

Social Change and The Persistence of Sex Typing: 1974-1997*

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Abstract

The most accepted explanation for gender differences is the sociocultural model that holds them to be results of socialization and/or occupancy of sex differentiated roles. There has been extensive social change in the past three decades, reducing sex typed role assignments and attitudes. However, examination of some 30 researches shows that the social change has not been followed by change in sex typing. This present study of trends in stereotypic and self responses between 1974 and 1997 confirms the stability in sex typing, over seven surveys and 4,000 respondents. In addition, there is evidence of increase in the perceived femininity of females. These results are contrary to the predictions from the sociocultural model. They are, however, consistent with the alternate evolutionary model postulating constant gendered differences based on genetic patterns evolved from adaptations to differing reproductive challenges of early males and females.

This study is concerned with the implications of change and stability in sex typing, between 1974 and 1997, for the general sociocultural model, the most generally accepted paradigm for the explanation of sex-related differences. The central focus is the cluster of traits that differentiate women and men and thus constitute the characteristics of gender. Study of these traits has dealt with three areas: perception

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of their presence in the general population, the *gender stereotypes*, (cf. Broverman et al. 1972; Williams & Best 1982); aspects of the *self-concept* of individual respondents (Bem 1974; Spence & Helmreich 1978); and actual *personality* scales relevant to gender (Feingold 1994).

The present paper focuses on three aspects of the issue of change or stability in sex typing, as assessed by various measures of masculinity and femininity. First, we note the importance of the issue for the major explanation of gender differences, the sociocultural model, where there is widespread recognition of change in sex roles, institutions, and social structures, and agreement that such change should be followed by changes in the personalities of women and men and in the public perceptions of the characteristics typical of each sex. Second, we review a substantial research literature on the issue of change and stability in sex typing involving stereotypes, self ratings and sex-related personality measures. With few exceptions, this research has shown that there has been stability in sex typing of women and men from at least the 1950s to the late 1990s, and even an increase in sex typing, especially regarding the stereotypes and self concepts focusing upon the personality traits of women. Third, we report the 1997 results from a trend study of gender stereotypes and self conceptions begun in 1974.

In the conclusion, we will deal briefly with the implications of this research for the alternate explanation of sexual dimorphism, the evolutionary model, which is increasingly being accepted in psychology (cf. Buss 1999; Geary 1998) although only minimally in sociology (cf. Udry 1995, 2000).

The Sociocultural Model

While both evolutionary and sociocultural models explain sex-differentiated personality characteristics, the sociocultural model is the most generally accepted paradigm both in sociology and in the study of sex and gender.

Traditional social science models of gender begin with the postulate that in humans, males and females are born neutral with respect to sex-dimorphic behavior predispositions. (Udry 2000:445)

Most social scientists believe that these differences in the personality and temperament of males and females can be attributed to socialization practice and the nature of the roles males and females typically occupy. (Gove 1994:377).

The underlying, not always fully explicated, model is that women and men are assigned different roles and consequently are socialized for different performances. Historically, the central feature of this assignment has been the homemaking, childrearing feature of the female role contrasted to the provider, protector role of the male. (Hoffman 1977)

More recently, Eagly and others have advanced the idea that the communal and agentic orientations reflecting the major line of gender differentiation are

Social Change and the Persistence of Sex Typing / 3

essentially the qualities required for certain roles and positions. Thus, workers are seen as more agentic and less communal than homemakers (Eagly & Steffen 1984, 1986; Hoffman & Hurst 1990), and full time workers more agentic than part time workers (Eagly & Steffen 1986). This research also shows that high status is related to the perception of agentic, rather than communal traits in jobs (Conway, Pizzamiglio & Mount 1996; Eagly & Steffen 1984) and in the family (Gerber 1988). As males are disproportionately full time workers in higher status jobs and family leaders, these characteristics account for the perception of males as agentic and females as communal.

Textbooks on sex and gender have generally emphasized the proposition that sex typed characteristics are the result of social structures and processes. For example, in the third edition of a popular textbook, Basow (1992:118) asserted:

a strong case was made for the overriding importance of socialization as opposed to biological factors in determining an individual's sex-typed behaviors. . . . i.e., they are rooted in division of labor. . . . although such a division based on biological sex is no longer either practical or necessary, the traditional pattern is embedded within the structures of society and gets transmitted to each succeeding generation as part of its socialization.

That differences between the sexes are largely due to social influences and circumstances runs through the recent edition of Lips (1997) and in Lorber (1994).¹ Differences which are so pervasive that they *appear* to be innate have to be produced; "gender, like culture, is a human production that depends on everyone constantly 'doing gender.'" Lorber (1994:13).

Elaboration of these themes continues in recent publications. In an impressive integration, Cross and Madson (1997:25) concluded that many observed differences between the sexes are explained by differences in self construal. Through a "lifetime of experience with gendered social norms and expectations", males have acquired an independent self while the focus for females is dependence and relationship. This linking of social structures and processes to gender differences has been approached from a more sociological perspective by Ridgeway, who argues that meaningful social interaction requires the continuing reinstitutionalization of gender. Activating the gender stereotype perpetuates the current system by "constructing people as gender-interested actors" (Ridgeway 1997:218).

Sociocultural Change

A direct prediction from the sociocultural model is that change in the structures and institutions causing sex-differentiated characteristics will result in change in the characteristics themselves. Years ago Hoffman (1977:646) noted this point:

Adult sex roles are converging, and therefore sex differences among children and future generations of adults can be expected to diminish.

Sex differences in personality — including social orientations and cognitive styles — are in large measure a function of different socialization experiences; thus as differences in the socialization of children diminish, so too will personality differences.

Cross and Madson (1997:27-28) stated a very similar idea in their interpretation of the role of the self in gendered behavior,

Because the self is a cultural product, the relation between gender and the independent and interdependent self-construals may narrow with time. . . . Other research suggests that traditional views of women's and men's attributes and gender roles may be changing These and other changes in the roles and opportunities for men and women have the potential to transform gender-typed social attitudes and practices, which may in turn transform men's and women's self-construals.

Ultimately, gender differences in the self may disappear as a result of these and other social changes.²

Changes in social structure and process and in the attitudes and values regarding women's role are well documented. There have been changes in all areas of women's life: labor force participation, desegregation of work, increasing levels of responsibility, political office holding, family size, age at marriage, divorce, and the important shift in family structure toward single parenting, increased participation in higher education and in nontraditional advanced degrees and increased recognition of women's athletic competitions.

The changes in labor force participation bear directly upon a central distinction of role theory (Eagly & Steffen 1984; Hoffman 1977), that between homemaking women and women employed outside the home, especially in the case of wives with young children. Between 1960 and 1997, the labor force participation of married women with young children increased from 18.6% to 63.6% (U.S. Bureau of the Census 1998, Table 654). While sex typing of work persists, the percentage of females in nearly all occupational categories increased between 1983 and 1997, and where decreases did occur, two thirds were in traditional job categories such as nurse or librarian (U.S. Bureau of the Census 1998, Table 672). Household composition has changed significantly; in 1970 married couples with and without children constituted 70% of all households but by 1997, only 53.1% of all households were of that type. At present nearly one fifth of all family households consists of a female with children, spouse absent. (U.S. Bureau of the Census 1998, Table 69). As Twenge (1997b) noted, one significant outcome of these family and labor force changes is that children are more likely to be living with a working mother and to live with a single parent, most often female.

Changing roles are also evident in politics, especially at local levels. Thus, between 1971 and 1999 female representation in state legislatures increased from 4.8% to 22.3%, and while only 1% of mayors were female in 1971, this had increased to 21% by 1999. At the national level, the actual numbers are small, but

the proportionate increases large, with a fourfold increase between 1971 and 1999 in house and senate seats held by women (Internet, <http://www.mwpc.org/statstcs.html>, August 26, 1999).

Educational changes are significant and relate to changes in the relative status of the sexes. In 1960 the percentage of females enrolled in college was but half of the percentage of enrolled males, but by 1996 females enrolled in college exceeded the proportion of males (U.S. Bureau of the Census 1998, Table 259). Between 1971 and 1995 females increased their share of bachelors degrees from 43.4 to 54.6%, masters degrees from 40.1 to 55.1% and doctorate degrees from 14.3 to 39.4% (U.S. Bureau of the Census 1998, Table 325).

Attitudes about women's role have paralleled these structural shifts with studies generally showing a trend toward more liberal and egalitarian attitudes, both in the general population (Mason, Czajka & Arber 1976; Mason & Lu 1988) and in college populations (Twenge 1997a). In both populations, men, though more conservative, have also changed their views. In 1937, only 27% of men, but 40% of women said they would vote for a qualified woman for president (Erskine 1971); by 1996, almost 100% of respondents said they would do so (GSSDIRS). Attitudes about homemaking and child care also changed. In 1977 over half of the population thought a wife should put her husband's career first and two thirds thought it better for men to work and women tend the home. By 1997, only one fifth thought husband's career should be first, and a reduced, but still substantial 38% thought men should work and women keep house. Finally, while in 1977 two thirds of the public thought preschoolers were harmed by mother's working, by 1997 this view was held by only 47% (GSSDIRS). Thus, over the period of this study, attitudes about woman's role liberalized, although less in matters regarding homemaking and childcare.

Very strong attitudinal change appears in Twenge's analysis of the *Attitudes about Women Scale* (AWS). In a meta analysis of 64 studies of college students completing one or another form of the AWS, Twenge (1997a) observed substantial change toward more egalitarian attitudes between 1970 and 1995 among both women and men, although males were considerably more conservative. Nevertheless, both sexes changed dramatically, with a change for men of .89 standard deviations and for women a change of 1.15 standard deviations, differences rarely observed in psychological research.

These patterns of change are slightly modified by the tendency of women to continue primary responsibility for childcare and housework, although the latter is somewhat mitigated by income and status (Brines 1994; South & Spitze 1994). There are also marked differences in the degree of desegregation in law, medicine and education compared to the sciences and engineering (U.S. Bureau of the Census 1999, Tables 331, 332). These partial exceptions, however, do not markedly alter the basic picture of significant changes in all areas affecting women's role.

As Twenge (1997a:45) observed,

the students in Spence and Helmreich's original 1970 sample were born between 1946 and 1952; a sample of students taken in 1995, on the other hand, was born between 1971 and 1977. By any definition these are two different generations, one born during the conservative postwar era, the other born after the peak of the feminist movement and the sexual revolution. The two generations also had different experiences later in life; the first saw gender expectations change as young adults in the 1970's, whereas later samples reached young adulthood when these changes were long past.

Gender Stereotypes and Self Concepts

Gender stereotypes are the public perception of sex differences in personality traits and behaviors. There has been a substantial body of work on gender stereotypes (Judd & Park 1993) beginning with early studies by Sherriffs and McKee (1957), Rosenkrantz, et al. (1968), Broverman, et al. (1972), and continuing to the present (Lee, Jussim & McCauley 1995; Twenge 1997b).

Most stereotype research utilizes lists of adjectives describing traits that college students perceive to differentiate personality characteristics of women and men (Bem 1974; Broverman et al. 1972; Spence & Helmreich 1978). There is consistency in these listings, with the same or similar traits appearing again and again, partly by direct inheritance, (i.e., the items of the *Personal Attributes Questionnaire* (PAQ) are taken from the Rosenkrantz list), partly by selection of the same items by different groups of judges. This similarity is shown in the content of ten early³ stereotype researches, (Lueptow 1984). The most frequently appearing traits for the male stereotype were *dominant, aggressive, competitive, independent, ambitious, self-confident, adventurous* and *decisive*. For the female stereotype, *affectionate, submissive, emotional, sympathetic, talkative, and gentle* were most often used.

In addition to consistency among researches, male and female respondents agree about the characteristics typical of the personalities of women and men (cf. Bem 1974; Lueptow, Garovich & Lueptow 1995; Rosenkrantz et al. 1968; Spence & Helmreich 1978). While the poles or dimensions are variously labeled as agentic-communal (Bakan 1966; Eagly & Wood 1991), instrumental-expressive (Parsons & Bales 1955; Spence & Helmreich 1980), or masculine-feminine (Bem 1974), there is agreement regarding content with inter-sex correlations generally running about .90. This content, essentially by definition, refers to the characteristics that people generally think of as distinctive to women and men. We will use the terms masculine and feminine to connote these two dimensions.

In the adjective check lists, characteristics are applied either to "typical" persons (Broverman et al. 1972) or to the self (Bem 1974; Spence & Helmreich 1978). In the latter case they constitute criteria of the actual group personality characteristics (Judd & Park 1993) while in the former case, they constitute judgments of

stereotypic patterns in the general population, judgments which tend to reveal stronger differentiation between the sexes than do the self ratings. In the great bulk of these studies, the persons doing the ratings are college students, usually in psychology classes. That the self ratings are less discriminatory than the ratings of the general population of "typical man", "typical woman", is probably due to the fact that college students *are* different from the general population, less sex typed and in a social context where the teaching and values probably run toward "congenial truths" (Mackie 1977). Furthermore, most of the researches using the popular scales, the *Bem Sex Role Inventory* (Bem 1974) and the *Personal Attributes Questionnaire* (Spence & Helmreich 1978), involve students of the researcher, adding demand characteristics to other factors reducing sex typing in self ratings. When, as in Williams and Best's (1982) cross cultural study of stereotypes, and in the present study, students rate the general population, there is more sex typing and differentiation.

Finally, there is emerging concern with "stereotype accuracy." Previously, study of gender stereotypes had assumed that they were arbitrary, exaggerated portrayals of women and men, that they created damaging constraints upon female success and equity (cf. Brody 1997; Lorber 1994; Stangor 1995), and that social changes were needed to reduce or eliminate differentiation between the sexes (Lorber 1994). More recently, however, there is increasing recognition that these stereotypic perceptions are not arbitrary exaggerations, (Eagly 1994, 1995; McCauley 1995), but rather describe real personality differences.

Contrary to our expectations that quantitative syntheses would challenge stereotypes, the majority of them have conformed in a general way to people's ideas about the sexes. . . . this evidence suggests that lay people, once maligned in much feminist writing as misguided holders of gender stereotypes, may be fairly sophisticated observers of female and male behavior. (Eagly 1994:515)

Thus, it is becoming clearer that these perceptions do in fact rest upon observation of real differences and may even underestimate them (McCauley 1995).

Previous Research

Through database searching, library shelf scans, reading in the specialty, and previous research, we located some 30 published papers reporting a finding or conclusion regarding change or stability in gender stereotypes, self concepts or personality measures of traits central to the masculinity/femininity dimensions of the stereotype (Listed in Table 1). These included two earlier reports of the present trend study. While the studies vary in the degree to which their evidence clearly bears upon the question, the cumulating evidence shows no reduction in sex typing over a long period. Especially noteworthy and unsettling is that this large and consistent body of empirical evidence has been almost completely ignored and uninterpreted by students of sex and gender. The result is a discrepancy between

TABLE 1: Studies of Change and Stability in Sex Typing

Years of Study	Authors	Measure	Target	Sex Typing	Validity Rating	Comments
1970-75	Berzins, et al. (1978)	PRF	Self	Decrease	1	Same measure, same place
1973-94	Twenge (1997b)	BSRI	Self	Decrease	1	Meta analysis
1975-82	Frank et al. (1984)	PRF	Self	Decrease	2	Same measure, different places
1974-97	Holt & Ellis (1998)	BSRI	Self	Decrease	2	Same measure, different places
1968-75	Petro & Putnam (1979)	SRSQ	Stereo	Decrease	3	Same measure, different populations
1968-75	Kravetz (1976)	SRSQ	Stereo	Decrease	3	Not a direct comparison, author's conclusion
1972-90	Rotter et al. (1991)	Sexual memories	Self	Decrease	3	Similar measures, different places
1957-78	Werner & La Russa (1985)	SACL	Stereo	Stable	1	Same measure, same place
1970-80	Baldwin (1984)	Gough femininity	Self	Stable	1	Same measure, same place
1973-80	Helmreich (1982)	PAQ	Self	Stable	1	Same measure, same place
1972-88	Bergen & Williams (1991)	ACL	Stereo	Stable	1	Same measure, same place
1940-92	Feingold (1994)	Personality scales	Self	Stable	1	Four meta analyses
1975-94	Twenge (1997b)	PAQ	Self	Stable*	1	Meta analysis
1968-75	Bush et al. (1977-78)	Attid. toward gender	Self	Stable	2	Same measure, different places
1974-85	Waters & Popovich (1986)	BSRI	Self	Stable	2	Compares factor results, different places
1980-90	De Lisi & Soundranayagam (1990)	ACL	Stereo	Stable	2	Same measure, same place
1972-95	Hosoda & Stone (2000)	ACL	Stereo	Stable	2	Same measure, different places

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Years of Study	Authors	Measure	Target	Sex Typing	Validity Rating	Comments
1958-78	Heilbrun and Schwartz (1982)	ACL	Stereo	Stable*	2	Same measure, different places
1974-84	Pedersen and Bond (1985)	BSRI	Self	Stable*	2	Same measure, different places
0000-76	Der-Karabetian and Sm., (1977)	Adjective list	Stereo	Stable	3	Not a direct comparison, author's conclusion
1936-76	LaTorre and Piper (1978)	Terman-Miles	Self	Stable	3	Not a direct comparison, author's conclusion
1968-78	Ruble (1983)	PAQ	Self	Stable	3	Not a direct comparison, author's conclusion
1978-95	Street, et al. (1995)	BSRI, SRTI	Stereo	Stable	3	Not a direct comparison, author's conclusion
1974-83	Lueptow (1985)	Adjective list	Both	Increase	1	Same measure, same place
1977-87	Bjerke, et al. (1989)	ACL	Stereo	Increase	1	Same measure, half from same place
1974-91	Lueptow, et al. (1995)	Adjective list	Both	Increase	1	Same measure, same place
1978-96	Spence and Buckner (2000)	PAQ	Self	Increase*	1	Same measure, same place
1956-82	Lewin and Tragos (1987)	Att'd. toward gender	Stereo	Increase	2	Same measure, different places
1973-88	Heilman, et al. (1989)	Adjective list	Stereo	Increase	2	Same measure, different places
1950-70	Neufeld, et al. (1974)	Misc. gender meas.	Both	Increase	3	Same measures, different places

Note: Study dates are not always clear from report. In those cases, dates were estimated from context or publication date. Validity is considered from the perspective of this study, which may not have been the central focus of the cited work.

* Author's conclusion reinterpreted. (ACL) = Adjective Check List; (BSRI) = Bem Sex Role Inventory; (PAQ) = Personal Attributes Questionnaire; (PRF) = Personality Research Form; (SACL) = Sarbin's Adjective Check List; (SRSQ) = Sex Role Stereotype Questionnaire; (SRTI) = Sex Role Trait Inventory.

the empirical evidence and the assumptions current in the sex role literature that sex typing is an arbitrary social construction and that it is declining, or due to decline.

As indicated, the studies vary considerably in the measures used to assess the central parameters of masculinity and femininity. The clearest and most common *measures* involve adjective check lists applied to self or typical others. These were usually compiled by having subjects select items thought to be typical, desirable, or characteristic of women and men. Other approaches to assessing sex typing involve measuring attitudes toward gender and scoring of sexual memories or fill in blanks. In addition, we have included studies using personality tests that tap the same concerns about sex differentiated traits as the stereotype measures. Consequently, some of the research assesses stereotypes directly, others use the same terms and concepts to assess sex typing in personality and self conceptions.

As we have been very inclusive in assembling the research studies, there is wide variation in their relevance to the central question of changing gender stereotypes. We have attempted to rate the validity of each study for the convenience of the reader and our own interpretations, 1 being most valid, 2 somewhat valid, and 3, least valid or even borderline. The *most valid* studies incorporate a pertinent measure, most often the familiar adjective check list or standard personality measure, in a design involving the comparison of two or more cohorts separated in time but in the same location, normally the same college. While the several meta analyses are exceptions to the above, they are rated as most valid because of the power of that analytic approach, albeit with the recognition that powerful statistical analysis may not necessarily produce valid results if the primary data is flawed. *Less valid* studies involve some departure from the above, most often using the same test or measure but in different places, thus confounding the temporal with geographic or social dimensions. Others in this group also mixed populations so that somewhat dissimilar groups are compared across time, in some cases comparing the collegiate standardization group used in developing the measure with later groups such as counselors or students in special training, summer sessions or counseling. Nevertheless, the use of the same measures does provide some empirical basis for conclusions about change or stability, enhanced by the consistency of the findings across the several studies. Finally, there are a number of studies judged *borderline* because the author reached a conclusion regarding change or stability that was often judgmental or based on markedly dissimilar or unusual populations. They are included because they focus upon the issue, but are identified as tangential. They could have been discounted or excluded, but we thought it advisable to be comprehensive and conservative as these studies disproportionately revealed decreases rather than increases in sex typing.

It should be noted that this judgmental ranking of the studies is from the viewpoint of our concern with change and stability in sex typing, issues that, in several cases were not the central focus of the cited study, making the study "less

valid" to our interest, but not necessarily so for the primary concern of the author(s). In any event there are a large number of studies of varying degrees of relevance that form a convincing and cumulative body of evidence that has gone unnoticed by students of sex and gender. We now turn to a brief review of those research findings before reporting the empirical findings of our own research.

Stability in Sex Typing

As listed in Table 1, fifteen researches from the 1950's to the 1990's have reported stability in stereotypes, self ratings and personality.

The *most valid* of these have used the same measures at the same place at different times, or report the results of meta analyses. Several early studies observed stability through the 1970's. Thus, in a small college sample, Werner and LaRussa (1985) replicated Sherriffs and McKee's original 1957 research at Berkeley and found the majority of adjectives assigned to one sex or the other in 1957 were similarly assigned by Berkeley students in 1978, twenty years later. Baldwin (1984) repeatedly administered the Gough femininity scale during the 1970's in psychology classes at the same institution and found no change over the decade. In fact, the observed scores over the period were essentially the same as in the 1952 standardization group. Helmreich (1982:160) observed PAQ scores through the 1970's and concluded that "absolutely no changes have been found in mean masculinity and femininity scores of males and females." Carrying the research into the 1980's, Bergen and Williams readministered the *Adjective Check List* (ACL) at Wake Forest in 1988 and found correlations of .90 between 1972 and 1988 scores. They concluded, "the findings provided little support for the hypotheses that changes in the status of women would lead to less overall differentiation between the female and male stereotypes." (Bergen & Williams 1991:422). They also suggested the possibility that while the stereotypes appeared stable, there might be change in self perceptions.

Two studies using meta analysis assessed stability in self ratings and personality through the 1990's. In an extensive report on the results of four meta analyses of personality differences, Feingold (1994) observed stability in sex differences, especially regarding assertiveness and nurturance, over the extended period 1940 to 1992, and these differences were independent of age, education and nation. In his conclusion, Feingold (1994:449-50) noted that

The personality dimensions that most strongly differentiated between the sexes were assertiveness and tendermindedness, which are nearly pure measures of agency and communality, respectively.

Finally, the interpretation of Twenge's (1997b) meta analysis of 39 studies using the PAQ between 1975 and 1994 depends upon the meaning of increases in both masculinity and femininity, a point to which we will return below. In the analyses,

there were no significant changes in either masculinity or femininity among the males, nor in femininity among the females. The only significant change was an important one: a slight increase in masculinity scores among females. While this is, in itself, notable, there was no reduction in the difference between masculinity-femininity across the years for either sex. Maintenance of femininity over masculinity among female respondents and of masculinity over femininity by male respondents to the same degree over the twenty years, seems to us to represent stability in sex typing.

A number of *less valid* studies are also consistent in showing evidence of stability in gender stereotypes. Bush, et al. (1977-78:464) comparing grade schoolers' attitudes toward gender between 1968 and 1975 in two different school systems found little change, and instead noted that "the gap seems to have widened," but also noted the unsolved problem of compounding time and place. They did find an increased emphasis on competence by girls in 1975. De Lisi and Soundranayagam (1990) analyzed core, peripheral and nonmember groups of ACL item responses and compared the patterns to Safarjan's 1980 analysis, concluding there was a replication of the 1980's pattern regarding niceness and nurturance of females versus potency and strength of males. However, the specific content of each "consensual core" varied and appears to show some weakening of the stereotypes: i.e., "motherly, soft, softhearted and excitable" were no longer in the female core, while "aggressive, competitive and determined," were not included in the male core. They also found that competence had been added to the female core by 1990. Also using items from the ACL, Hosoda and Stone found the traits judged as masculine or feminine by Williams and Best's respondents in the 1970's were still chosen by students in the 1990's, with almost no exceptions in the most central traits. They noted that "changes in societal roles may not necessarily be accompanied by changes in gender stereotypes." (Hosoda & Stone 2000:1291-92). These latter two studies also involved shifts in specific methodology that modified the "same measure" status somewhat.

Another indication of stability appears in the comparisons of 1970's factor analyses with a 1985 analysis in a different school. In this comparison, Waters and Popovich (1986) reported stability in the factor structure of the *Bem Sex Role Inventory* (BSRI) over the ten year period.

Two studies produced clear results that, in our opinion, require reinterpretation. Both studies observed increases in *both* masculinity and femininity, but did not observe consistent change in the difference between them. In one, Heilbrun and Schwartz (1982) compared ACL scores at three different universities between 1958 and 1977 using the formula $(M+F) - |M-F|$ as the measure of androgyny. By this measure, equivalent increases in both traits, for whatever reason, must result in increased androgyny. However, if the differences remain constant such that males remain more masculine than feminine by the same amount and females similarly remain more feminine than masculine, then, in our view, sex typing persists to

the same degree. In fact, the data in Heilbrun and Schwartz, Table II show no consistent change in (M-F) difference scores of females, although their masculinity and femininity scores increased substantially. This was less true for males. Similar interpretations of increased androgyny were made by Pedersen and Bond (1985) using the BSRI. They observed no change in androgyny on the bases of the t-ratio as the masculinity scores of men and women increased .30 and .19, respectively, between 1974 and 1984, and femininity scores increased .17 and .14. However, using the more recent definition of androgyny which includes only those high on both masculinity and femininity, they conclude there was an increase in androgyny because increases on both dimensions automatically force more cases into the high-high cell and reduce the number in the low-low and comparatively, also those in the high-low cells. Again, it seems to us the meaning of androgyny is blurred, if not lost, by this interpretation. If males are more masculine than feminine by the same amount and similarly for females and femininity, then sex typing would seem to persist, even if all scores rose over the period.⁴

Four other *borderline studies* reached conclusions of stability in sex typing, but were essentially the authors' interpretation of evidence that did not involve a direct comparison of measures over time. For the most part the studies dealt with the issue of change by determining that gender differentiation remained strong. Der-Karabetian and Smith (1977) found that traditional stereotypes continue to exist among a sample of college students and that there was strong agreement between the sexes on the stereotypes. They also found change in attitudes about sex roles. In a Canadian administration of the Terman-Miles M-F test to 352 college and non-college subjects, LaTorre and Piper (1978:153) found that "sex differences in a 1920-1930 American subculture have remained true for over forty years and in another subculture." Noting there is evidence of change in attitudes but not in stereotypes, Ruble (1983:401) administered 54 PAQ items to 128 undergraduates and found 53 still differentiated women and men, reaching the conclusion that "sex stereotypes seemed to remain strong in the late 1970's." Finally, in a survey of 3300 undergraduates in the 1991-92 academic year, Street, Kimmel, and Kromrey (1995:197) concluded that "traditional sex typing continues."

Increase in Sex Typing

A surprising and not always easily interpreted finding in this body of research is quite contrary to the general expectation of the diminution of sex typing. This most often reflects the increasing femininity of women.

This finding appears in four studies rated as *most valid*, two of them earlier reports of the present research. In one of these, Lueptow (1985) observed an increase in the ratings of masculinity and femininity for both stereotypes and self ratings between 1974 and 1983 that were stronger on the stereotypic combinations of male masculinity and female femininity, thus representing a relative increase in sex

typing. Using Williams and Best's 1977 data as baseline, Bjerke, Williams, and Wathne (1989:270) found no change in mean masculinity scores, but there were fewer "neutral" judgments in 1987 than in 1977, so that the 1987 subjects "reported more extreme perceived stereotypes." In a more recent report, Lueptow, Garovich, and Lueptow (1995) found that ratings of masculinity and femininity of typical persons and of self were mostly unchanging. Where change was observed, it most often reflected an increase, rather than a decrease in sex typing. The strongest increases were in the femininity of the typical female and the femininity self-ratings of females.

Spence and Buckner also observed an increase on expressiveness of females in a comparison of PAQ scores in two 1996 samples with the original 1978 group at the University of Texas. They also reported that "changes in both genders [on Instrumentality] have increased, but more in women than in men." (Spence & Buckner 2000:51). This would be true for the fall sample comparison, but the reverse occurred for the spring sample comparison. Combining the samples using the reported means and sample numbers shows the male-female difference in Instrumentality scores to be .27 in 1978, .25 in 1996. This appears to us to be a negligible decline, confounded by the differences in the results of the two samples. However, on the expressive dimension, Spence and Buckner (2000) clearly found an *increase* in sex typing though the amount varied between the spring and fall samples. Combining the samples showed a female-male difference in expressive scores of .24 in 1978 and .40 in 1996, as male scores declined and female scores increased. Thus, it appears to us that Spence and Buckner actually observed stability or ambiguity in sex typing on the instrumental dimension, but a clear increase on the expressive over that eighteen year period.

There were two *less valid* studies that showed an increase in sex typing. In one, Lewin and Tragos (1987) compared attitudes about gender held by high school students in two different school systems between 1956 and 1982, concluding that there was little change. If anything, the 1982 students were stronger in their beliefs about sex differences. However, girls in 1982 were more self accepting. Comparing 1988 results with another, earlier study, Heilman, et al. (1989) found that the traits perceived of men and managers were correlated .81 and .68 respectively, but the correlations of traits perceived of women and managers declined from a nonsignificant .10 to a statistically significant -.24, and the difference between the male and female correlations increased substantially, representing an increase in sex typing or differentiation. In a *borderline* study, Neufeld, Langmeyer, and Seeman (1974) also reported increased divergence in the perception of sex differences in one of two measures used in a previous 1948 research, a fill in the blanks story measure, re-administered at the University of Cincinnati in 1970.

Decreased Sex Typing

Two studies in our *most valid* rating showed a decrease in sex typing. In an early study using the *Personality Research Form* (PRF), a measure designed to be consistent with the BSRI, Berzins, Welling, and Wetter (1978) found an increase in the masculinity scores, and a decrease in the femininity scores of women between 1970 and 1974-75 in psychology classes at the University of Kentucky. Males also showed an increase in masculinity, but it was about half that of the increase among females.

The most significant exception to the general findings of the literature being reviewed is Twenge's (1997b) meta analysis of 63 studies using the BSRI. Proceeding from the assumption that change in sex roles has occurred and should be followed by change in gendered aspects of personality, Twenge found that masculinity scores of males and females increased over the years 1973 to 1994, but the scores of females increased substantially more than the male scores. On the other hand, femininity scores of males, but not females increased over the time period. The result was a reduction in the sex difference on masculinity and an increase in androgyny, especially for females. Twenge suggests these results follow social changes in role allocation especially true for college women, from homemaking to work, with the appropriate socialization and role expectations associated with that shift.

Two *less valid* studies showing a decrease also reflect the nature of the BSRI. Using the PRF and comparing what we estimate to be a 1979 college sample with the 1974-1975 normative sample (Berzins, Welling & Wetter 1978), Frank, McLaughlin, and Crusco (1984) reported an incidental finding of an increase in masculinity for both males and females, but substantially greater for females. Scores on femininity were essentially stable for both sexes. In an interesting study comparing 80 summer term psychology students with the original Bem group on each of the items of the BSRI, Holt and Ellis (1998) observed a substantial decrease in male female differences on masculinity between 1974-97. The differences on femininity also decreased, but much less than those on masculinity and in fact increased on a few items. As Holt and Ellis (1998) observed, the two samples differed demographically and, it would appear, also on age.

Two of the *borderline* studies involved the *Sex Role Stereotype Questionnaire* (SRSQ), but used markedly dissimilar populations. In a very early study, Petro and Putnam (1979) compared the 1975 responses of 80 counselors with those of the norming sample of the SRSQ in 1968. Of the set of 38 items viewed as stereotypic by the original sample, only 11 were seen by the counselors as differentiating males and females, a substantial reduction in stereotyping. This finding is qualified by the dissimilarity of the samples in age (approximately 20, versus 40 for counselors) and the homogeneity and professional orientation of the counselors. The Kravetz (1976) study found sex role stereotypes were not clearly formulated by politically active members of women's social and political groups at

the University of Wisconsin. The problem of populations is obvious in this study as well. Finally, Rotter, Dollinger, and Cunningham (1991) failed to replicate an earlier study showing men to be more agentic and women more communal in recalling sexual experiences, using a sample of college students and a scoring manual developed for the study. They concluded this could reflect changes in gender roles over the past twenty years. The uniqueness of the constructed measure and possible incomparability of the measures and populations makes this study difficult to interpret.

Conclusions of Literature Review

Taken overall, a substantial⁵ body of research reveals a very clear picture: in spite of widespread expectations and desires, the various aspects of gender differentiation are not disappearing, if anything there is an increase in sex typing, especially with regard to the pattern most expected to decline, the femininity of females.

It is of interest that the four valid studies rated as exceptions to this cumulative finding all involve the BSRI, either directly or as reflected in the conceptualization and construction of the PRF. These exceptions might be due to the characteristics of the long form of the BSRI. We turn now to a consideration of that possibility.

Characteristics of the BSRI may account for Twenge's conclusion that "the cultural changes of the last twenty years have encouraged the development of instrumental traits in women" (Twenge 1997b:319). This conclusion is based on analysis that showed that BSRI-Masculinity scores of females increased between 1974 and 1994, but BSRI-Femininity scores did not. The increase in masculinity scores coupled with constant femininity scores resulted in a reduction of the absolute (masc-fem) difference over time. (As noted above, no significant decrease was observed in the (masc-fem) analysis of the PAQ studies). Thus, the interpretation of the Twenge (1997b) findings depends upon the stability of the BSRI-F scale scores for females. Had the BSRI-F scores increased along with the BSRI-M scores, the only significant finding would have been increased androgyny only as measured by the extended formula $(M+F)-|M-F|$, with the problems of interpretation discussed above. Therefore, it is relevant if the BSRI-F scale has some characteristics that could depress the scores of more contemporary females, especially college females.

Factor analyses of the BSRI (Gaudreau 1975; Kimlicka, Wakefield & Friedman 1980; Waters, Waters & Pincus 1977) reveal that the items of the feminine scale do not agree with the femininity factor as well as those of the masculine scale do with masculinity. The loadings of several items on the femininity scale were below acceptable values, and four of these items were common to all three factor analyses. Considering these results, Kimlicka, Wakefield, and Friedman (1980) asserted the items should be deleted, a view reiterated by Payne (1987:361-362) in a study that

focused on the lack of agreement between findings obtained with the BSRI and the PAQ:

This lack of agreement between BSRI and PAQ Femininity scales, in fact, has a simple basis. . . . the BSRI Scale contains, in addition to socially desirable expressive traits, a hodgepodge of socially undesirable characteristics (e.g., shy, gullible, childlike). . . . Thus, the flawed BSRI Femininity scale tends to underestimate the importance of expressiveness and to artificially favor instrumentality.

Payne goes on to note that the "Short" (SBSRI) scale has been developed in part because of this problem and that the subject items are "noticeably absent" from the revised scale. He finds further, that the short scale does in fact produce results similar to the PAQ femininity scale. Thus, if the BSRI-F scale had not contained these items, it is possible that the Twenge (1997b) results would be more consistent with previous research in showing increases in *both* masculinity and femininity, which we believe reflect stability, not increased androgyny.

The weakness of the BSRI-F scale may affect the results of the two other studies showing reduction in sex typing. As noted above, in two reports involving PRF scores at the University of Kentucky from 1970 to 1979, Berzins, Welling, and Wetter (1978) and Frank, McLaughlin, and Crusco (1984) observed increases on all dimensions *except femininity by females*. The increases differed markedly, in that the greatest increase was in the masculinity of females, second, the masculinity of males and third, a very small increase in femininity of males. Femininity of females actually declined. This is the same pattern observed in the Twenge (1997b) meta analysis and may reflect the same causes. For, in the PRF studies,

Selection of the masculine and feminine items from the PRF item pool was based on a conceptual analysis of the Bem Sex Role Inventory (Bem, 1974) . . . Feminine items describe caring expressive behaviors indicative of nurturance, affiliation, or self-subordination. (Frank, McLaughlin & Crusco 1984:184)

Again, the conceptual orientation of the PRF, reflecting the BSRI-F scale characteristics, may have operated to reduce the femininity responses of college females in these two studies.

If these interpretations are correct, it would appear there is no unequivocal evidence of reduction in gender stereotypes nor in the sex typing of self concepts and gendered personality traits from the late 1950's to the early 1990's. There *is* an unexplained general increase in *all* scores that appears in several of the studies that is, in most cases, greater for female femininity than for the other combinations.

The 1974-97 Trend Study

We turn now to the report of the findings of our study of sex typing in stereotypes and self ratings from 1974 to 1997.

Methods

The *surveys* on which this study is based were carried out in Introductory Sociology sections at a large, primarily non-residential midwestern university. The surveys were carried out in the spring semester in the years, 1974, 1977, 1980, 1983, 1986, 1991 and 1997. The frequencies in those years were respectively, 390, 363, 758, 742, 654, 739, and 423 in 1997. Fifty six per cent of the respondents were females. The surveys in the first two waves were samples of some twenty sections of introductory sociology. In the following years, all sections whose instructors agreed to participate were included. Questionnaires were administered by the instructors, if willing, by the authors of this and other reports, if they were not. Completion of the questionnaires was voluntary. Students in the classes were told they could read, study, or do other things, but almost without exception they chose to fill out the anonymous questionnaire.

While this is not a probability sample of any known population, it is most likely as representative of college groups as the typical study of gender patterns, certainly more heterogeneous than many, as all available majors at the university are represented in the population. In addition, no respondents were students of the authors, thus reducing the possibility of demand effects. A small number of older, non-traditional students was excluded from the analysis because of the relation between age and sex role orientations.

As we have noted, the twenty three years encompassed by this study represents a fortuitous time interval. The 1974 cohort, born around 1957, received their childhood socialization *before* the major sociocultural changes following the initial successes of the woman's movement, a period when more traditional socialization would have been likely. The 1997 cohort, on the other hand, was born around 1980, and received their socialization *after* the movement had produced major changes in the social system and especially in the values and attitudes describing the role of the woman. They grew to maturity in the later 1990's, after substantial changes had occurred and were oriented toward roles that were markedly different from those of the late 60's and early 70's. If sociocultural factors are the primary causes of gender differentiation, changes in sex typing should appear across the waves of these respondents.

The *stereotype items* used in this study were originally selected by students in the introductory methods section as part of a 1974 class research project on sex roles directed by the senior author. They are thus an ad hoc set of items. However, the criteria was to select items that clearly distinguished masculine and feminine traits, the method used in other studies where scaling was a goal (cf. Bem 1974; Der-Karabetian & Smith 1977; Rosenkrantz et al. 1968). The adjectives selected are similar to those used in other studies (cf. Lueptow 1984), and each does discriminate between women and men at the .001 level or beyond.

The correlations between the ratings by the sexes of "typical male" and "typical female" are .98 and .97 respectively. As in the other research reviewed above, we

find that women and men are in close agreement about the personality characteristics of women and men, an auxiliary fact lending support to the view that the items reflect real differences between the sexes.

Lists of these items were included in the questionnaire and rated on a scale of one to seven as representative of the "typical male," "typical female," and of the "self". In order to have a set of items that were unequivocally masculine or feminine, only those items differentiating typical males and females by at least .50 scale units were included. With the male-female difference in parentheses, the masculine scale consists of the items *authoritative* (1.65), *athletic* (1.61), *aggressiveness* (1.54), *domineering* (1.41), *competitive* (1.33), *adventurous* (1.06), *self confident* (.60), and *decisive* (.50). The feminine items and the female-male differences are: *sympathetic* (2.23, the most differentiating item), *talkative* (1.58), *affectionate* (1.44), *romantic* (1.44), *obedience* (1.33), *creative* (1.22), *timid* (1.20), *friendly* (.80), and *responsible* (.56).⁶ Reliability of the scales is moderately high. Alphas range between .74 and .81, except for male and female self ratings on femininity which are .64 and .62, respectively.

Scores reported in the following tables are averages, used to make the results more interpretable and compensate for the fact the femininity scale has one more item than the masculinity scale.

The questionnaire also included usual demographic and academic background items. Several of these were related to time and to one or another stereotype or self rating measure. These were marital status, self-reported grade point, residence, level of degree being pursued, and the major subjects of nursing, education, engineering and fine arts. Initially these variables were included as controls. However, as one reviewer of an earlier version observed, some of these changes themselves reflected change in sex roles and to control for them would control part of the variation we concluded did not occur. Thus, analysis without controls for these effects is a methodologically more conservative approach, and is reported in the present report. It turns out that this is relatively moot anyway, as the inclusion of controls resulted in only two changes of any consequence. Both are described at appropriate points in the text below.

Results

The results for *gender stereotypes* are consistent with previous research findings in failing to reveal significant reductions in sex typing in the perception of typical males and typical females (Table 2, Table 6). On the contrary, they tend to show an *increase* in sex typing. The strongest of these increases occurs where it would be least expected given the social changes that have occurred — in the increasing femininity of the typical female. This increase is among the strongest effects observed. As Table 2 shows, from 1974 to 1997 there has been a steady increase in the perceived femininity of the typical female. This perception is slightly stronger

TABLE 2: Masculine and Feminine Ratings of Typical Male and Typical Female by Year and Sex of Respondent

Gender Trait	Sex of Resp.	N	Yearly Means								F
			1974	1977	1980	1983	1986	1991	1997		
Masc typ M	M	1,682	5.38	5.44	5.56	5.62	5.61	5.66	5.70	5.3***	
	F	2,188	5.49	5.53	5.51	5.53	5.53	5.56	5.59	0.6	
Masc typ F	M	1,670	4.09	4.07	4.11	4.12	4.22	4.24	4.22	1.6	
	F	2,222	4.30	4.43	4.47	4.44	4.61	4.57	4.47	4.8***	
Fem typ M	M	1,690	4.43	4.34	4.43	4.45	4.41	4.46	4.25	2.2*	
	F	2,208	4.24	4.19	4.28	4.17	4.18	4.06	3.94	6.6***	
Fem typ F	M	1,663	5.35	5.31	5.46	5.50	5.46	5.56	5.69	6.6***	
	F	2,236	5.43	5.52	5.59	5.61	5.67	5.80	5.80	13.4***	

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

for female respondents than for males, but both sexes perceive substantial increase in the femininity of females. Sex typing also increases in the perceptions of masculinity of the typical male, although this perception is held only by male respondents. Thus, in the two dimensions representing the essence of gender differentiation, there is increased sex typing.

There is also increased sex typing in one of the non-stereotypic dimensions. Female respondents perceive that femininity of the typical male has decreased over the years, although this perception is not so clearly held by males.⁷ The only suggestion of a decrease in sex typing is in the perception of increasing masculinity of the typical female, although only the female rating reaches acceptable levels of statistical significance. This potentially important finding is further qualified by the curvilinear pattern. Females perceive a clear increase in the masculinity of the typical female between 1974 and 1986, but a decline in 1991 and 1997 to the same level as the 1980 masculinity score. While puzzling and ambiguous, we think this pattern cannot be interpreted as clear evidence of reduced sex typing at this time. Thus, the findings reported in Table 2 and summarized in Table 6 indicate that these students either see no change in gender stereotypes, or see increased sex typing, especially in their perceptions of the femininity of the typical female. This is strongest in the perceptions of the female respondents, and is in fact, the strongest effect in the table.

As all scores except the femininity of the typical male increased over the years, a more meaningful and valid indication of changes in *sex typing* is obtained in the examination of differences than in the direct interpretation of a change in a single

TABLE 3: Perceived Differences Between Typical Male and Typical Female by Year and Sex of Respondent

Gender Trait	Sex of Resp.	N	Yearly Mean Difference							F
			1974	1977	1980	1983	1986	1991	1997	
Masc	M	1,638	1.29	1.39	1.45	1.51	1.40	1.45	1.50	1.0
	F	2,163	1.17	1.10	1.04	1.10	0.92	1.00	1.11	2.4*
Fem	M	1,638	-.92	-.98	-1.04	-1.06	-1.08	-1.12	-1.47	8.2***
	F	2,184	-1.21	-1.34	-1.32	-1.44	-1.50	-1.74	-1.86	20.5***

* p < .05 *** p < .001

trait dimension. Reduction in sex typing can occur in two ways, one being the increasing similarity of women and men on masculinity and femininity, a theme originally viewed as “*unisex*” (Bowers 1971) and continuing to be a central theme in feminist writing (cf. Lorber 1994). The other is the decreasing difference within each sex on the dimensions of masculinity-femininity, i.e., the *androgynous* outcome (cf. Bem 1974). Neither of these occurred.

There is no significant change in the differences between the typical male and typical female on masculinity as rated by males (Table 3). However, paralleling the above, female respondents reported a non-linear pattern showing a decreasing difference on masculinity between the sexes through 1986, but since 1986 they reported *increasing* differences between the sexes on masculinity. The difference in 1997 was larger than any difference except the baseline difference in 1974. Thus, it appears that in these data, sex typing declined through 1986, then reversed very markedly. This shift is unexpected and somewhat difficult to interpret, although it does not suggest a decline in sex typing. If anything there appears to be a marked increase in the female perception of the sex differences on masculinity.

On the other hand, there is a substantial *increase* in the differences on femininity as females are seen as becoming relatively more feminine than males, a finding similar to that recently reported by Spence and Buckner (2000) described above. This increase in perceived sex differences on femininity is generally linear and is the strongest effect observed in the whole analysis, and it is considerably stronger in the perceptions of female respondents. Contrary to predictions about decreasing sex typing, females think the male-female differences on femininity are increasing markedly, an increase between 1974 and 1997 of .73 standard deviations.

The changes in *androgyny*, expressed as the difference between masculinity and femininity within each sex, are also contrary to expectations (Table 4). In this case the exceptions are greatest for the typical males who are perceived as becoming relatively more masculine and less feminine over this period, an increase of about

TABLE 4: Perceived Masculinity-Femininity Differences of Typical Male and Typical Female

Target	Sex of Resp.	N	Yearly Mean Difference							F
			1974	1977	1980	1983	1986	1991	1997	
Typ male	M	1,666	.94	1.11	1.14	1.17	1.20	1.20	1.46	5.4***
	F	2,166	1.25	1.35	1.23	1.36	1.36	1.50	1.65	6.8***
Typ female	M	1,648	-1.26	-1.24	-1.36	-1.39	-1.27	-1.33	-1.48	1.6
	F	2,209	-1.13	-1.09	-1.12	-1.17	-1.07	-1.22	-1.32	3.0**

** p < .01 *** p < .001

half a scale unit perceived by both sexes. Once again the strongest, most linear change occurs from 1986 on. The level of androgyny for the typical female is also seen as decreasing, as they become relatively more feminine, and again there is evidence of stronger, more linear increase from 1986 on. However, it is only the ratings of female respondents that reach statistical significance. There is no evidence of change toward a *more* androgynous personality for either sex.

When the tendency for increased ratings on both dimensions is taken into account, there is simply no evidence in these data that sex typing in gender stereotypes has declined between 1974 and 1997. If anything, there has been a substantial increase in sex typing, especially for the typical female, and this increasing differentiation rises markedly from 1986 on.

In responses more comparable to those reported by Twenge (1997b), Table 5 shows that the *self ratings* of both sexes increase over the years on both dimensions, although the increases are greater for females and for femininity.⁸ As noted, we have no evidentially grounded explanation for this increase across both dimensions, and for both sexes, an increase that has appeared in other studies as well (Heilbrun & Schwartz 1982; Pedersen & Bond 1985; Spence & Buckner 2000; Twenge 1997b), but do not view them in and of themselves as evidence of increased androgyny, without a corresponding reduction in the differences between the sexes on each dimension and a reduction within each sex of the differences between masculinity and femininity.

The change in male-female difference on masculinity and femininity over time was analyzed by a regression of each scale on sex, year and the interaction of sex and year, which was the critical value for this study. Neither the interaction for masculinity and year nor that for femininity and year was statistically significant (F-ratios being 1.05, 1.07, respectively). Thus, even though self ratings increased, the differences between the sexes on both masculinity and femininity remained

TABLE 5: Self-Ratings by Year and Sex of Respondent

Gender Trait	Sex of Resp.	N	Yearly Means							F
			1974	1977	1980	1983	1986	1991	1997	
Masc	M	1,663	5.05	5.24	5.34	5.36	5.37	5.44	5.30	4.3***
	F	2,236	4.55	4.67	4.77	4.76	4.83	4.86	4.93	5.0***
Fem	M	1,671	4.83	4.80	4.99	5.06	5.09	5.21	5.07	9.1***
	F	2,240	5.12	5.21	5.38	5.32	5.42	5.53	5.50	15.5***

*** $p < .001$

constant. There is no suggestion of the expected convergence between the sexes in these self ratings.

Nor is there convergence on masculinity-femininity differences within each sex, the expected increase in *androgyny*. These differences did not change over the 23 years for either sex (F-ratio for the differences among males was 1.4; for females 0.6). No increase in androgyny is observed.

Conclusions

The outcomes of the various analyses are summarized in Table 6 with indication of their effect upon sex typing over the period. The major findings have been stability and increasing sex typing. Of the 24 comparisons, ten have shown stability and eleven an increase in sex typing, the strongest of these being the increased femininity of females, both in the ratings of the typical female by both males and females and in the self ratings of the female respondents.

Thus, the findings of this study with regard to *gender stereotypes* are very clear: *they are not decreasing, if anything they are intensifying*. Given the sex role changes that have occurred, this is contrary to prevailing notions of the dynamics of sex and gender. It is, however, quite consistent with the cumulating findings of previous research on gender stereotypes and sex related personality traits.

These findings are also consistent with the concept of predispositions based on innate patterns as posited by the evolutionary model, an outcome we return to below.

In the present study, the only observed decrease in sex typing occurred in the perception of the masculinity of the typical female, as perceived by females between 1974 and 1986. However, this was followed by a decline in masculinity ratings from 1986 to 1997, which makes the results ambiguous and difficult to interpret.

Although future research may show this decline in masculinity of the typical female actually to be a trend toward increasing sex typing, for now we conclude that the present data, though ambiguous, show stability in sex typing. Several other patterns suggest an increase between 1986 and 1997 in the strengthening of sex typing.

The increase in sex typing was especially pronounced in the case of female femininity, one of the clearest patterns of the study. Both male and female respondents, but especially the female respondents, perceived the typical female as becoming more feminine.

The findings regarding *self ratings* are consistent with the preceding. While self conceptions of college students are less sex typed than their perceptions of typical women and men, the differences between the sexes are real and remain constant over the years. Similar results prevail for androgyny. The differences between masculinity and femininity within each sex are unchanged over the twenty three years. The two reductions in sex typing (Table 6) are essentially artifacts of the increase in all self rated traits across the years.

Thus, with the exception of the Twenge (1997b) study conclusions, the main body of research shows stability or even increase in sex typing over the past several decades, in personality and in stereotypes. The results of the present study are very consistent with that cumulating evidence and taken in conjunction with the increasing recognition that the perceptions embodied in the stereotypes reflect real personality differences, lead to the conclusion that differences in sex related personality traits have not declined over the past twenty three years, in spite of the changes in the sociocultural factors presumed to produce the differences. Thus, the findings of this and other research cited above are not consistent with the sociocultural explanation of gender differences. They are consistent with the evolutionary model. We turn now to a brief discussion of that explanation and its relevance to these findings.

Evolutionary Theory: The Alternate Explanation for Sex Differentiated Characteristics

The evolutionary model presents an alternate and parsimonious explanation, for these findings. It is that the emergence of species based characteristics is explained by genetic changes resulting in successful adaptations to environmental circumstances. These adaptations emerge slowly over thousands of generations (Buss 1999), and are essentially stable within modern time frames.

Full explication of this alternate model is beyond the scope of this paper and is readily available in recent publications by leading authorities on the evolutionary model (cf. Buss 1999; Geary 1998). Here we will briefly discuss some of the central elements relevant to the issue of sex differences in personality traits.

TABLE 6: Summary of Results

Trait	Target	Rater	Change in Sex Typing 1974-1997		
			(-)	(0)	(+)
Typical Person					
Masc	Typ male	Male			x
Masc	Typ male	Female		x	
Masc	Typ female	Male		x	
Masc	Typ female	Female*		x	
Fem	Typ male	Male		x	
Fem	Typ male	Female			x
Fem	Typ female	Male			x
Fem	Typ female	Female			x
Differences: typical male-typical female					
Masc		Male		x	
Masc		Female		x	
Fem		Male			x
Fem		Female			x
Masc-Fem differences in typical person					
	Typ male	Male			x
	Typ male	Female			x
	Typ female	Male		x	
	Typ female	Female			x
Self-concept					
Masc		Male			x
Masc		Female		x	
Fem		Male		x	
Fem		Female			x
Male-Female differences in self-concept					
Masc				x	
Fem				x	
Masc-Fem differences in self-concept					
		Male		x	
		Female		x	

* Outcome is ambiguous

The central, here simplified, principle explaining sexual dimorphism in the evolutionary model rests upon adaptations that emerged in prehistory as human males and females transmitted their genes under different reproductive circumstances (Buss 1999; Geary 1998; Rossi 1984; Symons 1979). Having less need to invest in each offspring, the genetically successful male pattern involves as many matings as possible, limited primarily by access to females, the major obstacle being the mating of other males. The evolved adaptation involved characteristics that permitted successful competition and dominance over other males in that polygynous context (Geary 1998). Aggression, physical size, competitiveness and domination would be obvious advantages in the male strategy. The reproductive success of females, with their considerable physical and temporal investments limiting the number of offspring, depended on the survival of the offspring which in turn required substantial parental investment and nurturance, and maintenance of relations with dominant males for protection and resources.

That these differences run through the stereotypic and personality differences observed in research is obvious and encapsulated in the distinction between agency and communion (Bakan 1966). The traits most often making up the masculine cluster nearly all describe an organism pursuing its self interest through aggressive competitive acts. The femininity cluster describes attributes that have to do with nurturance and relationship. These substantial differences follow directly from the evolutionary model. Aggressiveness, dominance, and competitiveness appear in everyone's list of male characteristics, and in research on sex differences (cf. Buss 1999; Daly & Wilson 1988; Maccoby & Jacklin 1974). There is no confusion about this.

Analogous focus on female nurturance and need for relationship has not been so clearly developed in the sex role literature. However, it appears in the greater involvement in child care (Geary 1998), in the types of occupations women tend to choose, and in work orientations where some form of "helping others" has consistently differentiated the occupational value orientations of the sexes from the 1960's to the 1990's (Herzog 1982; Lueptow 1980b; Marini et al. 1996; Rosenberg 1957) and values (Beutel & Marini 1995) where females have placed greater emphasis on *compassion* and *meaning*, while males emphasized *materialism*. The central female pattern of helping and nurturing is clear and persistent in these studies, and has not changed over four decades. This aspect, is also reflected in the sex differences in housework that persist even in the face of dual wage earners (Brines 1994) and become most pronounced when women and men are married (South & Spitze 1994). The significance of innate predispositions was revealed in the Israeli experiment with communal, collective organization that attempted to discount sex differences and to rear children in collective groups separate from the biological family. Mothers rejected this arrangement and insisted on rearing their own biological children (cf. Buss 1999).

While biological, hereditary, and evolutionary theory and evidence are not familiar nor comfortable terrain for most sociologists, evidence documenting the

importance of genetically determined biological factors on social behavior is becoming clear cut. For example, Udry (1994) has shown that prenatal hormone exposure predicts substantial amounts of the variance in the gendered behavior of females 30 years later, and most recently, that these innate processes affect the outcomes of gender socialization itself (Udry 2000). Girls who were exposed prenatally to higher levels of testosterone were insulated against traditional feminine socialization.

Other substantial work has shown the effects of genetic inheritance on intelligence (Geary 1998), and, unexpectedly on attitudes and values, including gender orientations and vocational interests and occupational choice (cf. Udry 1996). It has also produced the surprising result that shared family environment has little effect upon the personal characteristics of children (Geary 1998; Plomin 1989).

Other cumulating findings supporting the evolutionary model have been emerging very rapidly through the last decade, and are remarkably consistent with outcomes predicted from the differing reproductive strategies of women and men. They basically show that men emphasize physical attractiveness, seen as the evidence of viability, are jealous of sexual infidelity, increasingly seek younger mates as they age and have mental and perceptual skills facilitating movement through territories in combat and hunting. On the other hand, women value males with resources and the personal prospects to obtain them, including dominance. They are jealous of rivals threatening the relationship, less concerned with sexual infidelity per se (Buss 1999; Geary 1998).

As noted, a full discussion of the emerging evidence is well beyond the scope of this article, but all in all, it is consistent with the basic propositions emanating from the differing reproductive strategies of males and females. It appears to us that Udry (1995:1277) is quite correct in concluding that

As evidence continues to accumulate that the primate model of gender also applies to humans, the gender theory cherished by sociologists will either have to be modified or will increasingly consign sociology to irrelevance.

In this study we have reviewed an extensive literature and observed responses to stereotypes and personality in 4000 students over 23 years. This cumulating body of work shows temporal stability in sex differentiated personality traits and stereotypes. The work of Williams and Best (1982) has shown universality of these differences across 33 cultures. Temporal stability and universality across cultures would be predicted by the evolutionary model, they would not be predicted by sociocultural models.⁹

Discussion and Limitations

In considering the results of this study and their significance, several aspects and possible limitations deserve attention.

As we have noted, social change has not been uniform. There are areas such as the division of labor within the family and the continuing sex segregation of occupations that reflect some stability in the social structure. While it seems unlikely, it is possible that there has not been as much change as everyone assumes. However, the significance of this possibility is mitigated by the major changes in the central explanatory variables of the social structural theory: homemaking versus work outside the home (cf. Eagly & Steffen 1984, 1986; Eagly & Wood 1999; Hoffman 1977; Hoffman & Hurst 1990). In these areas there has been marked change. There is also the question of why, in the face of the substantial pressures for change in the women's movement and feminist writing, there has not been change, especially in those areas reflecting the traditional patterns within the household. Interestingly enough, it is in just these areas that innate patterns would exert the greatest drag on changing roles and relationships.

Other explanations for these results might lie in the research methodology. The measures in this study are ad hoc and could conceivably be uniquely stable and the population uniquely isolated. We have addressed these issues above and think them unlikely. Further, the consistency of these results with the other evidence on stability of sex typing mitigates against this.

Given the questions regarding trait content in the BSRI, future research should consider which specific traits are changing or remaining stable as Holt and Ellis (1998) have recently done. Analysis of change in specific traits is also warranted considering the inconclusive but suggestive findings now appearing in several researches regarding increases in female masculinity scores, competence, and, in the present research, the slight strengthening of perceptions of "responsibility" as a female trait. It seems possible that elements of achievement, responsibility and competence, which certainly must have been present in the long-standing female academic performance advantage, may be increasingly recognized as consistent with femininity. This possibility may also point toward the differential significance of the power versus performance aspects of masculinity. It is conceivable that change is occurring in the female stereotype with respect to performance, but not with respect to dimensions involving power, aggression and dominance. Given these possibilities, examination of change in specific traits would be desirable.

A surprising pattern in this and other research (e.g., Twenge 1997b) has been the increase in both dimensions of gender, especially in the self ratings, but persistence in the differences between the sexes. This is analogous to earlier findings of the senior author on school grades (Lueptow 1984). In that instance, grades in all courses in seventeen high schools increased between 1964 and 1975, but the *differences* between the sexes across the three years of school were essentially unchanged. Given the general decline of achievement scores over that period, it

appeared the increase in grades might reflect teacher leniency or grade inflation. The constancy of sex differences in the face of such change was seen as evidence for a persisting biological difference.

While we have no good explanation for the increase in both masculinity and femininity scores over the twenty some years of this study, one could speculate that the loosening of the cultural restraints on sex roles, and of conformity generally, have resulted in an emphasis on individualism, on the increased importance of personality characteristics, perhaps especially of those traits reflected in gender patterns. Weakening of social control enables personality patterns to become more manifest, to explain a greater portion of the behavioral variance. This is analogous to the principle described by Udry (1996) regarding the heightened importance of innate patterns as societies modernize and traditional social control weakens, and choices increase. Empirical support for that conception has been obtained by Dunne, et al. (1997). Observing a greater genetic effect for younger twins than for those over 40, Dunne, et al. assumed a lessening of social control over the past decades resulted in less inhibition of innate dispositions.¹⁰ It is conceivable that a heightened sense of personality resulting from declining social controls and limitations might result in the increasing scores we have observed, even while real differences were maintained.

While it seems paradoxical, such a process could also be a factor in the increased femininity of females in this study. If there has been a loosening of social control over individual personalities, one could speculate that as they become more independent, females have responded by increasingly emphasizing those traits congenial to their nature. This would not be inconsistent with the possibility that earlier social controls inherent in the strong unisex and androgynous views of the women's movement may have weakened and permitted a more traditional femininity to be expressed.

If they (social structures) depart too far from the underlying sex-dimorphism of biological predispositions, they will generate social malaise and social pressures to drift back toward closer alignment with biology. (Udry 2000:454)

Another interpretation of the persistence of gender stereotypes and sex differences is that the longitudinal study has not encompassed enough time, that change may yet occur, but in the future. It is conceivable that two generations is not enough for the acquisition of the new patterns by the agents of socialization and that sometime in the future, the changes in sex roles will permeate to parents and then to their children. The likelihood of this being the case is reduced by the documented changes in attitudes about women's role (Twenge 1997a). As these are the attitudes underlying sex differentiated socialization, their liberalization would tend to reduce whatever sex differences did persist in childhood socialization. This is perhaps less significant given the lack of strong evidence supporting sex differentiated socialization, (Duncan & Duncan 1978; Maccoby & Jacklin 1974), in the period when traditional socialization should have predominated, and in the

increasing evidence showing that shared family environment has little effect (Plomin 1989). Even if family socialization were the source of gender differences, it seems unlikely that parents of the 1970's and 1980's held the same beliefs about sex differences and sex roles as those of the 1950's and 1960's. Nevertheless, while it appears highly unlikely, it is conceivable that change is yet to come, although the tendency for sex typing to increase between 1986 and 1997 in this study is certainly counter to that position.

Notwithstanding possible limitations, at present, these results and those of other research showing stability in sex typing are not consistent with the major tenets of the sociocultural explanations of gender differences. These results are consistent with the evolutionary model postulating genetically based predispositions that exert a constant pressure toward the manifestation of sex differentiated traits and characteristics.

Notes

1. Some shifting from this exclusively sociocultural stance was noted by Udry (2000), in describing a recent text on gender that recognizes the existence of hormonal predispositions.
2. Explicit statements of this proposition are common in the literature. See Baldwin (1984:257); Bjerke, Williams, and Wathne (1989:267); Bush, et al. (1977-78:472-473); Der-Karabetian and Smith (1977:193); Eagly and Wood (1999:421); Heilman, et al. (1989:939); Neufeld, Langmeyer, and Seeman (1974:248); Pedersen and Bond (1985:43); Spence and Buckner (2000:45-46); Twenge (1997b:305-306); Werner and LaRussa (1985:1098).
3. These researches were Bem (1974), Block (1973), Brim (1958), Broverman, et al. (1972), Burns (1977), Lueptow (1980a), Sherriffs and McKee (1957), Spence and Helmreich (1978), Ward and Balswick (1978), Williams and Bennett (1975).
4. A colleague has observed that as the masc and fem scores increase, the relative difference declines, even though the absolute difference persists. Whether this constitutes increased androgyny is a judgment which is confounded by our inability to explain the general increase in all scores across the years observed in several of the cited studies and in our own data.
5. With the exception of Hosoda and Stone (2000), almost none of the recent studies dealing with the issue of change in sex typing cite more than three or four previous researches. Given such limited awareness of the pertinent research, the cumulation of findings remain unrecognized and uninterpreted. In our opinion, this represents an unfortunate, and in the present context, significant, lapse of scholarship.
6. In an earlier report (Lueptow, Garovich & Lueptow 1995), the difference on *responsible* was .49 and the item was not included in the femininity scale.
7. This male perception was not significant when controls were included. With controls, the adjusted scores for femininity of the typical male perceived by males were respectively: 4.45, 4.32, 4.42, 4.43, 4.40, 4.43, 4.25, $F = 1.43$, $p = .20$.

Social Change and the Persistence of Sex Typing / 31

8. When controls were added, the statistical significance of the increases in masculinity declined substantially. F-ratios for males and females, respectively became 2.73 and 2.13, $p = .012$ and $.047$. The significance of the increase in femininity remained beyond $.000$ for both sexes.
9. The significance of universality in discriminating between these two models was illustrated by the wide and uncritical acceptance of the work of Margaret Mead because it purported to demonstrate widespread cultural variation in sex differentiated characteristics. Mead was mostly wrong. (cf. Daly & Wilson 1988).
10. We are indebted to J. Richard Udry for apprising us of this research, and its implications.

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36 / *Social Forces* 80:1, September 2001

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