

# The Experience of Schizophrenia: What's Gender Got To Do With It? A Critical Review of the Current Status of Research on Schizophrenia

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## Abstract

The role of gender in schizophrenia is explored, and literature on gender and schizophrenia is critically reviewed. The importance of investigating gender differences in schizophrenia is underscored by the lack of sufficient research in this area to date and the comparative neglect of sociocultural issues during the "decade of the brain." The importance of incorporating gender factors into research analysis is demonstrated via an interdisciplinary discussion that involves psychiatric, anthropological, and sociological theory. Methodological and measurement issues in gender-based research are considered. Selected directions for future research initiatives that expand beyond a dichotomous comparison of "male" and "female" sex differences to examine the role of gender along a continuum as a sociocultural influence on schizophrenia onset, illness presentation, and treatment are presented.

**Keywords:** Schizophrenia, gender differences, literature review, gender role, gender identity.

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With the conclusion of the "decade of the brain," it is important to take stock of the current knowledge base concerning schizophrenia and to highlight research priority areas. Without question, the biomedical approach, which has predominated, has resulted in major developments in the understanding and treatment of schizophrenia. However, an unwitting side effect of the neurobiological spotlight on schizophrenia has been a profound neglect of the role of sociocultural factors in illness presentation and experience. Nowhere is this gap more evident than in the dearth of research on the relationship between gender and schizophrenia. Elucidation of the complex role of gender in illness processes is an important research direction that would enhance our understanding of the heterogeneity in the manifestation and subjective experience of schizophrenia.

Recent advances in schizophrenia research and treatment have largely been the result of strides in the basic science approach, in which the condition is examined strictly as a biochemical illness and process. This empirical framework is of demonstrated value and remains a necessary component of the schizophrenia research agenda; however, variables that examine the "person" in addition to the "biology" demand additional attention. Exploring the role of gender and subjectivity in schizophrenia may shed light on areas that otherwise remain ambiguous. The purpose of this article is to provide necessary critical reflection on the current state of schizophrenia research and thereby to encourage an expanded view of and inclusion of sociocultural factors, with an emphasis on gender. Recognizing and remedying the inadequate focus on gender and sociocultural context may provide valuable insight, beyond the overly narrow lens of psychopharmacology, in optimizing the functioning and well-being of people living with schizophrenia.

## Why Culture?

An examination of cross-cultural studies provides evidence for the need to expand the current research emphasis in schizophrenia to incorporate gender and, by implication, other sociocultural factors. For example, when age at onset of schizophrenia is examined, studies show a significant cross-cultural sex difference (Sartorius et al. 1986; Cetingok et al. 1990), with males demonstrating a younger age of onset than females. This consistent finding suggests that sex differences in age of onset are largely biologically based. Other cross-cultural findings are more equivocal. Cross-cultural variability in rates of marriage and fertility has also been identified, suggesting that marital and reproductive behavior in schizophrenia may not be

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a consistent finding across ethnic groups but rather an effect mediated by sociocultural patterns, such as earlier age of marriage that may serve as a protective factor resulting in delayed symptom onset (Hutchinson et al. 1999). Edgerton and Cohen (1994) state that "culture is a conceptually distinct and potentially powerful environmental factor capable of exerting a significant effect on the course of schizophrenia or any other mental disorder" (p. 230). A number of international studies have found that the course and prognosis of schizophrenia in non-Western, nonindustrialized countries is better than that in Western industrialized countries (Waxler 1979; Jablensky et al. 1992). In contrast, other studies have reported a less favorable course for schizophrenia in developing countries (Kulhara and Wig 1978) and a more favorable course in industrialized countries (Ogawa et al. 1987). Because these findings are all based on research with methodological flaws (see Edgerton and Cohen 1994 for a review), it is not possible to make conclusive statements about the relationship between the degree of industrialization in a society and the course of schizophrenia. Even the findings from the World Health Organization Determinant of Outcomes of Severe Mental Disorders study (Jablensky et al. 1992), which sought to correct some of the methodological weaknesses found in previous research, are inconclusive because of methodological concerns. While cross-cultural differences in the course and prognosis of schizophrenia, if they do indeed exist, are not likely biologically based, it is premature to conclude that cultural differences alone may explain this variability (Edgerton and Cohen 1994). For example, a diathesis-stress model of schizophrenia would indicate that a culturally influenced factor such as the pressure for personal autonomy may interact with a structural brain change to result in the onset of schizophrenia (Freeman 1989). Readers are referred to comprehensive sources (e.g., Kleinman 1988) for more thorough reflection on and summary of sociocultural influences on the onset and course of schizophrenia.

From the perspective that cross-cultural differences are not simply an artifact of methodology, it is important to recognize that culture is not "a synonym for unexplained variance" (Edgerton and Cohen 1994, p. 228). *Culture* as a construct is often applied in an ambiguous manner that lacks consistency and distinct definition. Many culturally bound influences may be mediated by industrialization, among other factors, which may impact the course and outcome of schizophrenia. Such cultural factors include social tolerance of mental illness and the degree of family support and acceptance, which may vary with the degree of industrialization in a society. Likewise, as gender is largely a culturally constructed concept (Beall and Sternberg 1993; Notman and Nadelson 1995; Ortner 1996), it is possible that cross-cultural gender differences may account for some of the variance in illness

presentation and experience. Unfortunately, the role of gender as a culturally informed construct has received minimal attention in the literature examining the diagnosis, management, and outcome of schizophrenia. Whereas biologically based sex differences have received attention within the literature, the sociocultural influences of gender on schizophrenia have been comparatively neglected.

## Why Gender?

A initial overview of the available research on gender differences in schizophrenia would lead one to believe that a substantial body of research in this area exists. However, this is a false conclusion based on the inexact use of language and the confounding application of the terms *sex differences* and *gender differences*. Inaccurate terminology mistaking biologically based sex differences for culturally informed gender factors is common in this research area. Lewine (1994) stresses that the concepts of sex and gender are applied inappropriately throughout the literature on schizophrenia and general psychopathology. Despite the fact that the terms are distinct, they have been used both inconsistently and interchangeably. Deaux (1993) offers simple guidelines for the proper use of the terms: "sex" should be used for comparisons in which people are selected on the basis of demographic categories of male and female, and "gender" for comparisons involving "the nature of femaleness and maleness, of masculinity and femininity" (p. 125). This distinction is more than semantic (Lewine 1994). Most researchers implicitly posit a homogeneity of illness experience in relation to dichotomized variables of male and female, whereas gender differences are viewed along a continuum (Edwards 1992).

**The Lens of Gender: Methodological Challenges.** The decade of the brain has revealed substantial data concerning the structural morphology, presentation, and treatment of schizophrenia and has seen dramatic improvements in patient outcome. However, discrepancies and questions remain concerning how schizophrenia varies by sex and the role of sociocultural influences in illness presentation and intervention. Considering men and women along the continuum of gender rather than using the dichotomous approach of sex differences helps researchers better formulate questions in this area. A primary reason for the limited recognition of gender and the nearly exclusive focus on sex differences in schizophrenia may relate to methodology. Different standards of measurement are involved in biomedical and sociocultural research. By and large, sociocultural measures lack the precision and objective standards of physiological techniques (i.e., blood levels, positron emission tomography scan); thus, different

methodological strategies are required when undertaking sociocultural research. Conducting research on gender and subjectivity in schizophrenia requires a knowledge and skill in sociocultural assessment techniques with which many schizophrenia researchers may be unfamiliar. Consequently, despite the gains to be made by a focus on gender and subjectivity, researchers may be reluctant to engage in a new area of study.

**What a Focus on Gender May Reveal.** Although the endeavor presents methodological challenges, expanding beyond a focus on biological models of mental illness to incorporate gender and subjectivity may provide clarification and increased understanding of unresolved issues in schizophrenia. In particular, the commonly stated conclusion that women with schizophrenia fare better than men with schizophrenia (e.g., in Torgalsboen 1999) needs to be explored via an examination of the role of sociocultural factors in gender on illness presentation and outcome. It is important that researchers contemplate the meaning and sociocultural implications of the indicators used to measure outcome in schizophrenia (e.g., marriage, child rearing) before forming such significant conclusions regarding sex differences. The same challenge is involved in determining differences in treatment compliance rates in schizophrenia. It is important to reframe research questions beyond the male versus female approach. By examining schizophrenia through the lens of gender, more intricate questions surface—for example, What is the interaction between treatment compliance and gender role expectation? Are indicators of premorbid functioning gender based? How does gender influence intervention for schizophrenia? The following critical review of the literature will form a starting point from which to begin answering these and other challenging but important questions.

**Defining Gender.** Before examining the current body of literature on gender issues in schizophrenia and psychopathology, it is necessary to formulate a working definition of gender. As stated previously, gender relates to cultural constructs of masculinity and femininity (Lewine 1994). Gender may also be more thoroughly understood through the concepts of gender identity and gender role. Throughout the sociocultural study of gender, maleness and femaleness are viewed along a continuum; the biological perspective, in contrast, focuses on the duality of male and female.

**Gender identity.** Ashmore (1990) defines gender identity as a structured set of personal identities that result when the individual takes the social construction of gender and the biological “fact” of sex and incorporates them into an overall self-concept. The gendered aspect of one’s

self-concept may be thought of as the private experience of one’s individuality as male or female (Money 1973) or the internalized sense of maleness or femaleness (Notman and Nadelson 1995). Gender identity includes personal and social attributes and social relationships, interests, and abilities as well as biological, physical, and material attributes (Katz 1986). Arieti (1974) claimed that one of the relatively common characteristics of the self-image of individuals with schizophrenia during childhood was uncertainty regarding gender or sexual identification.

**Gender role.** Gender role is defined as the social expression of one’s personhood as male or female (LaTorre and Piper 1979; Al-Issa 1982). It is a “culturally constructed concept referring to the expectations, attitudes, and behaviors that are considered to be appropriate for each gender in that particular culture” (Notman and Nadelson 1995, p. 5). Gender role includes both gender role adoption (those aspects of gender role that one has actually acquired) and gender role preference (an individual’s preference for gender-typed objects or behaviors). Men and women can adopt masculine, feminine, androgynous, and undifferentiated gender roles (Mead 1935; Rosaldo and Lamphere 1974; Al-Issa 1982). Further, individuals can adopt traditional gender-stereotyped roles but do so reluctantly or uncomfortably (Notman and Nadelson 1995).

**Measuring Gender.** Assessment of psychological constructs is different from measurement of physiological processes and cannot rely on biological markers. Because of the complex and dynamic nature of gender, a “gold standard” to measure maleness and femaleness does not exist. However, there are research tools available with good psychometric properties for quantifying gender. The Bem Sex Role Inventory (BSRI; Bem 1974) is one of the major instruments used to measure gender as a socially influenced personality variable. The BSRI categorizes individual respondents as either masculine, feminine, androgynous, or undifferentiated based on their pattern of endorsement of personality characteristics. According to Bem (1981), the BSRI provides an indicator of gender-schematic processing, which relates to an individual’s tendency to process and organize information concerning his or her self and society according to cultural parameters of maleness and femaleness. An additional measure of gender is the Personality Attributes Questionnaire, a self-report measure examining an individual’s endorsement of sex-role stereotypes (Spence et al. 1974). The Minnesota Multiphasic Personality Inventory’s (MMPI’s)/MMPI-2’s Masculinity-Femininity Scale has also been utilized to examine gender—to identify men and women who demonstrate personality traits that differ from traditional gender roles. This instrument is “aimed at obtaining verid-

cical (i.e., truthful or accurate) information about their patients through their patients' own symptom descriptions" as an objective clinical assessment (Butcher 1999, p. 3). Significantly low scores on the measure indicate strict adherence to prescribed gender roles, whereas highly elevated scores generally reflect rejection of traditional gender-linked roles (Graham 1993). The scale was developed to differentiate homosexual and heterosexual males, and this application of the measure is invalid.

Extending beyond quantitative methods, it is important to incorporate qualitative and ethnographic methods in the examination of gender (Ortner 1996; Wolf 1996; Baca Zinn et al. 1997). Despite the fact that several measures are available, little is known concerning the measurement of gender among clinical populations. Further research is necessary to develop methodologically sound measurement tools to examine gender constructs in a variety of populations, including individuals with serious mental illnesses such as schizophrenia. The measurement properties of the currently available tools for use in clinical samples remains an ambiguous area in need of further investigation.

#### **Gender identity, gender role, and schizophrenia.**

From the late 1960s to the early 1980s, there were important contributions to the literature on the relationship between gender and schizophrenia. By and large, these studies indicated some degree of gender role or gender identity impairment in people with schizophrenia. Unfortunately, much of this research on gender and schizophrenia has substantial methodological flaws; consequently, findings can be regarded as only tentative sources for future hypothesis generation. Further, much of the early work on gender and schizophrenia was conducted on hospitalized males under the paradigmatic sway of psychoanalytic theories concerning gender identity, family dynamics, and the etiology of schizophrenia. These two shortcomings severely limit the scope and generalizability of findings. New studies using more rigorous empirical methods and including both men and women are required in order to revisit questions concerning gender identity and role-related activities among schizophrenia patients.

The existing literature on the relationship between gender and schizophrenia is perhaps more noteworthy for theoretical models rather than for substantive findings. LaTorre (1984) proposed one of the leading theories, a diathesis-gender-stress model of schizophrenia in which gender identity or gender role problems are the leading target stressors. In this theory, the stressors involved in gender identity confusion are a major source of an aggregate of stress that increases the likelihood that an individual will develop schizophrenia (LaTorre 1976). LaTorre (1984) suggests that the preschizophrenia child develops a

faulty gender identity resulting from disturbed family dynamics that inhibit the perception of self in a sex-congruent gender identity. These faulty dynamics include parental noninvolvement or hostility, resulting in poor same-sex models and inadequate same-sex information sources. This framework could be expanded to recognize the role of nonfamilial factors as well. Disturbances in gender identity may also emanate from social realms such as school settings, peer interactions, and media exposure, all of which may configure images of ideal gender identities that individuals find objectionable or otherwise personally unacceptable. In this sense, the disturbances in gender identity can be conceived of as existing in the social rather than the individual realm.

LaTorre's model may explain some of the observed sex differences in the illness, such as differences in social relations. For instance, preschizophrenia males may experience difficulty assuming the male role secondary to impaired gender identity or gender role confusion. The subsequent stress may be sufficient to induce illness onset (LaTorre 1984). For the preschizophrenia adolescent female, gender identity uncertainty may be less problematic in adolescence (LaTorre 1984) or better formulated before the time of illness onset. LaTorre suggests that the greater degree of gender identity uncertainty in the adolescent male is accounted for by the more aggressive role imposed on males in Western societies. Thus, the early acceptance and successful integration of gender identity and gender roles could prove more critical for social adjustment among men than among women (LaTorre 1984).

LaTorre's work is largely theoretical. Quantitative investigations of gender and schizophrenia are plagued by methodological flaws, including the use of psychometrically flawed assessment tools and confounded and uncontrolled sample selection (e.g., age, medication). Although the studies discussed below constitute the sole body of research on the relationship between gender and schizophrenia, the results can be considered only speculative. McClelland and Watt (1968) assert that men and women with schizophrenia tend to deviate from the traditional roles of achievement and assertiveness for men and obedience, interdependence, and responsibility for women. The authors suggest that in such cases, some part of the males' unconscious self-image is sensitive and more feminine, while some part of the females' unconscious self-image is insensitive and more masculine. Along these lines, in a U.S. sample, males with schizophrenia showed a preference for opposite gender roles on the Role Preference Test (Kokonis 1973). Finally, Ecker and colleagues (1973) found that males and females with schizophrenia suffer from sex role reversal and disturbed sex role identification.

Some research has shown that higher femininity scores are related to greater psychiatric impairment in men and women. The causal direction of this relationship is unclear because the patient role, a "passive" role inexorably linked to chronic schizophrenia, has traditionally been viewed as a relatively more feminine role (LaTorre and Piper 1979). Within a Canadian sample, a study comparing hospitalized psychiatric patients and controls found that the patient group scored as more feminine on the BSRI (LaTorre et al. 1976). Among women, femininity scores on the BSRI tended to increase with the degree of psychiatric impairment (LaTorre et al. 1976). LaTorre and Piper (1979) found lessened masculinity scores on the BSRI for long-term hospitalized males but not females and lessened femininity scores for newly admitted females but not males. Further, while recently admitted patients demonstrated adequate gender-related knowledge, long-term schizophrenia patients demonstrated limited gender-related knowledge and a preference for opposite sex roles. LaTorre and Piper (1979) concluded that confusion in schizophrenia is related to gender role adoption but not gender identity per se, as people with schizophrenia had an intact gender identity but confused gender role adoption as measured by the BSRI.

**Gender, Development, and Schizophrenia.** Research on gender development may inform our understanding of the experience of schizophrenia, particularly with reference to social and interpersonal functioning. Chodorow (1978) offers a theory of gender development based on the fact that women mother children. Because mothers are traditionally the primary caregivers for both boys and girls, boys recognize themselves as different from their mothers fairly early, whereas girls tend not to do so because of an identification with their mother as women. This in turn results in a basic feminine self that is connected to the world and a basic masculine self that is separate.

Individuals with a connected sense of self may engage in a mode of processing in which they are affected by and sensitive to the surrounding environment. Consistent with the notion of connectedness, McClelland and Watt (1968) found that women with schizophrenia were less socially isolated as teens. Individuals with a separate sense of self may be less interested in relations with others, because the interpersonal environment is not as important a determinant of their sense of self. This separate sense of self could be considered a precursor to antisocial character pathology, common in men with schizophrenia (Haas et al. 1990).

**Gender and mental health.** Not only have gender differences in schizophrenia been largely ignored; people with schizophrenia are often considered "genderless" (Carmen et al. 1981; Goldstein 1995). This is problematic

for a variety of reasons. As we have documented, much of the symptomatology in schizophrenia may be manifested as an exacerbation or inversion of "normal" male and female gender roles. Page (1987) suggests that "social and clinical judgements appear to be affected not only by both the seriousness of the unacceptable behavior but also by the degree of congruity with prevailing gender-role stereotypes" (p. 58). In fact, perceived gender role incongruence by clinicians may result in a greater degree of pathologizing of patients. Rosenfield (1982) found that among U.S. psychiatric emergency room patients, males were significantly more likely to be hospitalized for stereotypic feminine symptoms such as anxiety and depression, while women were more likely to be hospitalized with antisocial or substance use disorders—disorders generally considered in the "masculine" realm.

However, the adoption of a masculine gender role may be more adaptive for some women with schizophrenia. Gove and Tudor (1973) claim that a relatively more masculine role orientation is more adaptive than a feminine one. In this view, males and females who are oriented to the masculine gender role are thought to have better mental health status than those with a feminine gender role orientation. Masculinity has been found to be associated with lower levels of depression among women, while femininity appears to have no influence on depression levels (Nezu et al. 1986). In a U.S. sample, feminine-typed women were found to express greater emotional symptoms of depression and anxiety than masculine- or androgynous-typed women (Oliver and Toner 1990). Among U.S. college students, only masculinity (not femininity or androgyny), as measured by the BSRI, has been found to contribute to the prediction of mental health variables, including depression (Kopper and Epperson 1996). A meta-analysis of three models of sex role orientation (congruence, androgyny, and masculinity) found that the masculinity model had the strongest relationships to adjustment and lack of depression (Whitely 1984). Although these results are largely based on nonclinical samples, it appears that the adoption of an opposite gender role may have more negative implications for males with schizophrenia who adopt a more feminine gender role than for females with schizophrenia who adopt a more masculine gender role.

In contrast, other researchers (Pleck 1981; Eisler and Blalock 1991) have suggested that masculine traits are imposed on men by culture and that the pressure to adhere to masculine gender roles can lead to gender role stress and unhealthy coping behavior. Other research based on U.S. samples suggests that, for both sexes, strict gender role adherence can diminish psychological well-being by creating conflict between individual preferences concerning the nature of appropriate behavior and the specific

demands of life situations (Grimmell and Stern 1992). It appears that men with schizophrenia may be less able to carry out normative gender role activities than females with schizophrenia. Jenkins and Schumacher (1999) found that, among Euro-American and Latino families of people with schizophrenia, depression, or both, in the domain of social performance of sex-typed roles and activities, relatives reported that women carried out these activities significantly more than their male counterparts.

The adoption of a normative gender identity by males with schizophrenia does not necessarily result in a lesser degree of psychopathology. For instance, men have significantly higher rates of substance abuse (Blazer et al. 1985) and comorbid antisocial personality disorder (Blazer et al. 1985; Gerstley et al. 1990) than women. Haas and colleagues (1990), studying a U.S. sample, and Hambrecht and colleagues (1992), studying a German sample, found that men with schizophrenia displayed more substance abuse and antisocial behavior than females with schizophrenia. Within a Canadian population of individuals diagnosed with schizophrenia, more males than females had a history of past and present substance abuse (Addington and Addington 1998). Thus, it can be argued that men with schizophrenia are in fact behaving similarly to their nonschizophrenia counterparts and are suffering the negative aspects of a masculine gender identity as a result.

The inconsistencies in the gender and adjustment literature within samples of people with schizophrenia as well as other clinical and nonclinical samples may relate to inadequate assessment of gender through available psychological measures. For instance, some of the findings that individuals who score as masculine or androgynous on the BSRI produce healthier scores on psychological measures may be due to a social desirability factor; masculine scores may have higher adjustment value items than feminine items (Wolff and Watson 1983). In addition, one way to conceptualize male-female gender role differentiation is the distinction between instrumental (male) and expressive (female) traits (Spence and Helmreich 1979). However, relying on only these stereotypical definitions means neglecting other important gendered behaviors and attributes (Spence and Helmreich 1980). For instance, Thornton and Leo (1992) suggest that many women are burdened by the pressure to adhere to a "superwoman" orientation in which their sense of self is tied to achievement and success in specific roles, relationships, and activities. Successful mastery of the roles may involve the incorporation of traditionally masculine gendered traits and feminine gendered traits. Among undergraduates, adherence to a "superwoman ideal" was related to greater substance abuse (Thornton and Leo 1992). Thus, even the

manner in which we conceptualize gender must be broadened to attempt to more fully capture its subtleties and to more effectively incorporate issues of gender into research on schizophrenia.

**Gender, Expectations, and Schizophrenia.** Family members may have different expectations for men and women in terms of course and outcome of schizophrenia (Page 1987). Goldstein and Tsuang (1990) note that we need a better understanding of differences in treatment (aside from neuroleptic medication and community care needs) of men and women with schizophrenia given differential sex roles (e.g., parenting and work expectations) and different family response and community tolerance. Social and occupational role demands may be greater for males, leading to higher stress and less realistic expectations for male patients' readjustment to living in the community (Haas et al. 1990). Current culturally based sex-associated expectations may lead families to maintain educational and achievement expectations for males despite having accepted a more reasonable future for females (Seeman 1983). Further, independence is more highly valued for males, whereas dependency on family is more gender- and sex role-appropriate for women, so women feel able to more readily accept family assistance.

A study of an inpatient family intervention combining patient-focused and family-focused therapy found that at 18-month followup, there was a significant treatment-by-sex interaction. Family involvement in treatment was associated with improved symptomatology and global functioning for females, but males who had family-involved psychosocial treatment appeared worse off (Haas et al. 1990). Positive outcome for females was related to a decrease in rejecting behaviors by family members and an increase in treatment compliance. Outcome was not related to medication compliance. Thus, it appears that the attitude of family members of female patients may have changed. At the same time, however, families of females reported feeling a greater sense of burden than families of males. This may be secondary to differences in treatment compliance, as families of males canceled sessions more frequently than families of females. Thus, while family involvement resulted in a positive outcome for females, families experienced this involvement as a burden. In contrast to this finding, however, a sample of Danish families of males with schizophrenia who were first admission psychiatric patients reported significantly higher stress (Mors et al. 1992). These contradictory findings may be explained in part by factors that vary from culture to culture, such as the stigma associated with mental illness (Ng 1997).

## Current Research Issues

A number of specific current research issues in schizophrenia may be informed by incorporating gender into conceptualizations of research questions.

**Age of Onset.** Lewine (1985) hypothesized that sex differences in age of onset actually reflect differences in age of first hospitalization resulting from lower tolerance for psychopathology in males than females, and thus earlier hospitalization. However, Lewine (1985), Häfner and colleagues (1998), and Bromet and colleagues (1992) have found no sex differences in the time from onset of symptoms to first hospitalization. In this case, it appears that age of onset is related to biological rather than psychosocial factors. However, other studies have found no significant sex difference in the age of onset within families with family loading for schizophrenia (i.e., at least one sibling with either schizophrenia or schizoaffective disorder) (DeLisi et al. 1991; Albus and Maier 1995). Although these findings suggest that there may be subtypes of schizophrenia, they also detract from the definitiveness of the biological explanation for sex differences in age of onset. There may, in fact, be room for gender-related explanations as part of a biopsychosocial explanation for sex differences in age of onset.

**Social Adjustment.** There is general consensus that women with schizophrenia have better social adjustment and functioning (Jablensky et al. 1992). However, precisely what is meant by "social adjustment" or "functioning" is seldom clear. Shirakawa (1996) cautions that social adjustment as a variable is always influenced by sociocultural context, social role expectation, baseline personality, type of culture, and family situation. Social adjustment is subject to a normative baseline (Corin 1990). This baseline has been observed to vary substantially across cultures and genders (Jenkins 1997; Jenkins and Schumacker 1999). Despite this, better social functioning in women is often illustrated through their higher marital rates (Chu et al. 1988). However, the quality of these marriages and marital satisfaction are rarely, if ever, considered. Major social stressors such as homelessness, poverty, and victimization greatly reduce the quality of life for women with chronic psychotic mental illness (Milburn and D'Ercole 1991), regardless of marital status. Gove and Tudor (1973) found that the overall higher rates of mental illness in women could be largely accounted for by the high rates of mental illness among married women. In all other marital status categories, women were found to have lower rates of mental illness than men.

**Drug Treatment.** Further examples of insufficiently defined terminology are evident in the literature on psy-

chopharmacological treatment of schizophrenia. The statement that female schizophrenia patients "respond better" to neuroleptic medication than male patients do is commonly made (e.g., Yonkers et al. 1992; Seeman 1997). However, this statement is unclear as to what is "better." For example, differences in psychiatric prescription patterns between male and female patients with schizophrenia have been found (Carmen et al. 1981), demonstrating that additional factors are involved in sex differences in response to medical intervention.<sup>1</sup> Response to medication may also be largely a function of compliance with medication. Women are typically found to be more compliant with medication and treatment recommendations than men are (Smith et al. 1997). In addition, with reference to gender, "compliance" or "submissiveness" is typically associated with a feminine gender role or gender identity (Broverman et al. 1970). It seems logical to reconsider such value-laden terms as "cooperative" or "responsible." Also, people with higher stress and lower social support, a common profile of males with schizophrenia, may be less likely to be compliant with medication (Nelson et al. 1980). Thus, the combination of prescription patterns, gendered traits, and social support status in women may explain the *better response* to medical intervention found in females with schizophrenia than in males with schizophrenia.

**Sex Differences.** Until recently, most schizophrenia research has focused on male subjects. The last decade has produced a growing body of research on sex differences in schizophrenia. For example, premorbid sex differences in schizophrenia may relate to aspects of neurodevelopment. In a 28-year outcome study of pregnancy, delivery, and perinatal complications among a Finnish sample, low birthweight and a shorter gestation were more common among subjects who later developed schizophrenia (Jones et al. 1998). No sex differences were noted in this sample. However, lower birthweight has been found to correlate with poor premorbid social and cognitive function among males with schizophrenia (Rifkin et al. 1994). Analysis of results from the National Survey of Health and Development (NSHD; Jones et al. 1995) and the National Child Development (Jones and Done 1997) birth cohort studies on children in the United Kingdom who later developed schizophrenia suggest that these individuals met major speech and motor developmental milestones at significantly older ages than individ-

<sup>1</sup> Kulkarni (1997) notes that the same doses of neuroleptic medication are often administered to males and females regardless of differences in body size and weight. It would seem that women respond better to a lower dose of medication despite the fact that the dose relative to their body size is higher.

uals who did not develop schizophrenia. In addition, results from the NSHD suggest that lower IQ scores predicted increased risk for developing schizophrenia, independent of sex, social class, or age of onset (Done et al. 1994). Other research has found sex differences in premorbid IQ deficits, with males having lower IQ scores than females (Aylward et al. 1984).

Consensus exists that there is some sex-linked variability in illness presentation. Studies have consistently found that women have a later age of onset (Faraone et al. 1994; Häfner et al. 1998), a later age of first hospitalization (Angermeyer and Kuhn 1988), and a better response to neuroleptic medication (Lewine 1990). There is additional evidence that women also have a less severe course of illness (Childers and Harding 1990) and better premorbid competence measured by education, marital status, and employment status (Angermeyer et al. 1990).

When the relationship between cultural factors and established sex differences is incorporated in analyses, the findings become more complex. More recent research suggests that higher levels of premorbid social adjustment in females with schizophrenia may contribute to lowered intimacy motivation and social functioning when hospitalized, rather than improved prognosis because of sociocultural influences (Hien et al. 1998). In addition, both men and women who report a past history of substance misuse have been found to have a significantly younger age of onset of schizophrenia symptoms than individuals who did not have a history of substance abuse. Although sex differences in age of onset have been found to be biologically based (Häfner et al. 1998), gender may explain variability in age of onset among substance-misusing females relative to non-substance-abusing males and females. The complete literature on sex differences has been outlined in numerous review articles (e.g., Andia and Zisook 1991; Lewine et al. 1996; Kulkarni 1997). The research on sex differences in schizophrenia must be reexamined, with a focus on the role gender may play in clarifying our understanding of the diagnosis of schizophrenia.

## Directions for Future Research

While it may appear that gender has a broad and even pervasive impact on schizophrenia, the current literature rarely seeks to consider the wider implications of these findings. A paradigm shift that incorporates the role of gender and culture is necessary to clarify the meaning of important variables used and presumptions held in the field. There has been an increased interest in the relationship between subjectivity and illness variables. The incorporation of these two domains would result in new research opportunities. For instance, a study of subjectivity (defined as self-esteem, subjective distress, and satisfac-

tion with life) and psychosocial functioning (measured through specific domains of community adjustment) found that symptomatology and intrapsychic deficits "affect both the cognitive representations of the self in schizophrenia patients, but also their subjective experience and valuation of self and life in general" (Brekke et al. 1993, p. 606). The increased interest in subjectivity opens a space for the exploration of questions related to gender and culture. Earlier in this article, the importance of gender in the formulation of the self was discussed. In this case, the expansion of research on subjectivity to include gender should further illuminate the unique experience of the self in schizophrenia. For example, Chodorow's (1978) theory of the gender-linked development of a connected sense of self in females and a separate sense of self in males has yet to be explored in research on schizophrenia.

Too often in research, the *disease* becomes the focal point and the *experience* of the individual with the disease is ignored. Strauss (1989) highlights the importance of incorporating a focus on the interaction between the person and the disorder over time. A purely biological focus on research in schizophrenia may be particularly prone to neglect the "person" in "persons with schizophrenia." The inclusion of gender issues in the conceptualization of illness experience and presentation will help to ensure that the focus of research remains on the individual with the disease, rather than the disease alone. It is only through the incorporation of areas of subjective experience such as gender that research gains will continue to improve the quality of life of individuals with schizophrenia.

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