 (.01)	.09
feminine2←W1 network age	.00 (.00)	.01	.00 (.00)	-.01
feminine2←W1 prop. female	-.07 (.22)	-.01	-.07 (.16)	-.02
feminine2←W1 prop. family	.29 (.18)	.10	.04 (.14)	.01

*p<.05, **p<.01, ***p<.001

For sex, males and females again showed differences in the effects of demographics and social relations. Being African American, being older, higher positive relationship quality, and younger networks were predictive of higher masculine scores in Wave 1. Being younger, and higher positive quality were predictive of higher masculine scores in Wave 2. Being older, higher positive relationship quality, larger networks, and higher proportions of family were predictive of higher feminine scores in Wave 1. Higher positive relationship quality and larger networks were predictive of higher feminine scores in Wave 2.

For females, there were fewer significant pathways. Being African American and higher positive relationship quality were predictive of higher masculine scores in Wave 1. Being African American predicted higher masculine scores in Wave 2. Higher positive relationship quality and larger networks were predictive of higher feminine scores in Wave 1.

For age, the model resulted in a good fit for younger adults ((χ^2 (2, N=456)=4.20, p=.12) with fit indices of CFI=.997, NFI = .996, and RMSEA=.049) and less of a good fit for older adults ((χ^2 (2, N=419)=5.90, p=.052) with fit indices of CFI=.996, NFI = .994, and RMSEA=.068). Parameter estimates for both groups are displayed in Table 5.37.

Table 5.37: Parameter Estimates for Demographics, Social Relations, and Continuous Masculine and Feminine Scores within Age

Parameter	Younger Adults		Older Adults	
	Unstandardized Estimate (SE)	Standardized Estimate	Unstandardized Estimate (SE)	Standardized Estimate
masculine1←race	.36 (.09)	.20***	.25 (.11)	.11*
masculine1←educate	.04 (.02)	.10*	.03 (.02)	.10*
masculine1←sex	-.06 (.09)	-.04	-.28 (.09)	-.15**
masculine1←W1 pos. quality	.18 (.15)	.06	.63 (.16)	.20***
masculine1←W1 neg. quality	.02 (.04)	.02	.01 (.05)	.01
masculine1←W1 network size	.01 (.01)	.04	.01 (.01)	.07
masculine1←W1 network age	-.00 (.01)	-.03	-.01 (.00)	-.12*

	Younger Adults		Older Adults	
Parameter	Unstandardized Estimate (SE)	Standardized Estimate	Unstandardized Estimate (SE)	Standardized Estimate
masculine1←W1 prop. female	.14 (.24)	.03	-.04 (.23)	-.01
masculine1←W1 prop. family	.03 (.19)	.01	-.14 (.23)	-.04
feminine1←education	-.05 (.02)	-.13**	-.04 (.01)	-16***
feminine1←sex	.45 (.07)	.29***	.29 (.07)	.20***
feminine1←race	.04 (.07)	.03	.03 (.08)	.02
feminine1←W1 pos. quality	.33 (.12)	.13**	.37 (.12)	.15**
feminine1←W1 neg. quality	-.02 (.03)	-.02	-.05 (.04)	-.07
feminine1←W1 network size	.03 (.01)	.25***	.01 (.01)	.05
feminine1←W1 network age	-.00 (.00)	-.02	-.01 (.00)	-.13**
feminine1←W1 prop. female	-.32 (.20)	-.07	.03 (.18)	.01
feminine1←W1 prop. family	.54 (.15)	.18***	.03 (.18)	.01
masculine2←masculine1	.58 (.04)	.53***	.68 (.04)	.58***
masculine2←race	.24 (.08)	.12**	.09 (.10)	.04
masculine2←sex	-.18 (.08)	-.09*	-.05 (.08)	-.02
masculine2←education	.01 (.02)	.02	.03 (.02)	.07
masculine2←W1 pos. quality	.21 (.14)	.06	.33 (.15)	.09*
masculine2←W1 neg. quality	.04 (.04)	.05	-.10 (.05)	-.09*
masculine2←W1 network size	-.00 (.01)	-.01	-.01 (.01)	-.03
masculine2←W1 network age	-.01 (.01)	-.07	-.01 (.00)	-.06
masculine2←W1 prop. female	-.07 (.22)	-.01	-.10 (.22)	-.02
masculine2←W1 prop. family	-.22 (.17)	-.06	-.23 (.21)	-.05
feminine2←feminine1	.61 (.04)	.55***	.54 (.04)	.52***
feminine2←education	-.01 (.02)	-.03	.01 (.01)	.04
feminine2←sex	.22 (.07)	.12**	.23 (.06)	.16***
feminine2←race	.04 (.07)	.02	-.17 (.08)	-.09*
feminine2←W1 pos. quality	.28 (.11)	.09*	.05 (.11)	.02
feminine2←W1 neg. quality	.02 (.03)	.03	.03 (.03)	.03
feminine2←W1 network size	.01 (.01)	.07	.02 (.01)	.14**
feminine2←W1 network age	-.00 (.00)	-.01	.00 (.00)	.02
feminine2←W1 prop. female	-.03 (.19)	-.01	-.08 (.16)	-.02
feminine2←W1 prop. family	.12 (.15)	.04	.22 (.16)	.08

*$p<.05$, **$p<.01$, ***$p<.001$

Among younger adults, being African American was the only significant predictor of higher masculine scores in Wave 1. Being African American and being male were predictive of higher masculine scores in Wave 2. Being female, higher positive relationship quality, larger networks and higher proportion of family were predictive of higher feminine scores in Wave 1. Being female and higher positive relationship quality were predictive of higher feminine scores in Wave 2.

Among older adults, being African American, being male, higher positive relationship quality, and younger networks were predictive of higher masculine scores in Wave 1. Higher positive relationship quality and lower negative relationship quality were predictive of higher masculine scores in Wave 2. Being female, higher positive relationship quality, and younger networks were predictive of higher feminine scores in Wave 1. Being female, being Caucasian, and larger networks were predictors of higher feminine scores in Wave 2.

Summary

These results address the association between sex role trait endorsements and demographic characteristics. When comparing the two models including all participants (with and without social relations), it is observed that the pathways for the demographic variables are relatively unchanged when Wave 1 social relations variables are added. Because none of the demographic differences lose significance with the addition of the Wave 1 social relations characteristics, it can be inferred that social relations do not mediate the relationship between demographics and continuous measures of masculine and feminine sex role endorsements. This finding is also supported within groups, where there was little variation in demographics with the addition of the social relations variables. The results from both the logistic regression analyses and structural equation modeling also demonstrate the differential and unique associations among the structure and quality of social relations and sex role trait endorsements.

CHAPTER VI

DISCUSSION

In this chapter, the results of this study within the context of the previously

reviewed literature and theory will be considered. First, each hypothesis will be reviewed

in conjunction with the observed findings. Next, implications will be discussed, followed

by limitations and future research direction. Finally, overall concluding thoughts will be

provided.

Hypothesis 1

When investigating change in sex role endorsements across the lifespan, it was

hypothesized that over the 12 years, more individuals would move into the androgynous

and undifferentiated categories within the Bem Sex Role Inventory. Similarly, within the

continuous measures of masculine and feminine, it was hypothesized that there would be

an increase in the scores for both (marking a shift towards androgyny). Within the

categorical measure for sex role traits, change over time was observed, with most

individuals starting and remaining in the androgynous category, followed by the

undifferentiated, feminine, and masculine groups respectively. The observation that

androgynous is the largest sex role classification according to the Bem (1977) categories,

however, can be interpreted as a positive outcome, as many studies have equated

psychological androgyny with well-being and positive outcomes (e.g. Puglisi & Jackson,

1980; Woodhill & Samuels, 2003). It should be noted, nevertheless, that this finding may

be an product of the data, wherein individuals who are participating in both waves may

have certain traits in common. This idea was supported by the attrition analyses, where individuals who were higher in masculine trait endorsements were more likely to participate in Wave 2. This may be an indicator that masculine trait endorsements may also be proxies for individual self-perceptions of resilience, perseverance, and/or coping.

This result also shows that in each classification, roughly 50% or more of the individuals changed classifications over the course of 12 years. For androgynous, the most observed change was that individuals became classified as feminine over time, indicating that their masculine endorsements decreased over time. For individuals classified as masculine, the most observed change was to androgynous, meaning that those individuals classified as masculine in Wave 1 most often (if they did not remain consistent in their classifications from Wave 1) experienced enough of an increase in their feminine trait endorsements to warrant a re-classification. For individuals classified as feminine in Wave 1, the most prevalent category changes were almost equal for both androgynous and undifferentiated, meaning that those individuals classified as feminine who changed classification either increased in their masculine trait endorsements over time or decreased in their feminine sex role trait endorsements. Finally, for individuals classified as undifferentiated in Wave 1, outside of those who remained stable in their classification, the most prevalent category shift was to being classified as feminine in Wave 2, meaning that those individuals increased in their feminine trait endorsements over time. The findings suggest that individuals do change their sex role trait endorsements over time, both for masculine and feminine sex role traits.   This finding supports previous cross sectional studies which have reported that as individual's age, they are likely to be classified as androgynous (e.g. Puglisi, 1983) and but also supports

studies which found that individuals are likely to maintain their sex role endorsements with age (e.g., Urberg & Labouvie-Vief, 1976). Though these changes in sex role category may be indicative of developmental change over the 12 years, it may also be that the meaning of the traits may change over time for individuals. For example, individuals may view the trait of 'aggressive' differently in their 30's (as it may be related to their career) as compared to in their 40's (as it may be related to their interactions with family). This finding of category change also suggests that both feminine and masculine trait endorsements are fluctuating over time, meaning that both increases and decreases were observed over time (instead of both masculine sex role trait endorsements and feminine sex role trait endorsements increasing over time).

The idea that individual endorsements do significantly change over time demonstrates that, within the categorical measurement of sex role traits, this sample illustrates that certain individuals may demonstrate continuity in their sex role trait endorsements while others may demonstrate discontinuity (Caspi & Bem, 1990; Roberts & Caspi, 2003; Roberts & Mroczek, 2008). Even though change is observed utilizing the sex role trait classifications, another perspective is that the categorical measure of sex role traits utilizing the median split method proposed by Bem (1977) is not sensitive enough to capture the various degrees of change that are occurring at the individual level. While change in classification over time implies developmental change, the individual must be over the mean threshold in order for change of classification to occur. This type of measurement does not allow for the observation of individuals who do change in their sex role trait endorsements, but who do not change enough relative to the mean of the rest of the sample.

To explore the range of variation in individual sex role trait endorsements, continuous measures of sex role trait endorsements were also employed. This examination of the continuous measures of masculine and feminine sex role traits indicates that change did occur in both masculine and feminine sex role trait endorsements over time. On average, masculine trait endorsements were higher over time, and feminine trait endorsements were lower over time. This increase in endorsement of masculine traits is consistent with the literature that highlights that as individuals develop, they gain more flexibility within their sex role trait endorsements, and move towards being more androgynous (high endorsement of both masculine and feminine sex role traits; Bem, 1981; Kohlberg, 1966; Roberts, Caspi & Shiner, 2005). The idea that individuals increase in their self perceptions of masculine traits may suggest that over time, those traits may be more desirable for all groups. Conversely, for the feminine traits, the decrease in endorsement suggests that feminine traits may be less desirable over time. These differences in the continuous masculine and feminine traits change over time may reflect Spence and Helmreich's (1981) point that feminine traits are a measure of expressivity and masculine traits are thought to be a measure of instrumentality. Gill, Stockard, Johnson, and Williams (1987), define expressive as "giving primacy to facilitating the interaction process itself (pg. 380)" and instrumental as "a concern with the attainment of goals external to the interaction process" (pg. 397). The authors further explain that:

> "…instrumental orientations involve the manipulation of objects, the
>
> environment, and even people to attain goals and accomplish tasks external to the
>
> interactive system itself, while expressiveness involves the understanding and

dealing with emotions in self and others. Expressive actions involve tension

management and motivational control among individuals; instrumental actions

more often involve formal authority and technical control. Expressive action is

oriented toward the system of interaction itself and is typically rewarded by

affective attitudes such as love and friendship. Instrumental action is oriented

toward objective ends and is typically sanctioned with more "affectively neutral"

or impersonal attitudes such as approval, respect, and esteem" (pg. 380).

Utilizing this explanation, it could be possible that the decrease in feminine trait

endorsements may be due to changes within the social context of the individual, or the

way individuals perceive changes within the social structure. For masculine traits, the

increase in masculine trait endorsements may be due to changes in goals and tasks

experienced throughout the lifespan (e.g. Erikson, 1950; Havighurst, 1972). Based on

theory proposed by Erikson (1950), it would appear that the instrumental traits

(masculine sex role traits) are more associated with the development stage of ego

integrity vs. despair, as it is experienced later in adult development, and deals with

individuals having the goal of garnering a sense of accomplishment from life. This

association would explain the increase in masculine traits over time. Likewise,

expressive traits (feminine sex role traits) appear to map onto Erikson's stage of intimacy

vs. isolation, as this stage is experienced in early adulthood. This may be one explanation

for the observed decrease in feminine trait endorsements. Over time, developmental

stages and tasks may require more goal orientated traits, and fewer expressive traits.

Also, because feminine trait endorsements may also be related to social relations

(specifically being sensitive to the needs of others and eager to soothe hurt feelings),

interactions with the social network may be associated with the decrease in feminine trait

endorsement (Kahn & Antonucci, 1980). One interesting association may be that,

because this is a longitudinal sample, the increase in endorsement of goal oriented traits

may be a selection effect, where individuals who are focused on accomplishing tasks are

more likely to be willing and able to participate in both waves of data.   This would

support the finding from the attrition analysis, in which higher endorsement of masculine

traits was positively associated with participation in the second wave of data.

Another explanation for the observed change over time in masculine traits may be

gender convergence (when sex role trait endorsements for men and women become

similar by both moving towards androgyny; Puglisi, 1983) and/or gender transcendence

(when sex roles are dictated by environmental demands and not social standards; Fischer

& Narus, 1981). The increase in masculine scores suggests that individuals are becoming

more androgynous over time; however, the lower endorsement of feminine traits makes

this conclusion difficult to support. The decrease in endorsement of feminine traits may

be due to the fact that feminine traits are of more importance earlier in development, and

therefore decrease over time. It should be noted that for change over time in continuous

sex role endorsements, the findings were adjusted for the influence of education. This is

important, as education was associated with sex role trait endorsements in both waves,

where higher education was associated with higher endorsement of masculine sex role

traits and lower endorsement of feminine sex role traits. It may be the case that

individuals who have higher levels of education display and endorse more goal-oriented

traits, and therefore endorse masculine traits to a higher degree. It may also be that

individuals with lower levels of education are surrounded by more family, or may be

more family focused, and therefore endorse more expressive or feminine traits.   This

finding would be similar to those found by Stewart and Vandewater (1993), where

women with higher levels of education were more career focused and less likely to have

children as compared to women with lower levels of education.

Hypothesis 2

It was hypothesized that there would be demographic variations in sex role traits. Specifically, it was hypothesized for sex role categories that (1) older adults would be more likely than younger adults to fall within the androgynous group; that (2) African Americans would be more likely than Caucasians to fall into the androgynous and undifferentiated groups; that (3) women would be more likely than men to be in the feminine group, and that men would be more likely than women to fall into the masculine group. It was further hypothesized that the continuous sex role trait endorsements would follow suit. This question addressed both within wave differences by demographics, as well as changes over time by demographic groups.

Within-Group Categorical Sex Role Trait Endorsements

This study revealed that across age, there were no differences in sex role classification in either wave of data. This finding is surprising as much of the literature on sex role change has noted that older individuals would be more likely to be within the androgynous group (Puglisi, 1983; Sedney, 1985 Sinott, 1986). However, for race, African Americans and Caucasians varied. African Americans had a higher percentage within the androgynous category, and Caucasians had higher percentages in the undifferentiated and feminine groups in both waves. This finding is supported by the literature on racial differences in conceptions of sex roles, where African Americans may show high endorsement of both masculine and feminine traits, suggesting that African Americans may endorse alternative views of sex role traits (e.g. Hammond & Mattis, 2005). Though sex roles are not directly investigated in this study, sex role trait endorsements may be representative of sex role beliefs. For sex, as expected, women had

110

higher percentages in the feminine group, and men had higher percentages within the masculine group. This observation demonstrates that men and women have a strong tendency to endorse the traditional sex role characteristics. For race and sex, the group differences were identical within Wave 1 and Wave 2. With the stability across age, and the variations in sex and race, it may be the case that this project is highlighting the stability within development by age group, as well as highlighting the variability within social constructions (race) and social expectations (sex). Age is a truly universal characteristic that every individual experiences within development (i.e. you cannot skip ages). The experience of race and sex, however, are not universal. This distinction of types of demographic characteristics may be an underlying factor as to why more variation may occur for race and sex within sex role endorsement.

Within-Group Categorical Sex Role Trait Endorsements over Time

This study revealed that within race, age and sex, there were differences in sex role classifications over time for all groups.

Within race, only Caucasians showed enough variation in their sex role classifications over time to be deemed statistically significant. That does not mean that African Americans did not experience variations within their sex role classifications over time. Rather, this finding suggests that African Americans' endorsements over time may not demonstrate the same degree of variation as Caucasians. For Caucasians, similar to the findings for the overall sample, most individuals remained stable within their classifications over time, however, many did change classification over time. For those classified as androgynous, of the individuals who did change classification over time, the change was to being classified feminine, indicating a decrease in masculine sex role trait

111

endorsements. This decrease in masculine sex role trait endorsements suggests that over time, individuals decrease in their goal orientated traits, while retaining their expressive traits. This shift may be due to contextual factors such as retirement, where an exit from the work force may be associated with a decrease in goal oriented masculine sex role traits. For individuals classified as masculine, of those who changed classification, the largest shift was to being classified as androgynous, indicating an increase in feminine sex role trait endorsements. The idea that over time individuals become more concerned with others (generativity) may be the reason for the increase in feminine trait endorsements, while retaining their goal-oriented traits. For individuals classified as feminine, those individuals who changed their classifications over time equally shifted to being classified as androgynous and undifferentiated. These shifts indicate that there was both an increase in masculine trait endorsements for some and a decrease in feminine traits for others. The change over time for individuals classified as feminine in Wave 1 is interesting because it does not have a set pattern of movement, as do the other classifications. While the other 3 classifications have a noticeable pattern of change (e.g., androgynous to feminine), feminine classification in Wave 1 does not. This classification may be unique in that it may have more heterogeneity of participant characteristics that are not being investigated in this study. For example, this classification may have a higher number of individuals who are on the low and high side of the boundaries to be classified as feminine. Therefore, even slight change in any direction may prompt a category change. Finally, for individuals classified as undifferentiated in Wave 1, for those who changed classifications, the most prevalent shift was to being classified as feminine, indicating that individuals most often increased in their feminine sex role trait

endorsements. This shift over time suggests that undifferentiated individuals may have a social context that is changing, and therefore influencing feminine sex role trait endorsement. It may be the case that goal orientated or masculine sex role traits do not change over time for these individuals, but rather that the expressiveness of the individual increases over time. A reason for this change over time may be explained by the socioemotional selectivity theory (Carstensen, Isaacowitz & Charles, 1999), which proposed that with age and the assumption that one has less time to live, individuals actively decide to focus on a select few personal relationships, which in turn may be reflected in their feminine sex role trait endorsements. It would be interesting to understand more of the traits of individuals classified as undifferentiated, as the assumption in this study is that are worse off than sex typed and androgynous classified individuals.

Within age, both younger and older adults changed in their sex role classifications over time. For younger adults, the shifts over time for individuals classified as androgynous and masculine in Wave 1 were identical to the findings for Caucasians. However, for older individuals classified as feminine in Wave 1, among those who changed classification over time, the most prevalent shift was to being classified as androgynous. The idea that younger adults increased in their masculine traits maps onto both the social clock and Erikson's developmental theory, where younger individuals are more likely to be dually focused on career (masculine sex role traits; instrumentality), and family (feminine sex role traits; expressiveness) as they move more into middle adulthood. For individuals classified as undifferentiated in Wave 1, the most common shift was to being classified as either masculine or feminine in Wave 2. This shift from

having low masculine and feminine sex role trait endorsements in Wave 1 to being

gender typed (by having high masculine and feminine trait endorsements) in Wave 2

suggests that over time, these individuals may have experienced an event or a series of

events, which either increased their goal orientation or expressiveness, which are not

investigated/addressed in this study.

For older adults, in both waves, the most populated classification was

androgynous. This finding supports the literature that notes that older individuals would

be more likely to be within the androgynous group (Puglisi, 1983; Sedney, 1985 Sinott,

1986). For change among older adults, again, the findings regarding change in

classification were identical to those for the overall sample except for the findings for

individuals who were classified as feminine in Wave 1. For those individuals, the most

common shift was to being classified as undifferentiated. This is interesting because

these individuals in Wave 1 have high feminine sex role trait endorsements and low

masculine trait endorsements. However, over time, these feminine sex role trait

endorsements decrease, suggesting that these individuals may be, again, withdrawing

from social interaction, and are maintaining their already low goal orientations. As noted

previously, this seems to be consistent with the socioemotional selectivity theory

(Carstensen, Isaacowitz & Charles, 1999), in which older adults are dealing with their

own limited future and mortality.

Within-Group Continuous Sex Role Trait Endorsements

Likewise, within the continuous measures of masculine and feminine, it was hypothesized that (1) older adults would endorse masculine and feminine traits to a lower degree than younger adults, that (2) African Americans would endorse masculine and feminine traits to a higher or lower degree than Caucasians, and that (3) women would endorse feminine traits to a higher degree than men and likewise men would endorse masculine traits to a higher degree than women. For the continuous measure of sex role traits, the results show that there were no differences in regard to age groups in both waves. Again, the fact there were no age variations for sex role traits is unexpected. For race, in both waves of data, African Americans reported higher scores on masculine traits as compared to Caucasians. This, again, signals that African Americans may view individual sex role traits differently than Caucasians (Hammond & Mattis, 2005; Hunter & Davis, 1992). However, because this racial difference is only found for masculine traits, the variations in sex role endorsements across race may again be tied to the developmental goals for each group (as endorsements of masculine traits can be interpreted as instrumental characteristics). For African Americans, stronger endorsement of masculine traits may be indicative of coping with issues such as John Henryism (effortful coping for stressors; James, 1994), or the need to overcome discrimination within the environment (Williams, 1999; William, Neighbors, & Jackson, 2003). Overcoming/coping with racial discrimination within the African American group may include a perceived greater need for the goal achievement mentality to protect against the negative stereotypes discrimination elicits. This mentality is thus reflected in their endorsements of instrumental traits. For sex, in both waves, women reported higher

feminine scores, and men reported higher masculine scores. Again, this finding is as expected based upon social standards and previous research.

Within-Group Continuous Sex Role Traits across Time

Within-group continuous measures masculine and feminine sex role trait endorsements indicate that there is change over time, with interactions between change in masculine sex role trait endorsements and age, change in masculine sex role trait endorsements and race, change in masculine sex role trait endorsements and sex, and change in feminine sex role trait endorsements and age. These differences were observed while controlling for level of education.

For change in masculine trait endorsement and age, over time, both younger and older adults increased in their masculine sex role trait endorsements, with younger adults having slightly higher endorsements in Wave 1 and older adults having slightly higher endorsements in Wave 2. This trend for both age groups to increase in their masculine trait endorsements suggests that over time individuals become more androgynous (high masculine and feminine trait endorsements). The crossover for the age groups is interesting as it suggests that over time, older adults have a greater increase in goal orientation than do younger adults. This may be explained by Erikson's notion of the ego integrity stage of development, where older adults may be increasing in their goal orientation in order to leave a legacy.

For change in masculine trait endorsement and race, the results show that African Americans, in Wave 1 have higher masculine trait endorsements, but by Wave 2, Caucasians and African Americans are similar in their masculine trait endorsements. This difference may reflect the differences in social experiences for African Americans

116

and Caucasian over time. For African Americans, there may be a need to endorse masculine traits earlier than for Caucasians to protect against issues of discrimination and social inequality. Caucasians, therefore, demonstrate a steeper slope over time, because it may be that their endorsement changes more over time, due to the lack of necessity of these traits previously. Caucasians' endorsement of goal-oriented masculine traits may be more explained by developmental theory, in which the increase in masculine trait endorsements is associated with immersion into the work environment or career advancement.

For change in masculine trait endorsement and sex, males demonstrate higher masculine sex role endorsements in Wave 1, however in Wave 2, women demonstrate higher endorsements. Again, similar to race, the difference over time for men may not be as drastic due to early acquisition of these traits, and therefore less observed change. For women, change in masculine trait endorsement is more pronounced, indicating that over time, women in this sample are endorsing these traits to a higher degree. This increase for women over time may be indicative of a movement towards androgyny, and away from traditional endorsements for women; likewise it could be sex transcendence, where women are not attaching sex role traits with sex groups but to the demands of the environment. The idea that women, over time, are increasing in their goal oriented trait endorsements as compared to men, may also be a function of social changes in the roles of women, where women may feel more able to exercise these masculine sex role traits. Likewise, these findings may be similar to the findings of Veroff et al. (1980), in which masculine traits are parallel to achievement and power motives, while feminine traits are parallel to affiliation motives. Veroff et al. found that with age, women increased in

117

their achievement motivation, which would support the finding here that women increased their endorsement of masculine traits more than did males. Veroff et al. note that it may be that with time, the idea of attachment to family needs is only salient in early development, but with time wanes and more goal-oriented traits become desirable.

Finally, for change in feminine trait endorsement and age, there is a decrease for both younger and older adults. The decrease is much more noticeable for older adults. In Wave 1, older adults had higher feminine trait endorsements, while in Wave 2, younger adults had higher feminine trait endorsements. This decrease in feminine trait endorsements for older adults may be indicative of the possibility that older adult are changing their interactions with others more drastically over time than are younger adults. For example, interactions with children differ between younger and older adults. While younger adults may have children who are becoming more independent, older adults have children who may be leaving the household and starting their own families. For this reason, it may be that older adults demonstrate a more pronounced decline in feminine sex role trait endorsements. This decrease in feminine trait endorsements over time is unexpected, as an increase would be indicative of a move towards androgyny. Overall, it may be that younger and older adults are each engaging in different developmental tasks and may hold various social roles. Because this project employed an adult sample, it can be assumed that many are occupying multiple roles (e.g., parent, child, and worker). With the maintenance of multiple roles, adults in these groups may be reformulating their conceptualization of sex role traits depending on the needs of others and contextual demands.

This variation across the lifespan is in line with the work of Roberts and Caspi (2002) in which they discuss adult development and how personality traits continue to fluctuate over time. Though consistency is often observed, Roberts and Capsi (2002) note that change may be elicited though various experiences in the environment and through the demands of developmental tasks. In this vein, Roberts & Caspi note that Erikson's (1950) stage theory of development hints at explaining personality trait change and stability over time. Erikson's (1950) stage theory of development proposes conflicts, conflicts which drive variations in sex role endorsements among adults.

Hypothesis 3

It was hypothesized that social relations would be associated with sex role endorsements. Specifically, it was hypothesized that higher relationship quality would be associated with the endorsement of more feminine traits and result in a larger number of people falling into the feminine category. It was also hypothesized that the structure and quality of social relations would have differential associations with sex role traits over time.

Social Relations and Categorical Sex Roles

Within the categorical measures of sex role traits, both structural and quality aspects of social relations were associated with sex role endorsements. For the categorical measures of sex role traits, higher reports of positive relationship quality were associated with being classified as androgynous in both waves. Positive relationship quality within this study was frequently significantly associated with the sex role endorsements. This may indicate that higher positive relationship quality may be enjoyed by individuals who adhere to traditional sex role traits. Conversely, it could be that

androgyny may be an outcome of higher levels of positive relationship quality, i.e. that individuals in secure high quality relationships have the confidence to express both masculine and feminine traits. Though the opposing relationship is not tested within this study, it may be the case that individuals classified as androgynous, who have been found to have better mental health outcomes than their sex typed peers, may thus have better relationships within their social network. The notion of relationship quality experienced 12 year ago affecting the development of sex role is interesting. Though the relationships may (or may not) remain within the network over time, it may be, consistent with life span developmental theory, that these early social network interactions have lifelong effects.

Larger networks and higher proportion of family within the network were associated with being classified as androgynous in Wave 1. Having larger network and high concentrations of family may affect how individuals view their role within the social network. It may increase their desire for goal attainment (instrumental traits, masculine), as well as increase their focus on the emotions and feelings (expressive traits, feminine) of others. One interesting and unexpected finding was that having a higher proportion of women in the network was positively associated with being classified as androgynous in Wave 1. The expected association would be that higher proportions of females would be predictive of being classified as feminine. This finding indicates that individuals with more females in the network are endorsing both feminine traits (as expected), as well as masculine traits. As masculine traits are associated with goal achievement and approval from others within the network, individuals with fewer females within their social network may be unique in that they may have orientations that place them in the

environments of individuals who also endorse masculine traits (e.g. workplace interactions). Another perspective is that individuals who have lower proportions of females may be in a unique situation where they are comparing themselves to others in their social network. Individuals who have more males in their networks (and assuming that those men endorse more masculine traits), may be comparing themselves to others in the network, influencing their perceptions of their own feminine traits. Likewise, it may be that individuals with a lower proportion of females within their social networks may be serving as a caregiver to more individuals within the network (a role often assigned to women). With the lower amount of women in the social network (assuming that women are more likely to be classified as feminine), more duties may fall on the minority of individuals who are higher in feminine traits (as they relate to expressiveness-and the tendency to understand and deal with the emotions of others). Another reason for this finding may be that individuals who have high proportions of women within the network may see more variations in sex role traits that women can display. As compared to the one-dimensional stereotypical view of women, individuals with more females in the network may be exposed to various displays of "femininity." Because of this, the individual may have a more flexible view of sex role traits, and may not feel the same social pressure to endorse feminine traits as those with fewer females in their networks.

While having higher proportions of females in the network was not indicative of feminine sex role classification, having older networks was. Over 12 years, individuals who had an older mean age for their social network in Wave 1 were more likely to be classified as feminine in Wave 2. It could be that in the second wave, the individual may still be surrounded by the same group of individuals. Because it is the same group of

121

individuals, the network is older, and likewise the individual has spent time with the same group of individuals. This may foster close emotional bonds between individuals, increasing the endorsement of traits associated with feminine sex role traits. Likewise, older networks may be a signal that an individual is a caregiver. If that is the case, again, a heightened endorsement of feminine traits is to be expected. In accordance with the concepts of instrumentality and expressiveness, it may be the case that individuals who endorse feminine traits to a higher degree are better at dealing with the emotions and feelings of others as well as caring for others. This is the same for higher proportions of family within the network, with respect to the idea that more family in the social network creates an environment where feminine traits may be more valued as compared to masculine traits.

For the structure of social relations, each of the characteristics utilized in this study may be gross measures of more detailed and significant network characteristics. For example, network size may be representing the following: the number of social roles an individual is occupying (larger networks being indicative of more roles), the number of extended family and friends, and access to resources within the social context. For individuals who have larger networks, they may have more flexibility in their sex role endorsements, due to their constantly changing or adding social roles and interactions with others. For network age, it may be that individuals with younger networks have more children in their networks, and/or may be younger themselves (of childbearing age). Conversely, as noted earlier, older networks may be a sign of caregiving. In either case, it seems appropriate that network age is associated with higher feminine endorsements.

Within-Group Variations

For race, African Americans and Caucasians differed in that: for African Americans, the only influential network characteristic was network age in both waves. Older networks were associated with being classified as feminine in Wave 1 and being classified as undifferentiated in Wave 2. This association may be indicative of many different underlying factors. One notion is that individuals who have older networks may be caring for older adults, and therefore their endorsement of feminine traits may be tied to their feelings of expressiveness. Another notion may be that older networks are more emotionally demanding, increasing perceptions of expressiveness, and propelling individuals into the feminine classification. Over time, older networks were associated with being classified as undifferentiated. In Wave 2, older networks may be associated with a disengagement from masculine and feminine traits. This may be due to the idea that undifferentiated is indicative of low instrumentality and expressiveness, which may be an aspect of growing older in society, according to the disengagement theory (Achenbaum & Bengtson, 1994). One other interesting point was that within the African American group, sex and age were not significant predictors of sex role classifications in Wave 1. This finding supports the body of literature that suggests that African Americans may not view sex role traits as sex specific, but rather as universal traits, possessed by both men and women. Twelve years later, in Wave 2, sex is significant, with men being more likely to be masculine. A similar emergence is not observed within feminine endorsements, and it may be that women are driving this identified change over time. Specifically, women's endorsement of feminine traits may not have changed over time, but they may have decrease their masculine endorsements. This idea is supported

by the repeated measures MANCOVA which found masculine trait endorsement increased over time and sex interactions.

For Caucasians, sex did predict sex role classifications within both waves. This corresponds with the existing literature on sex role traits, where men were more likely to be classified as masculine, women classified as feminine. For Caucasians, one interesting finding is that higher proportion of family and larger networks, higher proportion of females, and higher levels of positive relationship quality over time were associated with the assumed positive sex role of androgynous. This finding may be an underlying factor within the many that drive health disparities between racial groups. Because social relations have been associated with positive health outcomes, and this study is linking them with androgyny, which is perceived as a healthy sex role orientation, the idea that this association is only observed in Caucasians may be an indicator of other factors driving racial differences in health. The idea that there is no connection between the positive aspects of social relations and a healthy sex role orientation indicates that for African Americans, supposedly healthy outcomes may come in a different package.

The variations in the effects of social relations across race on sex role endorsements are consistent with expectations, as previous research has identified that African Americans and Caucasians differ in their social networks (Ajrouch, Antonucci, & Janevic, 2001), and in this study, there were also race differences in social network characteristics. For this study, I utilize the same data set, but a different subsample, and found that African Americans reported smaller, younger networks, consisting of higher proportions of family and females. As compared to Caucasians, Ajrouch, Antonucci, &

Janevic (2001) note that African Americans in their study reported smaller networks, containing higher proportions of females and family. These baseline differences in social relations which have been recognized in the literature and observed in this study may be a factor in driving the differences in sex role endorsements.

For younger and older adults, again, differences were observed. For younger adults, the associations between social relations and sex role categories followed patterns similar to Caucasians and the overall sample. It is somewhat surprising that for older adults sex is not a significant factor within Wave 2 feminine classification. Within both waves, being male predicted being masculine and being female predicted being classified as feminine for younger adults. For the older sample, this pattern was only observed when predicting Wave 1 classifications. This may suggest that older adults developmental stages may allow both men and women to be equal in their endorsement of feminine traits or expressiveness. While men may still feel social pressure to endorse the male sex role even into old age, the feminine traits are not sex based. This again, may be tied to the developmental tasks of older adults. Erikson's theory would place these older adults within the generativity vs. stagnation and integrity vs. despair stages of development. Within the social context, these stages may function in a similar fashion for men and women, requiring the same level of expressiveness from both sexes. For example, men and women in this stage may both have the same goal of passing on family history to younger family members. In this case, men and women would have similar interactions with their social network members, and this interaction would be more suited for the expression of feminine traits.

Within sex, males and females showed differences in many of the demographic and social relations associations with sex role categories. For men, there were few associations, where older networks were predictive of feminine classification in Wave 1, and lower proportions of family were associated with being classified as masculine in Wave 1. For men, the finding regarding family was noteworthy, as it suggests that men who have lower proportions of family in the network are more likely to be classified as masculine. This then begs the assumption that if men have more friends and other associates (e.g. co-workers, teammates) within their social network, this somehow makes them more strongly endorse masculine traits. There may be something about the non-familial interaction that makes men endorse more masculine traits, or that non-familial interactions for men are predicated on adherence to the socially acceptable norms for men. This finding was not found for women, suggesting that it is unique for men and their interactions with others. This finding does not persist over time, suggesting that for men, interactions with their social network evolves and composition no longer effects sex role endorsements, only positive quality.

For women, there are many more relationships at play. One interesting finding is that race is a significant factor in both waves. Caucasian women are more likely to be classified as feminine as compared to African American women. This finding suggests that it is not only a racial difference in endorsement, but that sex may be the catalyst within those racial differences. Men did not differ in the sex-typed categories of masculine and feminine. For women, it may be that African American women do not view masculine and feminine traits as being sex related, and therefore do not endorse them in that manner. This interpretation would support the idea that African American

women have more non-traditional views of sex role traits than Caucasians, and that there is a racial difference in the meaning of sex role traits.

For women, having smaller and older networks is associated with being classified as masculine. This finding highlights that for women, being surrounded by older networks may influence how women view their environment and their attainment of goals. For women with older networks, it may be that they are caregivers, and therefore need to be more instrumental in order to influence the environment. Likewise, this may be true for women with smaller networks. With a lack of human resources, women may feel the need to display more instrumental traits in order to achieve certain goals and accomplish certain tasks. Over time, the relationship with masculine endorsements and network size persists, indicating that women may still be surrounded by the same individuals over time, and the network is still having the same effect, even 12 years later.

Within sex, as for race, social relations literature has firmly established that differences exist. Women often have larger networks than men, and report both higher and lower quality of relationships than men (see Antonucci, 1994). These basic sex differences may be the basis for the differential influences of social relations on sex role endorsement for men and women.

Social Relations and Continuous Sex Role Trait Endorsements

Within the continuous measures of sex role traits, again, both structural and quality of social relationships were associated sex role traits in both waves. Positive quality of relationships was most visibly associated as higher positive quality was predictive of greater endorsement of masculine and feminine traits in both waves. This finding of relationship quality being associated with higher endorsements of traditional

masculine and feminine continuous sex role traits is interesting. While it was

hypothesized that positive relationship quality would be associated with higher feminine

endorsements, this finding was not expected for masculine endorsements. It may be that

the positive quality of relationships is just one piece of the puzzle. Rather, the idea that

positive relationship quality strengthens traditional sex role endorsement may be more of

an issue of who is providing the positive support and in what context. It may be the case

that when individuals act in accordance with traditional sex role traits, they receive and

perceive higher positive relationship quality. However, this study only investigates one

aspect of sex roles through the study of trait endorsements. There may be other aspects

of sex role endorsement that are not investigated in this study, such as dress and behavior

that may also influence the positive quality of relationships. This finding also supports

the assertion that the quality of relationships is important for understanding the

association between social relations and development (e.g. Horowitz, Reinhardt, Boerner,

& Travis, 2003; Krause, 2001; Ryff & Singer, 2000). The finding that, over time, the

positive quality of relationships was associated with sex role traits is also interesting.

The idea that the positive quality of relationships from 12 years prior could be associated

with sex role traits speaks to the lasting impact of social relations. It may be the case that

the quality of social relations may be tapping into the instrumental nature of masculine

traits. Specifically, as discussed in Antonucci and Jackson's (1987) theory of self-

efficacy that higher positive quality may make individuals feel efficacious, and able to

accomplish their goals and tasks.

Regarding the structure of the social network and continuous sex role traits,

younger networks were predictive of higher scores on masculine traits. This finding,

though seemingly contradictive to the categorical Wave 1 finding for older adults and females, may suggest that individuals (especially men) with younger networks have individuals within the network that reinforce traditional masculine traits. This is supported by literature discussing the acquisition of sex role traits, in which younger individuals are more likely to endorse stereotypical and traditional sex role traits. Men who have younger networks may feel a greater amount of social pressure to endorse traits that are socially acceptable. Other structural and demographics variables mimic findings discussed for categorical sex role traits (males having higher masculine sex role trait endorsements, females having higher feminine sex role trait endorsements, higher proportion of family and larger networks associated with having higher feminine trait endorsements, African Americans having higher masculine trait endorsements).

Within-Group Variations

For masculine sex role trait endorsements, race differences emerged. For African Americans, larger networks were associated with higher masculine sex role trait endorsement. This finding for masculine scores is counterintuitive, as previous findings relating to larger networks were with endorsement of feminine traits. It may be that for African Americans, a larger network means that there are more people for whom care is needed. This may tap into the instrumental nature of masculinity and the goal attainment of being a provider, as compared to the idea that larger networks mean that there are more people for whom care is needed (which taps more of the expressive, feminine traits). This distinction is not observed within the Caucasian group, meaning that this finding is, again, something unique to the African American population. Also, for African Americans, there was no association between masculine sex role endorsement

and sex. As previously stated, it may be that goal oriented masculine traits are more universal within the African American population, where there are fewer resources and a greater need for those traits within both sexes.

Within sex, the differences between men and women were more unique, in that there were demographics and social relations findings that did not overlap between the two groups. Within sex, for men, being younger was associated with higher masculine trait endorsements in Wave 2. This finding was unexpected, as it is assumed that over time, this association would fade. It may be that men are held to an unchanging social standard of masculinity through the lifespan (Kilmartin, 2007), and that over time, men may actually increase in their endorsement of these traits. Also, for men, younger networks were associated with higher masculine trait endorsements. As previously discussed, this finding may be the result of a strong adherence to social stereotypes when around younger individuals who are more accepting of sex-typed endorsements. Among both men and women, being African American was associated with higher masculine trait endorsements in Wave 1, reinforcing the notion that African Americans may have a different view of sex role traits than Caucasians. However, among women, race did have an impact on masculine scores in Wave 2. This persistent difference may be more visible in women than men because of the assumption that all men are masculine, and effects may not emerge as readily. For women who endorse masculine sex role traits to a higher degree, the difference between them and those who do not may be more easily detected. Finally, within age, both younger and older adults evidenced the association that African Americans had higher masculine trait endorsements. Over time, for younger adults African Americans and men reported higher masculine scores

For feminine sex role trait endorsements, race differences emerged. Among African Americans, larger networks were associated with higher feminine sex role trait endorsements, similar to previous findings in this study. Also for African Americans, being female was associated with higher feminine sex role trait endorsements. For Caucasians, additional associations were that higher proportions of family were associated with feminine traits in Wave 1, and that larger networks and higher positive relationship quality in Wave 1 were associated with higher feminine scores in Wave 2. For African Americans, no associations were observed over time. For Caucasians, the idea that reports of relations from 12 years prior indicates the strong association that social relations can have. Likewise, it could be that the social relations from 12 years ago are related to the development of the individual, making them more aware of and aiding in the increase of the expressive aspects of their personality. An individual may have had experiences with the social network 12 years ago that made them favor certain traits more. For example, if an individual experienced success in a situation where they exhibited instrumental traits, then 12 years later that individual may continue to endorse instrumental traits to a higher degree in an attempt to replicate previous successes.

Within sex, for men, being younger was associated with higher feminine trait endorsements in Wave 2. The increase in feminine trait endorsements is expected, as individuals are becoming less rigid in their conceptualizations of traits that are associated with sex roles (Kilmartin, 2007). Among men, higher proportions of family were associated with higher feminine scores. The higher proportions of family in this case may include children and spouses. According to this assumption, this finding may be a proxy for the ideas proposed by Gutmann (1975), where men who have children and who

131

are surrounded by more immediate family may endorse more expressive traits. Across time, for men, higher positive quality and larger networks were associated with higher feminine trait endorsements 12 years later. Again, it may be that women do not demonstrate change as they may remain high and stable in these traits. However, for men, it may be that the social relationships do shape their development, their ideas of self and their interactions with others. Certain aspects of social relations may require men to increase their expressive, feminine traits in order to maintain said relationships.

Within age, both younger and older adults evidenced the association that females and individuals with higher positive relationship quality had higher feminine scores in Wave 1. These findings are consistent with other observations within this study. For younger adults, larger networks and higher proportions of family were associated with higher feminine scores in Wave 1. Also for younger adults, positive quality in Wave 1 was associated with higher feminine trait endorsements in Wave 2. The idea that these associations are only observed in younger adults may be indicative of developmental stages and developmental tasks (Erikson, 1950; Havighurst, 1972; Neugarten, 1976). The idea that younger adults feminine traits are being so highly influenced by the social network (size, quality, and amount of family) may be a sign that they are invested in the familial tasks, which map on to expressiveness. For older adults, the only unique association was that of network age, where younger networks were associated with higher feminine trait endorsements. For older adults, this may be indicative of a generational effect, where the network may be younger due to the addition of grandchildren. If that is the case, it can be assumed that interactions with younger

network members like grandchildren may elicit a higher self-perception of feminine, expressive traits.

Implications for Developmental Psychology and Public Policy

Within developmental psychology literature, one of the most common suggestions is to expand the number of studies utilizing longitudinal data. This study attempts to answer the call by investigating sex role traits and social relations within a lifespan framework. By utilizing a longitudinal sample, a more holistic view of development can be obtained, as compared to cross sectional studies. This study of sex role endorsements over time informs developmental psychology about how individuals change in their reports of themselves across the lifespan. Likewise, the overarching goals within developmental psychology are two-fold: to better understand normative sex role trait development, and to find pathways to healthy developmental outcomes. This study aids in the establishment of normative sex role development boundaries, and it opens the pathway to investigate how sex role endorsements and social relations lead to healthy outcomes for various groups.

This is especially important with respect to the various groups. Health disparities are a major concern, especially sex and racial disparities. By understanding how groups conceptualize sex role traits, and expand it to the behaviors and actions associated with those roles, we may achieve a greater understanding of how to eliminate these disparities. Currently, public policy is deeply invested in the elimination of health disparities. While there are well established factors that are associated with developmental disparities, individual understanding of sex role traits (and broadly masculinity and femininity) may aid in understanding what is driving these negative group differences.

Limitations and Future Research

While this study is the first to investigate the longitudinal influence of social relations on sex role development, there are imitations within this study that need to be addressed by future research.

First is the issue of measurement. Although the Bem Sex Role Inventory has been found to be a relatively reliable measure, it has been criticized as not being a true measure of masculine and feminine traits. Rather, it is viewed as a measure of personality traits that are associated with masculine and feminine traits (e.g. Auster & Ohm, 200; Spence & Hemlreich, 1980. Gill, Stockard, Johnson, and Williams (1987) further note that within the BSRI, the measure confounds expressiveness, emotionality, and dependence within the feminine scale, and confounds instrumental traits with traits that measure autonomy for the masculine scale (pg.381). Another issue within the BSRI is that it only evaluates the positive aspects of sex role stereotypes. The scale does not address negative sex role traits such as rumination for women or restricted emotionality for men (Smiler 2004). It may be that the undifferentiated category within the BSRI is an indirect measure of these negative traits, however, a direct measure would be most effective. While the BSRI is helpful in the beginning stages of sex role investigation, future studies need to include measures that truly assess sex role endorsements and views of masculine and feminine ideals. Future studies should also incorporate open ended questions probing individual perceptions of masculine and feminine traits. While for this study, this measure of sex role traits is informative, future studies should incorporate various other assessments of sex role traits. Finally, when investigating sex, race, and age variations in sex role trait endorsement for this study, the median split was created

based upon the mean of the overall sample. Median splits were not created for each subgroup (males, females, African Americans, Caucasians, etc), meaning that the grouping were heavily based on the majority group. This is most problematic for race, where there is the least amount of size equity between groups (it should also be noted that the size of the African American sample may also influence other analyses conducted in this study). Future work should investigate median splits created within subgroups.

Second, while this study adds to the literature by investigating the effects of social relations on sex role endorsements, a more nuanced view of social relations needs to be examined to provide a greater understanding of how fluctuations within the network may impact sex role traits. The quality and structure variables utilized within this study provide a picture of the gross effects of social relations. Future studies should investigate how individual relationships (i.e., child, spouse, parent) individually impact sex role endorsements throughout the lifespan. Also, future studies should investigate how fluctuations within the social network impact sex role endorsements. While preliminary analyses in this study found no effect of marital status on sex role endorsements (as marriage was proposed to be a transition impacting sex role traits; Gumann, 1975), the effect of quality of relationships with specific social relations individually may yield interesting results (e.g. spousal quality). Similar to marital status, individual reports of transitions over the 12 years (as reported in Wave 2) did not show a strong association with sex role endorsements. While it may be that transitions in social relations and social roles do not impact sex role endorsements, the null association within this study may be due to measurement of transitions. In future studies, if possible, more points of measurement may be appropriate for identifying individual transitions. This model

135

would allow for more meditational analyses, as well as provide a more concise picture of individual development. Finally, this study did not investigate the role of parents in this study.   Even though this was an adult sample and individuals would assumingly have more interactions with spouses, children, and peers, the role of parents may be of future interest, as parents have been implicated in the formation of sex role ideas.

Third, future studies need to address the potential link between the development of sex role endorsements and health and psychological outcomes. While the focus of this study was to examine the change and variations in sex role traits over time, the attrition analyses provided reason to assume that sex role endorsements may be associated with health and well-being outcomes. The notion that higher endorsements of masculine traits are associated with longitudinal participation gives way to the broader notion that sex role traits may be associated with longevity and healthy outcomes. Future studies should investigate how individual endorsements of sex role traits are associated with healthy behaviors and psychological outcomes. This would be especially valuable in populations that have high rates of early mortality or who are considered "at risk." The underlying factor to their unhealthy behaviors and conceptualizations of development may be intertwined with their perceptions of sex role traits. Previous work has linked being classified as androgynous with positive psychological outcomes, and others have linked baseline personality characteristics, emotional stability, and developmental changes in personality characteristics to health outcomes such as hypertension, cancer and mortality (Contrada, Leventhal and O'Leary, 1990; Mroczek & Spiro, 2007; Spiro, Aldwin, Ward, & Mroczek, 1995). The connection between health and personality traits would be enhanced by the better understanding of the link between sex role traits (and their

associated behaviors) and health. An important note is that this study did control for education, which is often associated with health outcomes. Though education was not a main variable in this study, it did have significant association with sex role endorsements. Future studies should include education as a main effect.

Fourth, future studies should also address the changes in social stereotypes of masculine and feminine sex role traits, and how they affect the individual and the social network. Twenge (1997) notes that over time masculine and feminine scores on the BSRI and other sex role inventories have steadily changed, with women steadily increasing in their endorsements of masculine traits, reflecting changes in the social environment. It would be interesting to see if these changes are reflected differently in individuals of differing social networks.

Finally, future studies should investigate the directionality of the association between sex role traits and social relations. While this study establishes that social relations influence sex role traits, it is highly plausible that the opposite effect is occurring. The sex role orientation of an individual may dictate how they select and interact with their social network. For example, individuals within the masculine classification may prefer to network with men who express similar traits. In the same vein, for the investigation of the categorical sex roles with multinomial logistic regression, the androgynous classification was employed as the comparison group. In future studies, comparisons between all classifications should be made to obtain a more thorough view of the associations of age, race, sex, and social relations.   The possibility that the influence of sex role traits and social relations are bi-directional should also be explored.

Conclusion

The purpose of this study was to investigate the changes in sex role endorsements over time and the influence of social relations. The stability and instability of personality traits have been widely examined within the personality literature, however, there are few longitudinal studies investigating demographic differences in the development of sex role traits in conjunction with social relations. This study adds insight into the developmental differences in sex role traits by demographics, in particular, age, sex, and race. It also explores how development is colored by social networks. It offers a base for understanding the social relations characteristics associated with ideal sex role endorsements, as well as the aspects of social relations that persist over time.

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